International Civil Aviation Organization

The Fourth Meeting of the Future Air Navigation Systems Interoperability Team-Asia (FIT-Asia/4)

Bangkok, Thailand, 25-26 May 2015

Agenda Item 2:   Central Reporting Agency Reports

FIT-ASIA CRA ARRANGEMENTS, PROBLEM REPORTS, AND PERFORMANCE DATA ANALYSIS REPORTING

(Presented by the Secretariat)

SUMMARY
This paper presents follows up on discussions at FIT-Asia/3 relating to data-link problem and performance reporting by FIT-Asia States/Administrations

1.   INTRODUCTION

1.1   The FIT-Asia Terms of Reference (TOR) require that it supports FIT-Asia participant States' compliance with ICAO Annex 11 – *Air Traffic Services* and Global Operational Data-Link Document (GOLD) requirements for data-link performance.

1.2   FIT-Asia/3 was informed that there was a considerable lack of data-link problem reporting among FIT-Asia States and airspace users, and few FIT-Asia States had arrangements in place for the analysis of problem reports by a competent Central Reporting Agency (CRA)[1]. While the number of States making arrangements for the analysis of problem reports has improved, there has been little reporting of both problems and performance data analysis.

2.   DISCUSSION

Asia/Pacific Regional Priorities

2.1   The 25th Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/25, Kuala Lumpur, Malaysia, 8 – 11 September 2014), adopted ***Conclusion APANPIRG 25/2 – APAC Regional Air Navigation Priorities and Targets***, endorsing ten regional priorities and targets including the implementation of data-link (**Table 1**), in line with the performance objectives of the Asia/Pacific Seamless ATM Plan.

Priority	ASBU Module or Seamless Element	Targets	Target Date
Trajectory-Based Operations-Data Link En-Route	B0-TBO	Within Category R airspace, ADS-C surveillance and CPDLC should be enabled to support PBN-based separations.	12 November 2015

Table 1: Regional Priority and Target – ADS-C and CPDLC

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[1] The Asia/Pacific Regional Airspace Safety Monitoring Advisory Group (RASMAG) is responsible for updating and distributing the Regional list of competent airspace safety monitoring organizations for use by States requiring airspace safety monitoring services, including CRA.

Requirements for Data-Link Performance Monitoring and Problem Reporting

2.2   The FIT-Asia TOR require, *inter-alia*, that it conducts the following activities to support FIT-Asia participant States' compliance with ICAO Annex 11 – *Air Traffic Services* and Global Operational Data-Link Document (GOLD) requirements for data-link performance:

- supporting the implementation and operational benefits of AIDC, CPDLC and ADS;

- oversighting system configuration and the end-to-end monitoring process of datalink systems to ensure they are implemented and continue to meet performance, safety, and interoperability requirements within the Asian Region;

- establishing a problem reporting system;

- reviewing de-identified problem reports, identify trends and determining appropriate resolution;

- monitoring the progress of problem resolution;

- preparing summaries of problems encountered and their operational implications;

- determining and validating system performance requirements;

- establishing a performance monitoring system; and

- assessing system performance based on information from the CRA;

2.3   Monitoring, reporting and analysis of data-link performance and problems is essential for the achievement and maintenance of system performance required for the application of RNP based separation standards.

2.4   In order to conduct these activities, arrangements for the reporting and analysis of data-link problems must be made between FIT-Asia administrations and a competent CRA. Annex 11 states:

> *2.27.5   Any significant safety-related change to the ATS system, including the implementation of a reduced separation minimum or a new procedure, shall only be effected after a safety assessment has demonstrated that an acceptable level of safety will be met and users have been consulted. When appropriate, the responsible authority shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.*

2.5   Clearly the implementation of ADS-C and CPDLC are significant safety related changes, given their use in ATS surveillance and Direct Controller – Pilot Communications (DCPC) communications and the PANS/ATM requirement for their use to support certain separation standards. In the event that Administrations implement or have implemented data-link services without a competent CRA service and a robust program of post-implementation performance monitoring, the service does not comply with ICAO SARPS as defined in Annex 11. In these cases APANPIRG ANS Deficiencies will be raised.

2.6   The Informal South Pacific ATS Coordinating Group/FANS Implementation Team (ISPACG/FIT) is recognized by RASMAG as a competent CRA, and provides a CRA service for FIT/Asia States.

2.7   The following Conclusion, drafted by FIT-Asia/2 (Bangkok, Thailand, 26 – 27 May 2014) was agreed by APANPIRG/24 in June 2013:

Conclusion 24/24: ADS/C and CPDLC Problem Reporting and Analysis

That, FIT-Asia States are requested to:

- *register on the FIT-Asia website (http://www.ispacg-cra.com), and report their registration to the ICAO Asia/Pacific Regional Office by 31 December 2013;*

- *report problems relating to Automatic Dependent Surveillance-Contract (ADS-C) and Controller Pilot Data-Link Communications (CPDLC) services to the Central Reporting Agency (CRA) for analysis, utilizing the FIT-Asia website; and*

- *ensure the CRA analysis is reported to FIT-Asia.*

2.8   FIT-Asia is comprised of the 23 Asia/Pacific Region administrations that are not included in any other sub-Regional FIT.

2.9   The data link service status of 11 FIT-Asia States is unknown, as they are not known to be currently providing data link services and the expectation that they do so under the Seamless ATM plan is unclear, i.e. it is not known whether their FIR/s include any Category R[2] airspace.

2.10   As at 18 May 2015 there were 11 FIT-Asia administrations either providing ADS-C/CPDLC services, or known to be expected to do so by November 2015 under the performance objectives of the Seamless ATM Plan. 6 FIT-Asia administrations are registered for FIT-Asia CRA. 3 States are registered for CRA through the South East Asia Safety Monitoring Agency (SEASMA), with their CRA service uncertain beyond September 2015.

2.11   **Table 1** summarizes FIT-Asia administrations that have either implemented ADS-C/CPDLC, or are known to be expected to do so under the Asia/Pacific Seamless ATM Plan, and their FIT-Asia CRA registration status.

Administration	Data-Link (ADS-C/CPDLC) Service Status	Seamless ATM Expectation (Nov 2015)	FIT-Asia CRA Registration
China	Implemented	YES	YES
India	Implemented	YES	YES
Indonesia	Implemented	YES	**YES**
Malaysia		YES	**YES**
Myanmar	Implemented	YES	**YES**
Maldives	Implemented	YES	**YES**
Philippines		YES	SEASMA*
Singapore	Implemented	YES	SEASMA*
Sri Lanka	Implemented	YES	
Thailand			
Viet Nam	Implemented	YES	SEASMA*
* *The South East Asia Safety Monitoring Agency (SEASMA) provides CRA service for Philippines, Singapore and Viet Nam. Current SEAMA CRA arrangements expire September 2015.*			

Table 1: FIT-Asia ADS-C/CPDLC Implementation and CRA Registration Status.

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[2]The Seamless ATM Plan describes Category R airspace as remote en-route airspace with ATS communications and surveillance coverage dependent on a third-party Communication Service Provider (CSP).

2.12 **Attachment A** lists all FIT-Asia administrations and their:

    a) data link service status;

    b) Seamless ATM expectation to implement ADS-C/CPDLC (where known);

    c) FIT-Asia CRA registration status;

    d) Record of submission of problem reports to the FIT-Asia CRA; and

    e) Record of provision of ADS-C/CPDLC performance data analysis to FIT-Asia.

2.13 Only 1 administration has submitted problem reports to FIT-Asia CRA. The FIT-Asia CRA website administrator has noted that several problem reports could not be assessed, as the data link service provider only retains logs for 90 days.

2.14 Only 2 administrations have submitted performance data analysis to FIT-Asia/4.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

    a) note the information contained in this paper;

    b) update the information in **Attachment A**;

    c) clarify the future FIT CRA arrangements for SEASMA States;

    d) discuss

        i) the reasons the FIT-Asia registration may not have occurred;

        ii) potential strategies to improve problem reporting, data extraction and analysis capability and performance reporting; and

        iii) any other relevant matters as appropriate.

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Administration	Datalink Service Status				ADS-C/ CPDLC Seamless Expectation (Nov 2015)	FIT-Asia CRA Registration	Problem Reports to FIT-Asia CRA	ADS/CDPLC Operational Performance Reported to FIT-Asia/4
	ADS-C	CPDLC	AIDC	Others (i.e.DFIS)				
Afghanistan					TBA			
Bangladesh					TBA			
Bhutan					TBA			
Cambodia					TBA			
China	X	X			YES	YES		YES
Hong Kong China					TBA			
Macao China					NO			
India	X	X			YES	YES	YES	YES
Indonesia	X	X			YES	**YES**		
DPR Korea					TBA			
Republic of Korea					TBA			
Lao PDR					TBA			
Malaysia	X	X			YES	**YES**		
Myanmar	X	X			YES	**YES**		
Maldives	X	X			YES	**YES**		
Mongolia					YES			
Nepal					TBA			
Pakistan					TBA			
Philippines					YES	SEASMA*		
Sri Lanka	X	X			YES			
Singapore	X	X			YES	SEASMA*		
Thailand					YES			
Viet Nam	X	X			YES	SEASMA*		
* The South East Asia Safety Monitoring Agency (SEASMA) provides CRA service for Philippines, Singapore and Viet Nam. Philippines has not yet implemented data-link services. Singapore provides performance reports for the Singapore FIR to FIT-Asia. Current SEASMA CRA arrangements expire September 2015.								