



International Civil Aviation Organization

**The Third Meeting of the Regional Airspace Safety Monitoring Advisory Group
(RASMAG/3)**

Bangkok, Thailand, 6 – 7 June 2005

**Agenda Item 4: Review the airspace safety monitoring arrangements in the Asia/Pacific Region
and the activities of regional airspace safety monitoring agencies**

**FANS IMPLEMENTATION TEAM FOR SOUTH EAST ASIA (FIT-SEA)
CENTRAL REPORTING AGENCY (CRA)**

(Presented by Japan)

SUMMARY

This paper describes the roles and procedures of the FIT-SEA CRA proposed by the CRA of Japan.

1. INTRODUCTION

1.1 The FANS Implementation Team for the South East Asia region (FIT-SEA) was established and its first meeting (FIT-SEA/1) was held in combination with the SEACG/11 meeting from 24 to 28 May 2004.

1.2 At the second meeting of FIT-SEA (FIT-SEA/2) held in April 2005, in follow-up to the FIT-SEA/1 meeting and the offer made by CRA Japan to undertake the role of CRA activity for the South China Sea area, CRA Japan confirmed that it would be willing to provide the CRA service and requested the meeting to consider this offer. The provision of CRA services would be an extension of its existing activities in the Tokyo FIR as aircraft were operating from the Tokyo FIR to the South-East Asia area. Also this would provide continuous CRA services across this geographical area.

1.3 The FIT-SEA/2 noted that it was the intent of CRA Japan to undertake the role of FIT-SEA CRA until the FIT-SEA established a formal CRA. The meeting, recognizing the considerable experience gained by CRA Japan in operating these services for the Tokyo FIR, requested the States concerned and the users to indicate their support for CRA Japan to provide the CRA services for South-East Asia. The Philippines, Singapore, IATA and IFALPA thanked CRA Japan for their offer to set up the CRA and the preparation work that they had done, and supported the proposal. The Secretariat also expressed its appreciation and endorsed CRA Japan's proposal. As Viet Nam and Indonesia were also involved but were not present, the Regional Office would coordinate with them to seek their views and would advise all parties concerned.

1.4 In regard to the formalities to establish the CRA, ICAO advised that this was a matter for the States concerned to decide as they were responsible for the provision of the CRA services. In this case, as CRA Japan was an established CRA, the States could all agree through the FIT-SEA to appoint CRA Japan. This was the approach taken by the States of the FIT-BOB to appoint Boeing as the CRA for the Bay of Bengal area. Also, it would be necessary to obtain the cooperation of the aircraft manufacturers and data link service providers and in this regard the Secretariat was requested to confirm their participation at future FIT-SEA meetings.

1.5 CRA Japan advised that the objectives of the FIT-SEA CRA was to assist the FIT-SEA members in planning and implementing ADS/CPDLC systems by sharing the technical and operational information, processing FANS 1/A Problem Reports (PR), disseminating the de-identified problem report information, and submitting reports to the FIT-SEA and relevant bodies. The Secretariat also advised that the offer of FIT-SEA CRA services by the CRA Japan would not require a formal approval of APANPIRG. Proposed terms of reference (TOR) and detailed tasks of FIT-SEA CRA were presented for review by FIT-SEA. The meeting requested the parties concerned to review this information to be finalized at the next FIT-SEA meeting.

1.6 In addition to the above TOR, the FIT-SEA CRA would share the technical and operational information with the respective ATSUs for the purpose of improving ADS/CPDLC systems.

1.7 The proposed problem reporting procedures, including FANS 1/A PR Form for the FIT-SEA members, were also presented to FIT-SEA.

1.8 CRA Japan advised that at the next FIT-SEA meeting it would be necessary to confirm the role of the CRA, clarify who were the FIT-SEA members and their roles, and put in place the procedures and process for operating the CRA. The Secretariat suggested that if possible, the preparation by CRA Japan of these documents prior to the RASMAG/3 meeting in June 2005 would permit RASMAG to review and provide feedback in regard to the proposals. In the meantime, the CRA Japan advised that they were willing to start work with Singapore on any problem reports that they had experienced as they were the only State presently operating ADS and CPDLC services in the area. Singapore agreed to provide these reports to the CRA Japan.

2. DISCUSSION

2.1 Following the suggestion by the Secretariat mentioned in paragraph 1.8 above, the TOR and the Operational Manual detailing roles and procedures of the FIT-SEA CRA are proposed in Appendices 1 and 2 to this paper respectively for review and feedback from the RASMAG/3.

2.2 It should be noted that the proposed FIT-SEA CRA Operating Manual is developed to be harmonized with the draft “*Guidance Material for End-to-End Safety and Performance Monitoring of Air Traffic Service Datalink Systems in the Asia/Pacific Region*”.

2.3 Furthermore, it is advised that the CRA of Japan has been operated by the Air Traffic Control Association Japan (ATCA-J) which is a non-profit technical organization authorized by the Ministry of Land, Infrastructure and Transport. JCAB has contracted with the ATCA-J for the activity of CRA of Japan in Tokyo FIR.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the TOR and the Operational Manual detailing roles and procedures of the FIT-SEA CRA in Appendices 1 and 2;
- b) provide feedback as necessary; and
- c) support the offer by the CRA Japan to undertake the role of CRA activity for the South China Sea area.

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**PROPOSED TERMS OF REFERENCE (TOR)
FANS IMPLEMENTATION TEAM FOR SOUTH EAST ASIA REGION
CENTRAL REPORTING AGENCY
(FIT-SEA CRA)**

The objective of FIT-SEA CRA is to assist the FIT-SEA for safe implementation of ADS/CPDLC in the South China Sea area in monitoring ADS/CPDLC trials and operations and sharing technical and operational information through CRA activities.

To meet the above objective, the FIT-SEA CRA shall:

- a) share the technical and operational information with the FIT-SEA members on the planning and implementation of ADS and CPDLC systems.
- b) process the problem reports received from the FIT-SEA members in the manner prescribed in the FANS 1/A Operations Manual (FOM) and the Guidance Material for End-to-end Safety and Performance Monitoring of ATS Datalink Systems in the Asia/Pacific Region.
- c) disseminate the de-identified information on individual Problem Report to the FIT-SEA members by means of the CRA Japan website; and
- d) prepare the summary report to FIT-SEA and RASMAG.

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FIT-SEA CRA Operating Manual (DRAFT)

1. Purpose of FIT-SEA Central Reporting Agency (CRA) Operating Manual

The purpose of this manual is to:

- a) description of the CRA in relation to the FIT-SEA
- b) provide a set of working principles of FIT-SEA CRA
- c) provide detailed activities
- d) promote information sharing among FIT-SEA members.

2. Tasks of FIT-SEA CRA

The FIT-SEA CRA should work on a daily basis for FIT-SEA to achieve its important goals of problem resolution, system performance assurance and information sharing to prepare the seamless and safe ADS/CPDLC environment in the South China Sea area.

The functions of FIT-CRA are to:

- a) develop and administer problem report processes
- b) maintain a database (website) of problem reports
- c) process monthly end-to-end system performance reports reported from ATSU
- d) manage data confidentiality agreements as required
- e) identify trends
- f) report to FIT-SEA.

3. Description of FIT-SEA CRA

3.1 Applicable FIRs

The FIT-SEA CRA undertakes the roles of CRA activities in the following FIRs where implementation of ADS/CPDLC and subsequent ATS datalink services are expected in the South China Sea area:

- Taipei;
- Manila;
- Ho-Chi-Minh;
- Singapore

3.2 FIT-SEA CRA Contact Point

1. Name Air Traffic Control Association Japan as CRA Supporting Agency (CRASA)
2. Postal Address K-1 Building, 1-6-6 Haneda airport, Ota-ku, Tokyo 144-0041, Japan
3. E-mail crasa@cra-japan.org
4. Phone/Fax +81-3-3747-1231+81-3-3747-0856

3.3 FIT-SEA CRA Website

<http://www.crasa.cra-japan.org>

3.4 FIT-SEA CRA Staffing

Yoshiro Nakatsuji (Mr)	Manager
Hiroshi Fujita (Mr)	Chief Engineer
Hiromi Suzuki (Ms)	Senior Engineer
Masami Hatakenaka (Mr)	Senior Engineer
Natsue Kijima (Ms)	Engineer

APPENDIX 2**4. Working Principles**

The working principles in this operating manual result from the experience of activities of CRA of Japan in the FANS Interoperability Team of Informal Pacific ATC Coordinating Group (IPACG).

4.1 Confidentiality Agreements

According to paragraph 3.6.2 of the FOM, and paragraph 7.2 of the Guidance Material for End-to-end Safety and Performance Monitoring of ATS Datalink Systems in the Asia/Pacific Region (hereinafter refer to 'ADS/CPDLC Monitoring GM'), the confidentiality of information is an established principle for problem reporting, and so reports must be de-identified before being made accessible to other agencies. However, it is necessary for the CRA to retain the identity of the original reports so that problem resolution and follow-up action can be taken.

Therefore, FIT-SEA member States, aircraft operators, ATSU, datalink service providers are requested to sign the confidentiality agreement with the FIT-SEA CRA. (FIT-BOB/5, FIT-SEA/2 and ATFM/TF/1-WP/10, Update FIT-SEA Work Plan refers)

4.2 Submission of Problem Report to FIT-SEA CRA

Problem Reports are submitted by the FIT-SEA members, usually ATSU, aircraft operator, or datalink service provider. Most of the problem reports are sent to the CRA via e-mail with the following items; (Attachment FOM 3.10 "FANS 1/A Problem Report Form" refers)

- Date and time of the event (UTC)
- Aircraft registration
- Flight number
- Aircraft model/type
- ATC Sector (ATSU)
- Originator
- Organization
- Active center
- Next center
- Position
- Detailed description

Note: FANS 1/A Problem Report Form is available on FIT-SEA CRA website.

4.3 Problem Identification and Resolution

4.3.1 It is recommended for the originator to submit the problem reports to the FIT-SEA CRA filling the FANS 1/A Problem Report form. If the form was not used, the CRA may request the additional information to the person reporting the problem.

4.3.2 Upon receiving a problem report, the CRA initiates to obtain recordings and/or logs for appropriate period of time from the ATSU and/or datalink service providers involved. With the task of analysing these data, the CRA re-constructs the event to locate the problem cause(s) or factor(s) in cooperation with the appropriate FIT members.

Note: As the period of retaining records is limited, problem reports are requested to send to the CRA as earlier as possible so as to make sure the records available.

- 4.3.3 Problem resolution is the responsibility of appropriate FIT members. The FIT-SEA coordinates with the affected parties to secure a resolution and recommendation of interim procedures. (FOM 3.8 refers)
- 4.4 Datalink Performance Analyses
- 4.4.1 The datalink system performance analyses and its assessment should be continued on a regular basis to give assurance that the safety requirements continue to be met. ATSU should provide the CRA with regular measurements of these parameters. The CRA consolidates the information to provide FIT-SEA for the system performance assessments. (ADS/CPDLC Monitoring GM 7.5 refers)
- 4.4.2 The datalink system performance analyses contain:
- Round-trip time for uplinks measured by time difference between time stamps of sending uplink and reception of the MAS.
 - Performance criteria value: 2 min./95% and 6 min./99%
 - End to end one way time for downlinks measured by the time difference between message time stamp and receipt time.
 - Performance criteria values: 1 min./95% and 3 min./99%.
Note: Though an ADS report does not have the message time stamp, when ADS report performance would be requested, the time of Basic can be used instead of the message time stamp. However, the performance data may contain a loss time conceivably caused by the processing data at avionics.
 - Undelivered messages determined by receipt of MAF, or when MAS or aircraft response not received within 900 seconds.
 - Criterion value: Less than 1% of all attempted messages undelivered.
 - Availability: the ability of the network datalink service to perform a required function under given conditions at a given time.
 - Criterion value: 99.9%.
 - Reliability: the ability of a datalink application/system to perform a required function under given conditions for a given time interval (MTFF: Mean Time Between Failure), performance criterion value TBD
 - Integrity: The probability of an undetected failure, event or occurrence within a given time.
* Criterion value: 10^{-6} /hour
- 4.5 Information Sharing
- 4.5.1 The CRA is the organization tasked with the regular dissemination of de-identified statistical data based on monthly status reports (Periodic Status Report) from ATSU's. Also, the CRA tracks problem reports and publishes de-identified information from those reports for dissemination to FIT-SEA members.
- 4.5.2 The CRA website is accessible to FIT-SEA members who signed the data confidentiality agreement with the CRA. The website contains the problem reports which investigations are in progress and 'lessons learnt'.
- 4.5.3 The FIT-SEA CRA provides the members with the information on ADS/CPDLC systems and operations for the purpose of preparing the seamless and efficient air navigation environment with ATS datalink.

FANS 1/A PROBLEM REPORT				Number
Date UTC		Time UTC		
Registration		Flight Number		
Sector				
Originator		Aircraft Type		
Organization				
Active Center		Next Center		
Position				
Description				