INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE ELEVENTH MEETING OF THE FANS INTEROPERABILITY TEAM-ASIA (FIT-ASIA/11)

VIDEO TELECONFERENCE
23 to 26 AUGUST 2021

The views expressed in this Report should be taken as those of the Meeting and not the Organization

Approved by the Meeting
and published by the ICAO Asia and Pacific Office, Bangkok

CONTENTS

APPENDIXES

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INTRODUCTION

Meeting

1.1 The Eleventh Meeting of the FANS Interoperability Team – Asia (FIT-Asia/11) was held by Video Teleconference from 23 to 26 August 2021.

Attendance

2.1 A total of 132 participants from Bangladesh, China, Hong Kong China, Fiji, India, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand, United States, Viet Nam, AAPA, CANSO, IATA, Boeing (CRA), Collins Aerospace, and ICAO were registered for the FIT-Asia/11 Video Teleconference. The list of participants is provided at **Appendix A** to this report.

Officers and Regional Office

3.1 Mr. Kwek Chin Lin, Chief ATC Specialist, Systems Development, Civil Aviation Authority of Singapore, chaired the meeting.

3.2 Mr Shane Sumner, Regional Officer ATM/AIM, ICAO Asia/Pacific (APAC) Office, was Secretary of the meeting. He was assisted by Mr. Hiroyuki Takata, Regional Officer ATM, Mr. Chew Han Chee, Associate ATM Officer, and Ms. Prakayphet Chalayonnawin, Programme Analysis Associate (ATM).

Opening of the Meeting

4.1 Mr. Kwek Chin Lin welcomed participants to the meeting.

4.2 On behalf of Dr. Manjit Singh, Acting Regional Director, ICAO Asia and Pacific Region, Mr Shane Sumner welcomed all participants.

Documentation and Working Language

5.1 The working language of the meeting and all documentation was English. There were 21 Working Papers (WP), four Information Papers (IP) and five Presentations were presented for considered by the meeting.

5.2 A list of papers is included at **Appendix B** to this report.

Draft Conclusions, Conclusions, Draft Decisions and Decisions of FIT-Asia – Definition

6.1 FIT-Asia records its actions in the form of Draft Conclusions, Draft Decisions and Decisions within the following definitions:

a) **Draft Conclusions** deal with matters that, according to APANPIRG terms of reference, require the attention of States, or action by the ICAO in accordance with established procedures;

b) **Conclusions** deal with matters of a technical nature relating to regional guidance material for publication on the ICAO Asia/Pacific Regional Office website.

c) **Draft Decisions** deal with the matters of concern only to APANPIRG and its contributory bodies; and

d) **Decisions** of FIT-Asia that relate solely to matters dealing with the internal working arrangements of FIT-Asia

List of Draft Conclusions/Decisions and Conclusions/Decisions

7.1 List of Draft Conclusions and Draft Decisions

<table>
<tr><td colspan="3">Draft Conclusion/Decision FIT-Asia/11-1: FANS1/A CPDLC LATENCY TIMER VALUE</td></tr>
<tr><td colspan="2">What: That, recognizing:
1. the need for aircraft to provide an appropriate indication when the age of the time stamp of a received CPDLC message exceeds a defined value (latency timer value), in accordance with ICAO Doc 9869 PBCS Manual safety requirement SR-15;
2. a latency timer value of 300 seconds supports both RCP240 and RCP 400 operations;
3. the need for a single, standardized global value; and
4. the successful trialling of a value of 300 seconds in the North Atlantic Region;
States are urged to implement a latency timer value of 300 seconds on a trial basis and report outcomes to FIT-Asia.</td><td>Expected impact:
☐ Political / Global
☐ Inter-regional
☐ Economic
☐ Environmental
☒ Ops/Technical</td></tr>
<tr><td>Why: to provide latency timer value that has been successfully used over several years of its operational implementation on a trial basis in the NAT region for States intending to implement the latency timer in accordance with PBCS safety requirement SR-15, and to support regional and global standardization</td><td colspan="2">Follow-up: ☒Required from States</td></tr>
<tr><td>When: 24-Sep-21</td><td colspan="2">Status: Draft to be adopted by Subgroup</td></tr>
<tr><td colspan="3">Who: ☒Sub groups ☒APAC States ☐ICAO APAC RO ☐ICAO HQ ☒Other: XXXX</td></tr>
</table>

7.2 List of Conclusions and Decisions

Nil

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REPORT ON AGENDA ITEMS

Agenda Item 1: Adoption of Agenda

Adoption of Agenda

1.1 The FIT-Asia/11 agenda (WP/1) was adopted by the meeting.

Agenda Item 2: Central Reporting Agency Reports

FANS Interoperability Team (FIT) Central Reporting Agency (CRA) Problem Report Briefing (WP/2 and SP/1)

2.1 The FIT-Asia CRA provided information describing the investigation and disposition of submitted Air Traffic Services (ATS) data link problem reports relevant to the APAC Region. ATS data link stakeholders could submit Problem Reports (PRs) for investigation through the FANS-CRA website (http://www.fans-cra.com/).

2.2 **Figure 1** illustrates the number of PRs submitted per calendar year by FIT-Asia States since 2016

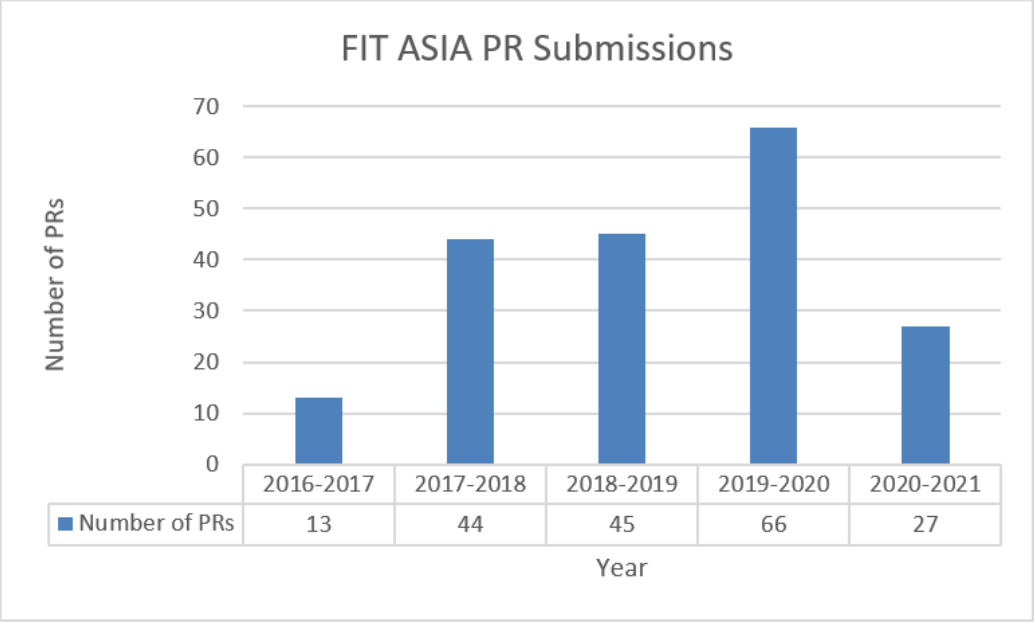

Figure 1: FIT-Asia PR Submissions

2.3 The lower number of PRs submitted in the last 12 months reflected the dramatic decrease in air traffic due to the impact of the COVID-19 pandemic.

2.4 Information was provided on significant PRs submitted by FIT-Asia States, significant PRs from regions outside Asia, and less significant PRs by FIT-Asia States.

2.5 Regarding PRs relating to flights in areas of poor VHF coverage with subsequent reversion to SATCOM (PR 3178-MM), or flights on the edge of VHF coverage experiencing media transitions (3099-KS) the meeting was reminded of the guidance for performance improvement for aircraft operators provided in **FIT-Asia/9 WP/03**.

> *Note: the guidance provided in FIT-Asia/9 WP/3 was approved for use as regional guidance under* ***Conclusion RASMAG[1]/24-1: Guidance for Data Link Performance Improvement for Aircraft Operators****. The guidance is available on the ICAO Asia/Pacific Regional Office eDocuments web-page:*
>
> *https://www.icao.int/APAC/Pages/eDocs.aspx.*

2.6 The meeting noted that while there had been improvement, there were still two operators that did not release their data link logs for analysis by the CRA. ICAO undertook to approach the operators and/or their States of Registry to request their cooperation, and to encourage them to sign up to the PBCS Charter.

2.7 In discussing the need for a minimum of 100 data points for analysis of PRs, New Zealand informed the meeting that they routinely requested additional data from adjacent FIRs in cases where there were insufficient data points within the Auckland Oceanic FIR. Singapore highlighted that this solution was not entirely foolproof as issues caused by local geographical conditions may not be accurately reflected.

PBCS Performance Issues in the South China Sea (WP/3)

2.8 Fit-Asia CRA also provided information on the causes of poor Performance-Based Communications and Surveillance (PBCS) performance in the South China Sea, and potential resolutions. Investigation had found this to be due to weak VHF coverage in the area, especially after the removal of a specific VHF ground station leading to frequent media transitions to SATCOM. **Figure 2** illustrated coverage of VHG ground stations in the area of concern.

[1] Regional Airspace Safety Monitoring Advisory Group

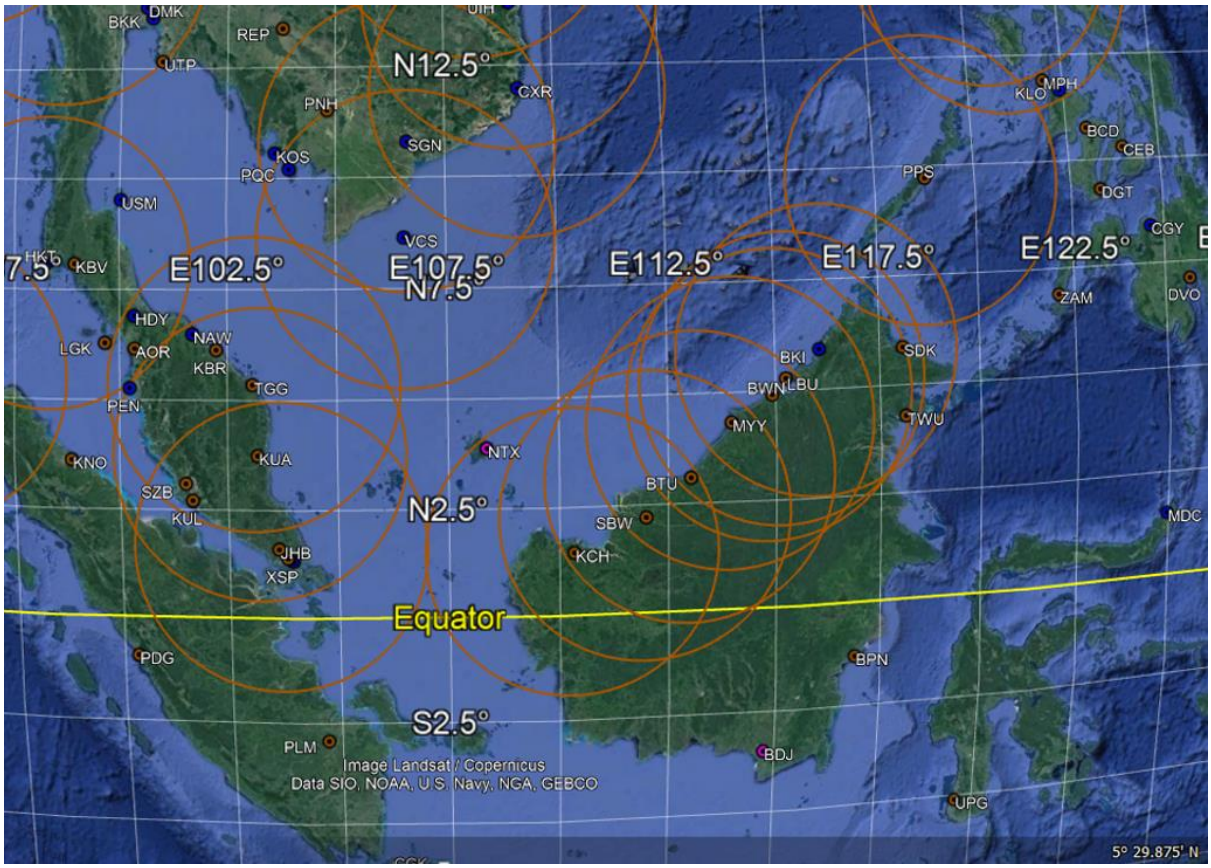

Figure 2: ARINC VHF Coverage in the South China Sea (~200 NM Radius per Ground Station

2.9 Flights operating in the channel of airspace not covered by VHF from the ground stations would have good data link performance as the aircraft would remain on SATCOM. However, analysis had demonstrated most flights tended to fly along the edge of the VHF coverage on either side of the channel, leading to performance issues.

2.10 **Figure 3** illustrated the VHF coverage of SITA ground stations in the same region, noting the main difference was the absence of a SITA station at the VCS location, reducing coverage on the north side of the channel.

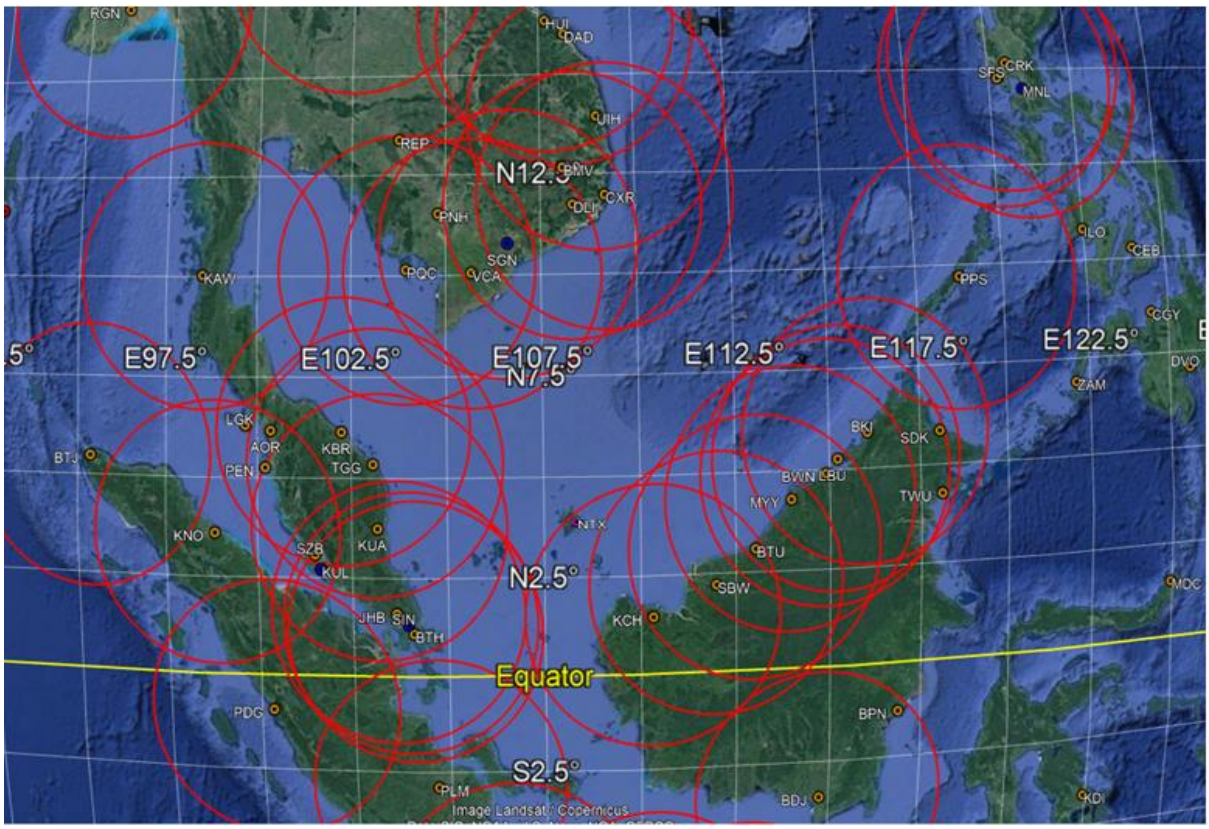

Figure 3: SITA VHF Coverage in the South China Sea (~200 NM Radius per Ground Station)

2.11 An additional cause of the poor performance in the area was the deactivation of an existing VHF ground station at NTX, which had been deactivated since 2017. Potential solutions included investigation of whether reactivation of the NTX ground station was possible, ensuring that the avionics on aircraft flying in the region were optimized for media switching, or other options detailed in the Guidance for Data Link Performance Improvement for Aircraft Operators.

2.12 Barring any network or avionics improvements poor PBCS performance would continue, and should be taken into account by affected ATC centres for aircraft flying those routes.

2.13 Indonesia agreed to attempt to establish contact with the relevant authority to determine whether the NTX ground station could be reactivated.

Agenda Item 3: PBCS Developments and Implementation

Latency Monitor Reject Analysis (IP/2 and SP/2)

3.1 The meeting was informed of an analysis of Latency Monitor reject messages received from Airbus aircraft operating in the Auckland Oceanic FIR (NZZO) during the period from July 2020 to June 2021. New Zealand had implemented the latency monitor on 21 June 2018 to support PBCS safety requirement #15[2]. The latency monitor message was sent by Controller-Pilot Data Link Communications (CPDLC) free text when NZZO was confirmed as the Current Data Authority (CDA), requesting the aircraft set the latency monitor to 300 seconds.

3.2 On receipt of a CPDLC uplink message for which the latency exceeded the 300 second monitored value, Airbus aircraft did not present the message to the flight crew but instead sent a reject message in response. **Table 1** summarized latency rejects by month and classification.

Month	# Rejects	Latency Reject Classification						
		Unknown	Time Source	Inmarsat	Iridium	HFDL no SATCOM	Inmarsat sent HFDL	Unable SATCOM via VDL
Jul-20	0	0	0	0	0	0	0	0
Aug-20	0	0	0	0	0	0	0	0
Sep-20	0	0	0	0	0	0	0	0
Oct-20	2	0	0	1	0	0	1	0
Nov-20	0	0	0	0	0	0	0	0
Dec-20	2	0	0	2	0	0	0	0
Jan-21	6	0	0	5	1	0	0	0
Feb-21	0	0	0	0	0	0	0	0
Mar-21	0	0	0	0	0	0	0	0
Apr-21	0	0	0	0	0	0	0	0
May-21	1	0	0	0	1	0	0	0
Jun-21	1	0	0	0	1	0	0	0
Totals	12	0	0	8	3	0	1	0

Table 1: Latency rejects by month and classification.

FANS/1A CPDLC Latency Timer Value (WP/4 and SP3)

3.3 New Zealand proposed that a FANS1/A CPDLC Latency Timer value of 300 seconds as currently being trialled in the North Atlantic (NAT) Region be adopted in the APAC Region for oceanic airspace.

3.4 The Oceanic Safety and Performance Standard RTCA DO-306 required that the likelihood of occurrence of an undetected late or expired message shall be no greater than remote, and placed safety requirement SR-15 on both the aircraft and ground systems: *when the end system receives a message whose time stamp exceeds ET_{TRN} the end system shall provide an appropriate indication*. ET_{TRN}

[2] SR-15 (Air). Radio Technical Commission for Aeronautics (RTCA) DO-306 and ICAO Doc 9869 *PBCS Manual* Appendix B refer.

was 210 seconds for Required Communications Performance (RCP)240 and 370 seconds for RCP400.

3.5 Development work for the implementation of the uplink latency monitor was primarily done by the NAT Uplink Timer Planning Team (ULT PT) and ICAO Operational Data Link Working Group (OPDLWG). Although the group recognized that the PBCS Manual identified ET_{TRN} as 210 seconds to support operations dependent on RCP240, there were concerns that this value may not be suitable for the current data link environment and that setting the value too low may have a negative impact on workload for both controllers and flight crew. NAT ULT PT had emphasized that the main priority should be sufficient mitigation of the three identified hazards associated with safety requirement SR-15: detected late or expired message; undetected late or expired message; and undetected spurious/inadvertent message delivery. NAT ULT PT had also considered the potential impact on ground system modifications to improve data link performance, such as retry timers addressing problematic transition areas. Ultimately it had been concluded that the safest and most practical way forward was to trial a value of 300 seconds, which was projected as the minimum value that would prevent interference with the retry timer.

3.6 The meeting was informed that New Zealand agreed with the NAT ULT PT reasoning, and had decided to implement a 300 second value for the latency uplink in oceanic airspace to support the idea of one global standard. The 300 seconds latency timer value supported both RCP240 and RCP400 operations.

3.7 The importance of not having different values for latency time between neighbouring FIRs and support for global standardization was emphasized.

3.8 The meeting was informed that the 300 seconds latency timer value had been implemented under trial for several years in the NAT Region. In response to New Zealand's proposal that it be adopted by the APAC Region, the meeting agree that a latency timer value of 300 seconds should be implemented on a trial basis for 12 months, with a view to formalizing its region-wide use at FIT-Asia/12 in 2022. The meeting further noted that that there was no impediment to immediate implementation by any State. New Zealand would report back to FIT-Asia/12 on the results of its implementation. Other States were also requested to trial this latency timer value and report back.

3.9 The meeting agreed to the following Draft Conclusion:

Draft Conclusion FIT-Asia/11-1: FANS1/A CPDLC Latency Timer Value

That, recognizing:

1. the need for aircraft to provide an appropriate indication when the age of the time stamp of a received CPDLC message exceeds a defined value (latency timer value), in accordance with ICAO Doc 9869 PBCS Manual safety requirement SR-15;
2. a latency timer value of 300 seconds supports both RCP240 and RCP400 operations;
3. the need for a single, standardized global value; and
4. the trialling of a value of 300 seconds in the North Atlantic Region;

States are urged to implement a latency timer value of 300 seconds on a trial basis and report outcomes to FIT-Asia.

PBCS Monitoring Progress in China (IP/3)

3.10 China presented the progress of PBCS monitoring development in 2020 on the ATS routes L888, Y1 and Y2, and introduced the Chinese PBCS Monitoring System. Information was provided on the message latency alarm, PBCS data collection and transmission, manual PR submission, nuisance data removal, post-implementation monitoring, data link performance report generation, PBCS approvals management, and PR collection and management.

3.11 Further action would be taken on clarification of the roles of stakeholders in PBCS monitoring, effective information exchange mechanisms with other States, and efficient data exchange with the global PBCS community.

PBCS Implementation and Readiness Status in Singapore (IP/4)

3.12 The meeting was provided with an update on Singapore's PBCS implementation and readiness status. Information was provided on the implementation status of the Group D and E tasks defined in the PBCS implementation plan of Doc 9869, having provided reports of Group A to C tasks at previous FIT-Asia meetings. In future developments, Singapore was looking to develop capabilities to conduct real-time monitoring of PBCS performance through constant calculations of CPDLC and ADS-C message transactions to check if the required Actual Communications Performance (ACP) and Actual Surveillance Performance (ASP) were being met.

3.13 Singapore's response to the annual APAC regional survey of the status of current and planned implementation of performance-based horizontal separation minima was provided for the information of the meeting, in **FIT-Asia/11 IP/4 Attachment A**.

Regional PBCS Implementation Update (WP/5)

3.14 The Secretariat provided an update on the status of PBCS implementation among Asia/Pacific Administrations, as reported using the APAC regional *Survey of the Status of Current and Planned Implementation of Performance-Based Horizontal Separation Minima* form. The meeting was reminded of relevant Conclusions of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) and the Regional Airspace Safety Monitoring Advisory Group (RASMAG):

Conclusion APANPIRG/27-7: PBCS Operator Requirements

Conclusion RASMAG/22-3: Performance-Based Separation Implementation Survey

Conclusion APANPIRG/28-11: PBCS Operational Authorizations

Conclusion RASMAG/23-1: PBCS Compliance

3.15 The survey form had been uploaded to the ICAO APAC Regional Office eDocuments web-page (https://www.icao.int/APAC/Pages/eDocs.aspx), for initial reporting by August 2017 and subsequent reporting by no later than 30 April each year.

3.16 A total of 19 APAC Administrations had responded to the survey in its four years' availability. Only six had provided their annual survey response for 2020 reporting to FIT-Asia, and only Australia, Indonesia and Singapore in 2021. **FIT-Asia/11 WP/5 Attachment B** summarized the current implementation of performance-based separations as reported in survey responses since 2017.

3.17 The meeting was reminded that the provisions of ICAO Annexes 6 and 11, and Doc 4444 PANS-ATM, required that PBCS services and regulations were implemented, summarized as follows:

- by Air Navigation Service Providers applying the following commonly used performance-based separation minima[3], where supported by ADS-C/CPDLC:
  - 23 NM lateral separation (RNP 4 or RNP 2);
  - 50 NM longitudinal separation (RNAV 10/RNP 10 or RNP 4); and
  - 30 NM longitudinal separation (RNP 4 or RNP 2)

- by Regulatory Authorities:
  - For safety oversight of ANSP PBCS operations; and
  - To approve, and monitor the performance of, PBCS operations by aircraft and aircraft operators of the State of Registry.

Regional Supplementary Procedures Update (WP/6)

3.18 The meeting was informed of the status of Regional Supplementary Procedures (Doc 7030) supporting performance-based separations in in the APAC Region. SUPPS provided the procedural means of implementing in airspace over the high seas the provisions of Doc 4444, and any regionally agreed procedures supplementing, but not in conflict with, the provisions of the Annexes to the Convention and PANS.

3.19 **Table 2** summarized the performance-based separations in APAC FIRs that were currently supported by SUPPS.

Administration FIR/s	50 NM Lateral RNAV 10 (RNP 10)	50 Longitudinal RNAV 10 (RNP 10) with PBCS	23 NM Lateral RNP 4 or RNP 2 with PBCS	30 NM Longitudinal RNP 4 or RNP 2 with PBCS
Australia Brisbane and Melbourne	✓	✓	✓	✓
China Sanya	✓	✓		
Hong Kong, China Hong Kong	✓	✓		
France (Polynésie Française) Tahiti	✓	✓	✓	✓
Fiji Nadi	✓	✓	✓	✓
Japan Fukuoka	✓	✓	✓	✓
Malaysia Kuala Lumpur	✓	✓		
Nauru Nauru	✓	✓	✓	✓
New Zealand Auckland Oceanic and New Zealand	✓	✓	✓	✓

[3] ICAO Doc 4444 Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) sections 5.4.1.2.1.6 and 5.4.2.9.2 detail the communications and surveillance performance requirements for performance-based separation minima that are supported by ADS-C/CPDLC.

Administration FIR/s	50 NM Lateral RNAV 10 (RNP 10)	50 Longitudinal RNAV 10 (RNP 10) with PBCS	23 NM Lateral RNP 4 or RNP 2 with PBCS	30 NM Longitudinal RNP 4 or RNP 2 with PBCS
Papua New Guinea Port Moresby	✓	✓	✓	✓
Singapore Singapore	✓	✓		
Solomon Islands Honiara	✓	✓	✓	✓
USA Anchorage and Oakland Oceanic	✓	✓	✓	✓
Viet Nam Ho Chi Minh	✓	✓		

Table 2: Doc 7030-supported Performance Based Separations per APAC State/FIR

3.20 States not listed in Table 2 that were known or believed to have currently implemented, or intended to implement, performance based separations in the high seas airspace within their FIRs included India, Indonesia, Maldives, Myanmar, Philippines and Sri Lanka.

3.21 Following on from discussions at related meetings in the Asia/Pacific Region, most recently the Ninth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/9, 01 -03 June 2021), ICAO APAC Regional Office had prepared a draft PfA to update Doc 7030 MID/ASIA SUPPS (**FIT-Asia/11 WP/06 Attachment B**) to add the FIRs listed in **Table 3**. The meeting was informed that Indonesia had provided ICAO with the necessary formal letter requesting an update to Doc 7030, and that the same should be provided as soon as possible by the other States concerned.

Administration FIR/s	50 NM Lateral RNAV 10 (RNP 10)	50 Longitudinal RNAV 10 (RNP 10) with PBCS	23 NM Lateral RNP 4 or RNP 2 with PBCS	30 NM Longitudinal RNP 4 or RNP 2 with PBCS
Indonesia Ujung Pandang *Formal letter received by ICAO*	✓	✓	*Future consideraton*	✓
Philippines Manila	✓	✓		
Singapore Singapore	*implemented*	*implemented*	✓	✓
Sri Lanka Colombo	✓	✓		
China Sanya	For removal?	For removal?		
Hong Kong, China Hong Kong	For removal?	For removal?		

Table 3: Performance-based Separation Minima to be supported in proposed Doc 7030 PfA

Competent Airspace Safety Monitoring Organizations List (WP/18)

3.22 The RASMAG *List of Competent Airspace Safety Monitoring Organizations* was reviewed and updated by the meeting. The list as reviewed is provided at **Appendix C to the report**.

Agenda Item 4: Review of ADS-C/CPDLC Operations and Performance

Data Link Performance Report for China (WP/7)

4.1 Data link performance data for the Lanzhou (ZLLL) and Urumqi (ZWWW) FIRs for the period from January to December 2020 was presented by China. CPDLC and ADS-C system performance were measured respectively against the RCP240 and RSP180 specifications.

4.2 China noted that no data link PRs had been received in 2020, but this may be due to the reduction in numbers of flights as illustrated in **Table 4**.

Year	ADS-C		CPDLC	
	ZLLL	ZWWW	ZLLL	ZWWW
2019	645696	367188	5885	1345
2020	323547	175067	3587	575

Table 4: Message Numbers in Lanzhou and Urumqi FIRs

4.3 While the 95% requirements for RCP240 and RSP180 requirements were met (**Tables 5 and 6**), the 99.9% requirements were not, especially for RCP240. Corrective action would be taken as appropriate, after investigation to identify and address issues.

Title	DT/OT value comparison in 2019 and 2020 in ZLLL and ZWWW evaluated by RSP 180							
Time	2019 First Half		2019 Second Half		2020 First Half		2020 Second Half	
Criteria	95%	99.9%	95%	99.9%	95%	99.9%	95%	99.9%
ZLLL	97.92	99.55	97.83	99.47	98.5	99.60	97.90	99.50
ZWWW	98.08	99.57	98.08	99.55	98.60	99.60	97.80	99.60

Table 5: ADS-C Performance in Lanzhou and Urumqi FIRs

Title	TT/ET value comparison between 2019 and 2020 in ZLLL and ZWWW evaluated by RCP 240							
Time	2019 First Half		2019 Second Half		2020 First Half		2020 Second Half	
Criteria	95%	99.9%	95%	99.9%	95%	99.9%	95%	99.9%
ZLLL	99.14	99.35	99.22	99.41	97.99	98.32	97.10	97.28
ZWWW	97.83	98.22	98.74	99.28	95.90	96.76	97.29	98.19

Table 6: CPDLC Performance in Lanzhou and Urumqi FIRs

4.4 China Regional Monitoring Agency (RMA) had been focusing on tasks to improve overall data link performance since 2020, including upgrading and/or improving the PBCS data analysis mechanism, the PBCS PR system, the PR tracking and resolution mechanism, the PBCS monitoring system and the PBCS operational monitoring mechanism.

PBCS Non Compliance Investigation (SP/4)

4.5 United States presented information on monthly non-compliance monitoring for individual aircraft, and analysis of performance issues observed by media delivery path.

4.6 The information provided included a flow chart of actions for non-compliance monitoring, and the steps in the reporting process from the Air Traffic Service Provider through the RMAs to the State of Operator/Registry.

4.7 Additional information included a sample non-compliance report form, considerations for determining whether an aircraft should be placed on the non-compliance report, and commonly observed problems. A case study of the analysis of non-compliant data link performance was also provided.

4.8 USA had observed that issues related to media delivery path were generally traced to specific aircraft/avionics or the design of ATS routes in relation to VHF/SAT transition areas, and that in airspace with little VHF coverage VHF/SAT transition issues for a fleet could be masked due to the aggregate nature of PBCS monitoring.

Asia/Pacific Region Combined PBCS Monitoring Report (WP/17 and SP/5)

4.9 China presented the aggregated data link performance monitoring report for the Asia/Pacific Region, prepared by China and USA. **Table 7** lists the FIRs for which data link performance reports were provided and included in the regional report.

Reporting FIRs		
State	**FIR**	**Location Indicator**
Australia	Brisbane	YBBB
	Melbourne	YMMM
China	Lanzhou	ZLLL
	Urumqi	ZWWW
France (French Polynesia)	Tahiti	NTTT
Fiji	Nadi	NFFF
India	Chennai	VOMM
Indonesia	Ujung Pandang	WAAF
Japan	Fukuoka	RJJJ
Malaysia	Kuala Lumpur	WMFC
New Zealand	Auckland Oceanic	NZZO
Philippines	Manila	RPHI
Singapore	Singapore	WSJC
Sri Lanka	Colombo	VCCF
United States	Oakland Oceanic	KZAK
	Anchorage Oceanic	PAZA
Viet Nam	Ho Chi Minh	VVHM

Table 7: 2020 APAC Combined PBCS Report – Reporting FIRs.

4.10 The report highlighted consolidated performance data and issues associated with Actual Surveillance Performance (ASP) and Actual Communications Performance (ACP) for the region.

4.11 Overall ASP for the region had met the 95% criterion for RSP180 but fell marginally below the 99.9% criterion. While the volume of data count had significantly reduced in 2020, the trend of regional performance in both the 95% and 99.9% criteria had generally improved.

4.12 Several aircraft operators had not met performance requirements for the whole year, and stakeholders were advised to look into this issue if the monitoring results remained unimproved in 2021.

4.13 It was again noted that HF data link performance results did not meet performance requirements in several FIRs.

4.14 Overall ACP for the region met the 95% criterion (**Table 8**). ACP for most FIRs fell marginally below the 99.9% criterion, but several FIRs failed to meet it. In the first half of 2020 one FIR did not meet the 95% criterion for Actual Communications Technical Performance (ACTP) two FIRs failed to meet the 99.9% criterion. In the second half of the year all reporting FIRs met the 95% criterion, but four did not meet the 99.9% criterion.

ACTUAL COMMUNICATION PERFORMANCE - FIR AGGREGATE (ALL MEDIA TYPES)										
Region	Asia-Pacific Region									
Performance Criteria	RCP240									
Time Period	2020 January-June					2020 July - December				
Colour key: Meets criteria; 99.0%-99.9%; Under criteria	Message Counts	ACP Criteria		ACTP Criteria		Message Counts	ACP Criteria		ACTP Criteria	
		95%	99.90%	95%	99.90%		95%	99.90%	95%	99.90%
FIR		% <= 180sec	% <= 210sec	% <= 120sec	% <= 150sec		% <= 180sec	% <= 210sec	% < = 120sec	% <=150sec
PAZA	70739	99.12%	99.33%	99.21%	99.50%	68090	99.06%	99.32%	99.24%	99.48%
RJJJ	34547	99.57%	99.78%	99.65%	99.75%	31739	99.60%	99.76%	99.63%	99.73%
KZAK	192062	99.31%	99.53%	99.65%	99.77%	142934	99.46%	99.64%	99.72%	99.84%
NFFF	3764	99.62%	99.81%	99.81%	99.89%					
NTTT	2939	99.49%	99.78%	99.71%	99.78%	1002	99.40%	99.70%	100.00%	100.00%
NZZO	7999	99.58%	99.73%	99.72%	99.74%	2803	99.82%	99.71%	99.89%	99.89%
YBBB	24042	99.25%	99.29%	99.46%	99.48%	11475	99.29%	99.29%	99.48%	99.48%
YMMM	29335	99.55%	99.48%	99.67%	99.66%	12820	99.38%	99.38%	99.53%	99.53%
RPHI	4665	97.59%	97.84%	98.91%	99.24%	9044	98.24%	98.40%	98.58%	98.82%
VCCF	24214	98.45%	99.53%	99.28%	99.78%	16601	98.37%	99.39%	99.17%	99.76%
VOMF	31266	99.77%	99.86%	99.84%	99.86%	31445	99.77%	99.85%	99.84%	99.86%
VVTS	26896	95.80%	96.31%	99.40%	99.65%	31859	96.26%	96.64%	99.48%	99.72%
WAAF	21900	98.20%	98.45%	99.70%	99.78%	11451	97.80%	98.12%	99.68%	99.75%
WMFC	9261	98.14%	98.71%	98.54%	99.11%	30246	97.67%	98.45%	97.42%	98.40%
WSJC	19113	98.94%	99.29%	98.87%	99.22%	14758	98.93%	99.20%	99.05%	99.29%
ZLLL	2447	97.99%	98.32%	98.40%	98.81%	1140	97.10%	97.28%	98.42%	98.68%
ZWWW	464	95.90%	96.76%	93.31%	96.98%	111	97.29%	98.19%	96.39%	96.39%

Table 8: Asia/Pacific Region ACP (RCP240)

4.15 Pilot Operator Response Time (PORT) performance requirements were not met by a number of aircraft operators. Operators were advised to first investigate their avionics systems or software updates. If these were appropriately configured, operators should stress the procedures described in ICAO Doc 10037 *Global Operational Data Link (GOLD) Manual*.

4.16 While most operators met the RCP240 95% performance criterion, more effort was required to improve performance to meet the 99.9% criterion.

Data Link Performance Report for Kuala Lumpur FIR (WP/8)

4.17 Malaysia presented the data link performance for Kuala Lumpur (WMFC) FIR for January to December 2020, noting that overall performance observed against both the RSP180 and RCP240 specifications was acceptable.

4.18 Downlink latency for messages sent via satellite and VHF media met the RSP180 95% criterion but fell marginally below the 99.9% criterion. Downlink latency for messages sent by HF did not meet either criteria. (**Table 9**).

FIR	WMFC					
Criteria	RSP180					
Period	January-June 2020			July-December 2020		
Colour Key Meet Criteria 99.0% - 99.90% Under Criteria	Message Counts	95% %<=90sec	99.90% %<=180sec	Message Counts	95% %<=90sec	99.90% %<=180sec
By Media Type						
SATCOM	71,241	98.01%	99.58%	24,376	98.36%	99.74%
VHF	77,853	98.01%	99.58%	32,780	99.35%	99.81%
HF	13	67.52%	100.00%	10	93.11%	100.00%
ALL	149,107	98.67%	99.67%	57,166	98.93%	99.78%

Table 9: ASP for Kuala Lumpur FIR per Media Type

4.19 **Table 10** summarizes ACP for the Kuala Lumpur FIR. Messages sent by satellite and VHF media met the 95% criterion but messages sent by HF did not. In the first half of the year the satellite and VHF ACP, and overall ACP for the FIR, fell marginally below the 99.9% criterion. In the second half of the year only VHF performance fell marginally below the 99.9% criterion, but satellite, HF and overall FIR performance did not meet it.

Colour Key Meets Criteria 99.0% - 99.90% Under Criteria	Message Counts	95% Benchmark		99.9% Benchmark		Message Counts	95% Benchmark		99.90% Benchmark	
		ACP %<=180sec	ACTP %<=120sec	ACP %<=210sec	ACTP %<=150sec		ACP %<=180sec	ACTP %<=120sec	ACP %<=210sec	ACTP %<=150sec
By Media Type										
SATCOM	4,522	97.77%	98.30%	98.57%	99.01%	1,692	95.92%	96.69%	96.93%	98.15%
VHF	4,686	98.53%	98.85%	98.86%	99.23%	2,434	98.66%	98.17%	98.95%	99.07%
HF	53	97.29%	93.61%	98.44%	98.28%	28	90.10%	82.24%	91.46%	85.06%
ALL	9,261	98.14%	98.54%	98.71%	99.11%	4,154	97.47%	97.45%	98.04%	98.57%

Table 10: ACP for the Kuala Lumpur FIR per Media Type

Data Link Performance Report of Chennai FIR (WP/9)

4.20 India presented data link performance observed in the Chennai (VOMF) FIR for January to December 2020.

4.21 **Table 11** summarized overall ADS-C performance per media type. **Table 12** summarized CPDC performance.

FIR	VOMF					
Criteria	RSP180					
Period	Jan-June 2020			July-December 2020		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% % < = 90sec	99.90% % <= 180sec	Message Counts	95% % < = 90sec	99.90% % <= 180sec
By Media Type						
SATCOM	165439	97.45%	99.05%	99643	98.07%	99.35%
VHF	76202	98.84%	99.43%	45679	99.42%	99.73%
HF	272	40.81%	57.35%	277	18.95%	34.61%
ALL	241913	97.82%	99.12%	145599	98.34%	99.34%

Table 11: ASP for the Chennai FIR per Media Type.

FIR	VOMF				
Criteria	RCP240				
Period	Jan - Jun 2020				
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark ACP % < = 180sec	 ACTP % <= 120sec	99.9% Benchmark ACP % < = 210sec	 ACTP % <= 150sec
By Media Type					
SATCOM	16846	99.71%	99.73%	99.83%	99.76%
VHF	14420	99.85%	99.97%	99.89%	99.98%
HF					
ALL	31266	99.77%	99.84%	99.86%	99.86%

Table 12: ACP for Chennai FIR per Media Type.

Data Link Performance Report of India (WP/10)

4.22 India provided further information on data link performance for the Chennai FIR, including actions taken to identify and rectify the causes of performance issues.

4.23 Both SATCOM and VHF ASP met the RSP180 95% criteria and marginally satisfied the 99.9% criteria. The performance of HF data link did not meet both the 95% and 99.9% criteria. The degradation in ADS-C performance was mainly due to HF data link performing well below par. The performance report of the Chennai data link ground system had been forwarded to the Communication Service Provider (CSP), SITA, for investigation.

4.24 38 of 144 aircraft operator/type combinations failed to meet the RSP180 99.9% criterion. 13 combinations failed to meet both the 95% and 99.9% criteria.

4.25 Overall ACP per media type met the RCP240 criteria, but in a few cases fell marginally below the 99.9% criterion. Only one aircraft operator/type did not meet the RCP240 criterion.

4.26 The ongoing pandemic situation had resulted in delays in the periodical collection and analysis of data link performance data. India was in the process of resolving issues, in coordination with the CSP.

Data Link Performance Monitoring and Analysis for Kolkata FIR (WP/11)

4.27 India had commenced post implementation performance monitoring and analysis for the Kolkata FIR from mid-July 2021. The Bay of Bengal Airspace Safety Monitoring Agency (BOBASMA) conducted a preliminary exercise using date extracted from the Kolkata data link ground system for a period of 40 days. **Table 13** summarized overall ADS-C performance. **Table 14** summarized CPDLC performance.

FIR	VECF		
Criteria	RSP180		
Period	June-17 TO JULY 26 2021		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	**Message Counts**	**95%** **% < = 90sec**	**99.90%** **% <= 180sec**
By Media Type			
SATCOM	36528	98.75%	99.62%
VHF	300667	99.58%	99.73%
HF	38	48.50%	62.02%
ALL	67233	99.10%	99.65%

Table 13: ASP for the Kolkata FIR per Media Type

FIR	VECF				
Criteria	RCP240				
Period	JUNE 17 TO JULY 26, 2021				
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	**Message Counts**	95% benchmark		99.9% Benchmark	
		ACP **% < = 180sec**	**ACTP** **% <= 120sec**	**ACP** **% < = 210sec**	**ACTP** **% <= 150sec**
By Media Type					
SATCOM	4210	99.30%	99.31%	99.44%	99.50%
VHF	995	99.71%	99.92%	99.74%	99.93%
HF					
ALL	5205	99.38%	99.42%	99.49%	99.58%

Table 14: ACP for the Kolkata FIR per Media Type

4.28 The meeting welcomed this performance monitoring report, being the first submitted for the Kolkata FIR.

4.29 In response to a query from ICAO on planning for data link performance monitoring in the Mumbai FIR, India informed the meeting that discussions with the ATM system vendor on upgrading and developing the system would shortly commence.

Data Link Performance Report for Ujung Pandang FIR (WP/12)

4.30 Indonesia presented the data link performance report for the Ujung Pandang FIR for January to December 2020.

4.31 Overall ADS-C performance by SATCOM and VHF met the 95% criterion but failed to meet the 99.9% criterion (**Table 15**). Assessment of ADS-C performance via HF was not statistically significant due to the low number of data points. Indonesia would notify the CSP and continue monitoring ADS-C latency of three RGS/GES stations (IG1, MDC1 and SYD8) that did not meet performance criteria to determine whether the problem was related to network issues.

Criteria		RSP180					
P		Jan-June 2020			July-Des 2020		
		Message Counts	95% % <=90sec	99,90% % <=180sec	Message Counts	95% % <=90sec	99,90% % <=180sec
FIR	By Media Type						
WAAF	SATCOM	24305	98,71%	99,64%	15347	98,66%	99,78%
	HF	323	68,58%	83,80%	168	67,56%	85,12%
	VHF	111315	99,25%	99,63%	56359	99,26%	99,60%
	ALL	135.943	99,08%	99,39%	71874	99,06%	99,61%

Table 15: ASP for the Ujung Pandang FIR per Media Type.

4.32 ACP did not meet the RCP240 99.9% criterion during the second half of 2020, but ACTP fell only marginally below the criterion during the same period (**Table 16**).

FIR	RCP240					
Criteria						
Period	Jan - Jun 2020					
Colour Key: Meets Criteria; 99.0%-99.84%; Under Criteria	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP % < = 180sec	ACTP % <= 120sec	ACP % < = 210sec	ACTP % <= 150sec	PORT
By Media Type						
SATCOM	5.588	98,32%	99,85%	98,55%	99,95%	94,49%
SV	618	95,91%	99,84%	96,42%	99,84%	93,85%
VHF	15.694	98,25%	99,65%	98,50%	99,71%	95,24%
ALL	21900	98,20%	99,70%	98,45%	99,78%	95,01%

Table 16: ACP for the Ujung Pandang FIR per Media Type.

4.33 Five RGS/GES failed to meet both the 95% and 99.9% criteria – three in the first half of the year, and two in the second half. The ACP of five combinations of aircraft type/operator failed to meet both criteria. Aside from the delays related to specific ground stations, ACP that did not meet the criteria were caused by large PORT. Indonesia's ANSP would notify the administrator so the operators could be requested to review their procedures to reduce PORT.

4.34 Indonesia's response to the annual regional *Survey of the Status of Current and Planned Implementation of Performance-Based Horizontal Separation Minima* was provided in **FIT-Asia/11 WP/13 Attachment A**.

Data Link Performance Report for Singapore FIR (WP/13)

4.35 The data link performance report for the Singapore (WSJC) FIR for January to December 2020 was presented to the meeting.

4.36 CPDLC performance by SATCOM and VHF media met the 95% criterion for RCP240 but failed to meet the 99.9% criterion (**Table 17**). HF performance data was not statistically significant due to the low number of data points. While no RGS/GES had failed to meet the 95% criterion, one aircraft operator/type had failed to meet it. This had been followed up with the aircraft operator through the relevant En-route Monitoring Agency (EMA).

Period	Jan - Jun 2020					Jul - Dec 2020				
Colour Key: Meets Criteria / 99.0%-99.84% / Under Criteria	Message Counts	95%		99.9%		Message Counts	95%		99.9%	
		ACP % < = 180s	ACTP % <= 120s	ACP % < = 210s	ACTP % <= 150s		ACP % <= 180s	ACTP % <= 120s	ACP % < = 210s	ACTP % <= 150s
By Media Type										
SATCOM	5,105	98.10%	97.79%	98.92%	98.51%	913	98.29%	98.34%	98.93%	98.74%
VHF	13,824	99.30%	99.31%	99.46%	99.51%	13,528	99.02%	99.15%	99.27%	99.36%
HF										

Table 17: ACP for Singapore FIR per Media Type

4.37 ADS-C performance via SATCOM met the 95% criterion for RSP180 but fell marginally below the 99.9% criterion (**Table 18**). HF performance data was not statistically significant.

Period	Jan - Jun 2020			Jul - Dec 2020		
Colour Key: Meets Criteria / 99.0%-99.84% / Under Criteria	Message Counts	95%	99.9%	Message Counts	95%	99.9%
		ACP % < = 180s	ACP % < = 210s		ACP % < =180s	ACP % < = 210s
By Media Type						
SATCOM	71,612	96.52%	99.30%	8,225	96.27%	99.20%
VHF	228,076	99.64%	99.90%	158,030	99.39%	99.85%
HF	81	53.86%	76.96%	65	68.75%	89.08%
ALL	299,769	98.88%	99.75%	166,320	99.22%	99.82%

Table 18: ASP for Singapore FIR per Media Type

4.38 Two RGS/GES stations and three aircraft operator/type combinations had failed to meet both the 95% and 99.9% criteria. Singapore had filed PRs with the CRA.

4.39 Singapore also provided the findings of their analysis of the more significant problems encountered.

Data Link Performance Report for Philippines (WP/14)

4.40 The data link performance data for 2020 for the Manila FIR was presented by Philippines. While distance-based lateral and longitudinal separations used by Manila ACC were currently monitored by radar surveillance, introduction of separations supported by ADS-C/CPDLC would be planned.

4.41 **Table 19** summarized overall ASP per media type. ASP met the RSP180 95% criterion overall, and fell marginally below the 99.9% criterion. HF performance however did not meet either criteria.

FIR	RPHI					
Criteria	RSP180					
Period	Jan-June 2020			July-December 2020		
Colour Key: Meets Criteria / 99.0%-99.84% / Under Criteria	Message Counts	95% % < = 90sec	99.90% % <= 180sec	Message Counts	95% % < = 90sec	99.90% % <= 180sec
By Media Type						
SATCOM	106716	97.31%	99.65%	75496	97.81%	99.66%
VHF	158941	99.25%	99.74%	118475	99.40%	99.81%
HF	581	75.39%	91.79%	411	74.94%	88.44%
ALL	266238	98.97%	99.71%	194382	99.13%	99.76%

Table 19: ASP for the Manila FIR per Media Type.

4.42 Three RGS/GES stations did not meet either of the RSP180 criteria. Monitoring of these stations would continue, and the matter had been followed up with the CSP. Four aircraft operator/type combinations failed both RSP180 criteria.

4.43 Overall ACP was summarized in **Table 20**. Overall performance met the RCP240 95% criterion, but did not meet the 99.9% criterion. ACP via HF did not meet either criteria, while other media randomly failed to meet the criteria for ACP and PORT.

FIR	RPHI					
Criteria	RCP240					
Period	Jan - Jun 2020					
Colour Key: Meets Criteria / 99.0%-99.84% / Under Criteria	Message Counts	95% benchmark ACP % < = 180sec	95% benchmark ACTP % <= 120sec	99.9% Benchmark ACP % < = 210sec	99.9% Benchmark ACTP % <= 150sec	95% PORT %<60secs
By Media Type						
SATCOM	2420	98.52%	100.00%	98.78%	100.00%	93.72%
VHF	2105	98.00%	99.53%	98.21%	99.58%	95.58%
HF	130	79.38%	74.19%	81.31%	85.21%	74.62%
ALL	4655	97.59%	98.91%	97.84%	99.24%	94.76%

Table 20: ACP for the Manila FIR per Media Type

4.44 One aircraft operator/type combination failed to meet both criteria, and all combinations failed to meet the 99.9% criterion.

4.45 Philippines provided information on some factors that may have affected performance, and informed the meeting that an ATM system software upgrade may also contribute to improved performance.

Data Link Performance Report for Sri Lanka (WP/15)

4.46 Sri Lanka provided the data link performance report for the Colombo FIR.

4.47 ASP had met the RSP180 95% criterion, but marginally fell below the 99.9% criterion. (**Table 21**)

FIR		**VCCF**					
Criteria		**RSP180**					
Period		**Jan-June 2020**			**July-December 2020**		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		**Message Counts**	**95%**	**99.90%**	**Message Counts**	**95%**	**99.90%**
			% < = 90sec	**% <= 180sec**		**% < = 90sec**	**% <= 180sec**
By Media Type							
SATCOM + VHF		445521	99.19	99.67	251687	99.13	99.63
VHF		This data is not available					
HF		-	-	-	-	-	-
ALL		445521	99.19	99.67	251687	99.13	99.63
By Remote Ground Station (RGS) Ground Earth Station (GES)							
Designator	**Type**	(only RGS/GES with message counts >100 recorded)					
ADS-C provided through FANS 1/A service by SITA. These details were not available							

Table 21: ASP for the Colombo FIR.

4.48 **Table 22** summarizes ACP, which met the RCP240 95% criterion but fell marginally below the 99.9% criterion.

FIR		**VCCF**					
Criteria		**RCP240**					
Period		**Jan - Jun 2020**					
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		**Message Counts**	95% benchmark		99.9% Benchmark		95%
			ACP	**ACTP**	**ACP**	**ACTP**	**PORT**
			% < = 180sec	**% <= 120sec**	**% < = 210sec**	**% <= 150sec**	**%<60secs**
By Media Type							
SATCOM + VHF		24214	98.45	99.28	99.53	99.78	98.48
VHF		This data is not available					
HF		-	-	-	-	-	
ALL		24214	98.45	99.28	99.53	99.78	98.48
By Remote Ground Station (RGS) Ground Earth Station (GES)							
Designator	**Type**	(RGS/GES with message counts >100)					
CPDLC Provided through FANS 1/A Service by SITA. These details were not available.							

Table 22: ACP for the Colombo FIR

4.49 Sri Lanka informed the meeting that ADS-C and CPDLC were provided through a FANS 1/A service by SITA, and that separate data for SATCOM and VHF media types was not available. ICAO noted that this had been the case for several FIT-Asia meetings, and requested that Sri Lanka and the CSP take steps to enable the separate extraction and assessment of SATCOM and VHF data.

Reviewing the L888 HF Issues (WP/16)

4.50 China informed the meeting of the history of the ADS-C HF downlink auto-switching issue on ATS route L888, reviews of its development, evaluation of its mitigation and its current status. Action Item 4/4 of the FIT-Asia Task List referred.

4.51 China provided detailed information on the analysis including inter alia the different performance of ADS-C and CPDLC using HF media, HF message counts for ADS-C (but not CPDLC) exceeding normal levels in an environment where HF served as an alternate medium, and aircraft switching data link connections from VHF to HF. Progress reports had been provided to FIT-Asia/7, 8, 9 and 10 meetings. Reviewing actions taken, and in collaboration with Boeing CRA, China noted that VHF and SATCOM, being the primary and first alternative means of data link communication, fully covered ATS route L888 and provided satisfactory PBCS performance. Of 323,547 ADS-C messages in 2020 only 35 (~0.01%)were transmitted by HF.

4.52 Several other changes in avionics such as identifying next on busy and SATCOM improvements had improved overall data link performance and reduced reversions to HF. The meeting was also informed that ARINC had made a change to the routing of messages. Previously the routing had been prioritized VHF, then SATCOM, then HF, then SITA, but was now VHF – SATCOM – SITA before then attempting HF.

4.53 China considered, and the meeting agreed, that the results of the analysis were sufficient to consider Action Item 4/4 completed. China was recognized by the meeting for the seriousness with which they approached this matter, and the detailed analysis that had been undertaken.

Asia/Pacific CRA Arrangements, Problem Reporting and Performance Analysis Reporting (WP/19)

4.54 ICAO presented an update on the status of Asia/Pacific engagement in data link problem reporting through the FANS-CRA website, and performance analysis reporting to a recognized FIT.

4.55 All Asia/Pacific States that provide data link services had registered on the FANS-CRA website. **Table 23** recorded the submission of PRs through the website over the last four years.

State	**# PR 2018**	**# PR 2019**	**# PR 2020 (FIT-Asia/10)**	**# PR 2021 (to 21 Aug)**	**Performance Analysis Reports to FIT**
Australia*	9	6	2	5	YES
China	2	-	1	0	YES[4]
Fiji*	-	-	-	1	YES
France (Polynésie Française)*	1	-	-	0	YES

[4] Lanzhou and Urumqi FIRs

State	# PR 2018	# PR 2019	# PR 2020 (FIT-Asia/10)	# PR 2021 (to 21 Aug)	Performance Analysis Reports to FIT
India	1	24	-	13	YES[5]
Indonesia	18	19	-	1	YES[6]
Japan*	N/K	5	*PRs submitted to CRA Japan*		YES
Malaysia	1	1	2	2	YES[7]
Myanmar	-	1	-	0	YES
Maldives	-	-	-	0	NO
Papua New Guinea*	-	-	-	3	NO
Philippines[8]	9	9	-	0	YES
New Zealand*	6	8	9	12	YES
Singapore	10	16	13	10	YES
Sri Lanka	6	3	2	1	YES
USA*	14	7	2	17	YES
Viet Nam	1	3	1	2	YES
* *non-FIT-Asia States*					

Table 23: Submission of PRs to FANS-CRA and Performance Analysis Reports to FIT

Agenda Item 5: Data Link Developments and Guidance Material

No papers

Agenda Item 6: Data Link-related ANS Deficiencies

Air Navigation Deficiencies Relating to Data Link Performance Monitoring and Analysis (WP/20)

6.1 The Secretariat presented the relevant excerpt of the APANPIRG ATM and Airspace Safety Deficiencies List (**FIT-Asia/11 WP/20 Attachment A**) for review by the meeting.

6.2 The meeting recommended the deletion of the following Deficiency:

Fiji: Problem reports not provided to CRA.

[5] Chennai FIR and, in 2021, Kolkata FIR

[6] Ujung Pandang FIR.

[7] Kuala Lumpur FIR.

6.3 The following deficiency was proposed for amendment:

India: Performance monitoring and analysis not reported ~~for Kolkata and~~ Mumbai FIRs.

6.4 The following deficiency remained current:

Maldives: Problem reports not provided to CRA. Performance monitoring and analysis not reported to FIT.

6.5 The updated list of Deficiencies relating to data link performance monitoring and analysis is proved in **Appendix D** to the Report

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Agenda Item 7: FIT-Asia Task List

FIT-Asia Terms of Reference and Task List (WP/21)

7.1 The FIT Asia Terms of Reference (TOR, **FIT-Asia/11 WP/21 Attachment A**) and Task List were provided for review and update by the meeting. The TOR had been updated by APANPIRG/30 (November 2019) following a review by FIT-Asia/9.

7.2 The FIT-Asia Task List as updated by the meeting is provided at **Appendix E to the Report**.

Agenda Item 8: Any Other Business

8.1 *Nil*

Agenda Item 9: Date and Venue of the Next Meeting

9.1 The next meeting of FIT-Asia was *tentatively* planned to be held in Bangkok, Thailand, in June or July 2022, one to two weeks before the normal schedule for the RASMAG/27 meeting, subject to the easing of pandemic-related travel restrictions. In the event that a face-to-face meeting was not possible, FIT-Asia/12 would also be conducted by video teleconference.

9.2 States considering hosting future FIT-Asia meetings were invited to contact the Secretariat.

Closing of the Meeting

9.3 In closing the meeting, the Chair thanked the meeting participants for their support and contributions.

List of Participants

	STATE/NAME		TITLE/ORGANIZATION
1.	**BANGLADESH (3)**		
	1.	Mr. AKM Saiduzzaman	Assistant Director (AIM) Civil Aviation Authority of Bangladesh **BANGLADESH**
	2.	Mr. Kazi Khirul Kabir	Assistant Director (ATM)-Supervisor/OJTI Civil Aviation Authority of Bangladesh **BANGLADESH**
	3.	Mr. Kazi Shaifullah Sharif	Communication Officer Civil Aviation Authority of Bangladesh **BANGLADESH**
2.	**CHINA (8)**		
	4.	Mr. Shen Jianzhong	Deputy Consultant CAAC East China Regional Administration **CHINA**
	5.	Mr. Cai Jing	Deputy Director of CNS Department ATMB China Air Traffic Management Bureau of China Civil Aviation Administration **CHINA**

	STATE/NAME		TITLE/ORGANIZATION
	6.	Mr. Liu Liang	Air Traffic Department Assistant Air Traffic Management Bureau of China Civil Aviation Administration **CHINA**
	7.	Mr. Wang Pengyu	Engineer Air Traffic Management Bureau of China Civil Aviation Administration **CHINA**
	8.	Mr. Chen Yongyue	Engineer China RMA **CHINA**
	9.	Mr. Hong Yang	Engineer China RMA **CHINA**
	10.	Ms. Li Huiyan	Engineer China RMA **CHINA**
	11.	Mr. Zhe Zhang	Associate Professor Civil Aviation Administration of China **CHINA**

	STATE/NAME		TITLE/ORGANIZATION
3.	**HONG KONG, CHINA (1)**		
	12.	Mr. Alex Hao Tian Li	Electronics Engineer Civil Aviation Department of Hong Kong, China **HONG KONG, CHINA**
4.	**FIJI (5)**		
	13.	Ms. Alisi Namoro	ANSI-ATM/SAR Civil Aviation Authority of Fiji **FIJI**
	14.	Mr. Makiti Raratabu	Air Navigation Service Inspector – Air Traffic Management & Meteorology **FIJI**
	15.	Mr. Leo Fox	ATM Operations Centre Team Leader Fiji Airports Limited **FIJI**
	16.	Mr. Jason Gounder	AIS Officer Fiji Airports Limited **FIJI**
	17.	Mr. Ilimeleki Navula	Controller Standards/SAR-ATM Fiji Airports Limited **FIJI**

	STATE/NAME		TITLE/ORGANIZATION
5.	**INDIA (6)**		
	18.	Mr. Ravinder Jamwal	Deputy Director of Operations (ANSS) DGCA – India **INDIA**
	19.	Ms. Archana Jadoo	Assistant Director Directorate General of Civil Aviation of India **INDIA**
	20.	Mr. K Vasudevan	General Manager (ATM-ASM) Airports Authority of India **INDIA**
	21.	Mr. A P Udayanarayanan	Joint General Manager (ATM) Airports Authority of India **INDIA**
	22.	Mr. J Masivayana	Assistant General Manager Airports Authority of India **INDIA**
	23.	Mr. Jagadeesh Kumar Kondala	Manager, ATM Airports Authority of India **INDIA**

	STATE/NAME		TITLE/ORGANIZATION
6.	**INDONESIA (11)**		
	24.	Ms. Suyanti Aviany	Air Navigation Inspector DGCA Indonesia, Directorate of Air Navigation **INDONESIA**
	25.	Mr. Abdul Aziz	Air Navigation Inspector DGCA Indonesia, Directorate of Air Navigation **INDONESIA**
	26.	Ms. Henna Nurdiansari	CNS Inspector DGCA Indonesia, Directorate of Air Navigation **INDONESIA**
	27.	Mr. Arian Nurahman	Air Navigation Inspector Directorate General of Civil Aviation Indonesia **INDONESIA**
	28.	Mr. Chaidir Anwar	Air Navigation Inspector Directorate General of Civil Aviation Indonesia **INDONESIA**
	29.	Mr. Gatut Nugraha	Planning & Evaluation of ACC East, Junior Manager AirNav Indonesia **INDONESIA**

	STATE/NAME		TITLE/ORGANIZATION
	30.	Mr. Ari Satria Saputra	ATS System Specialist AirNav Indonesia **INDONESIA**
	31.	Mr. Wicaksono Prasetyo	ATS System Specialist AirNav Indonesia **INDONESIA**
	32.	Mr. Fajar A Wiranata	Air Traffic Controller AirNav Indonesia **INDONESIA**
	33.	MR. Yuniarto Anggoro Djati	Air Traffic Controller AirNav Indonesia **INDONESIA**
	34.	Mrs. Silvy Retno Andriani	Technician AirNav Indonesia **INDONESIA**
	35.	Mrs. Nur Shella Firdaus	Technician AirNav Indonesia **INDONESIA**
	36.	Mr. Samsul Teguh Pratama	Technician AirNav Indonesia **INDONESIA**

	STATE/NAME		TITLE/ORGANIZATION
7.	**JAPAN (1)**		
	37.	Mr. Yasuhiro Marutsuka	Special Assistant to the Director Japan Civil Aviation Bureau **JAPAN**
8.	**LAO PDR (1)**		
	38.	Mrs. Sengmany Phengsomphan	Officer Department of Civil Aviation of LAO PDR **LAO PDR**
9.	**MALAYSIA (15)**		
	39.	Ms. Dayang Zarina Abang Alli	Deputy Director Civil Aviation Authority of Malaysia **MALAYSIA**
	40.	Mr. Sahrol Nizal Bin Ab Rashid	Principle Assistant Director Civil Aviation Authority of Malaysia **MALAYSIA**
	41.	Mr. Chek Rus Syahroni	Assistant Director Civil Aviation Authority of Malaysia **MALAYSIA**
	42.	Mr. Ahmad Shairazi Ahmad Shairazi	CNS Officer Civil Aviation Authority of Malaysia **MALAYSIA**

	STATE/NAME		TITLE/ORGANIZATION
	43.	Ms. Nurul Ain Zhafarina Muhamad	CNS Officer Civil Aviation Authority of Malaysia **MALAYSIA**
	44.	Mr. Mohamad Faid Muzahid Ali	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	45.	Mr. Nor Affendy Yahya	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	46.	Mr. Muhamad Aiman Milatusamshi	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	47.	Ms. Shaikhah Mahyuddin	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	48.	Mr. Haniff Rahman	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	49.	Ms. Nur Suraya Sahol Hamid	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**

	STATE/NAME		TITLE/ORGANIZATION
	50.	Mr. Mohd Zaihasran Ahadar	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	51.	Mr. Mohammad Firdaus M Asa'ri	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	52.	Mr. Hasbullah Mazlan	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
	53.	Mr. Nik Izat Amir	Air Traffic Controller Civil Aviation Authority of Malaysia **MALAYSIA**
10.	**NEW ZEALAND (1)**		
	54.	Mr. Paul Radford	Oceanic Systems Development Specialist Airways New Zealand **NEW ZEALAND**
11.	**PAKISTAN (7)**		
	55.	Mr. Muhammad Asif	Senior Deputy Director (ATS) Pakistan Civil Aviation Authority **PAKISTAN**

	STATE/NAME		TITLE/ORGANIZATION
	56.	Mr. Syed Mubasher Hussain	Sr. Joint Director CNS Pakistan Civil Aviation Authority **PAKISTAN**
	57.	Mr. Hameer Bashir Solangi	Sr. Assistant Director CNS Pakistan Civil Aviation Authority **PAKISTAN**
	58.	Mr. Shabbir Ahmed	Additional Director (AANS) Pakistan Civil Aviation Authority **PAKISTAN**
	59.	Mr. Imran Hasan	Assistant Director ATC Pakistan Civil Aviation Authority **PAKISTAN**
	60.	Mr. Ali Mansoor	Manager ATM/ATS Revenue Pakistan Civil Aviation Authority **PAKISTAN**
	61.	Mr. Muhammad Aamir Mughal	Air Traffic Controller Pakistan Civil Aviation Authority - Ops. Directorate **PAKISTAN**

	STATE/NAME		TITLE/ORGANIZATION
12.	**PHILIPPINES (4)**		
	62.	Mrs. Judy Ann Basinal	Air Traffic Management Officer IV Air Traffic Service Civil Aviation Authority of the Philippines **PHILIPPINES**
	63.	Mr. Jeffrey V. Bernabe	Air Traffic Management Officer IV Air Traffic Service Civil Aviation Authority of the Philippines **PHILIPPINES**
	64.	Mr. Julius Ruel D. Resquir	FIC/CNSSO V, Manila CNS-ATM Facility Air Navigation Service Civil Aviation Authority of the Philippines **PHILIPPINES**
	65.	Mr. Eric M. Valmores	Communication Navigation Surveillance Systems Officer IV Air Navigation Service Civil Aviation Authority of the Philippines **PHILIPPINES**
13.	**REPUBLIC OF KOREA (2)**		
	66.	Mr. Junho Lee	Assistant Director Ministry of Land, Transport and Maritime Affairs **REPUBLIC OF KOREA**

	STATE/NAME		TITLE/ORGANIZATION
	67.	Mr. Younggil Park	ASI Ministry of Land, Transport and Maritime Affairs **REPUBLIC OF KOREA**
14.	**SINGAPORE (5)**		
	68.	Mr. Kwek Chin Lin	Chief ATC Specialist (Systems Development) Civil Aviation Authority of Singapore Singapore Changi Airport **SINGAPORE**
	69.	Mr. Neo Peng Hwee	Head (Air Traffic Management Systems Platform Integration and Cybersecurity) Civil Aviation Authority of Singapore **SINGAPORE**
	70.	Mr. Aloysius Ang	Air Traffic Control Manager (Systems Planning) Civil Aviation Authority of Singapore **SINGAPORE**
	71.	Mr. Ying Kit Aw	Air Traffic Management Systems Civil Aviation Authority of Singapore **SINGAPORE**
	72.	Mr. Mohamed Ruzaini Bin Mohamed Ismail	Air Traffic Control Office Civil Aviation Authority of Singapore **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
15.	**SRI LANKA (7)**		
	73.	Mr. Aruna Fernando	Senior Manager – Air Traffic Control (Planning & Standards) Airport & Aviation Services (Sri Lanka) Ltd. **SRI LANKA**
	74.	Mr. Indika Bandupriya	Senior Manager ATS Airport & Aviation Services (Sri Lanka) Ltd. **SRI LANKA**
	75.	Ms. Mihiri Yapa Pahalage	Senior Electronics Engineer Airport & Aviation Services (Sri Lanka) Ltd. **SRI LANKA**
	76.	Ms. Geniesha Kekulandala	Manager Air Traffic Control Airport & Aviation Services (Sri Lanka) Ltd. **SRI LANKA**
	77.	Mr. Upula Perera	Assistant Engineer Airport & Aviation Services (Sri Lanka) Ltd. **SRI LANKA**
	78.	Mr. Sunimal Swarnadipathy	Air Traffic Controller Airport & Aviation Services (Sri Lanka) Ltd. **SRI LANKA**

	STATE/NAME		TITLE/ORGANIZATION
	79.	Ms. Kithmini Pathirana	AATSEE Airport & Aviation Services (Sri Lanka) Ltd. **SRI LANKA**
16.	**THAILAND (16)**		
	80.	Mr. Bhuwarich Cheepsomsong	Airworthiness Inspector The Civil Aviation Authority of Thailand **THAILAND**
	81.	Ms. Pranchalee Makarasut	Airworthiness Staff The Civil Aviation Authority of Thailand **THAILAND**
	82.	Mr. Nattapong Kongthiang	Airworthiness Officer The Civil Aviation Authority of Thailand **THAILAND**
	83.	Mr. Chavalit Ithiapa	ANS Officer The Civil Aviation Authority of Thailand **THAILAND**
	84.	Mr. Thanapol Khoonthothom	Officer The Civil Aviation Authority of Thailand **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	85.	Ms. Saifon Obromsook	Engineering Manager (Safety Management System) Aeronautical Radio of Thailand Ltd. **THAILAND**
	86.	Mr. Pramuk Rungrojaree	Air Traffic Engineering Manager Aeronautical Radio of Thailand Ltd. **THAILAND**
	87.	Miss Suthasinee Thong-Iam	Air Traffic Systems Engineer Aeronautical Radio of Thailand Limited **THAILAND**
	88.	Mr. Parinya Ruangsiripaisan	Engineering Manager (Business) Aeronautical Radio of Thailand Ltd. **THAILAND**
	89.	Mr. Naroupon Chandrakulsiri	Manager of International Flight Safety Department Thai Airways International PCL. **THAILAND**
	90.	Mr. Warut Chirayupong	Senior Chief, New Aviation Technologies and Equipment Thai Airways International PCL. **THAILAND**
	91.	Mr. Tanongsak Charoenpornkitwatana	Chief A/C Engineer Thai Airways International PCL. **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	92.	Mr. Waralan Kumpiranont	QA Engineer Thai Airways International PCL. **THAILAND**
	93.	Mr. Ekawut Pothiprom	Operation Engineer Thai Airways International PCL. **THAILAND**
	94.	Mr. Thongtod Choothabtim	Operation Engineer Thai Airways International PCL. **THAILAND**
	95.	Ms. Kornkanok Shutiphan	Engineer Thai Airways International PCL. **THAILAND**
17.	**UNITED STATES (4)**		
	96.	Mr. Michael Watkins	Senior Air Traffic Representative, Asia Pacific Federal Aviation Administration **SINGAPORE**
	97.	Ms. Christine Falk	Research Analyst Federal Aviation Administration Separations Standards Analysis **UNITED STATES**

	STATE/NAME		TITLE/ORGANIZATION
	98.	Ms. Theresa Brewer-Dougherty	Operations Research Analyst Federal Aviation Administration Separation Standards Analysis Branch **UNITED STATES**
	99.	Ms. Julia Fuller	Air Traffic Control Specialist Federal Aviation Administration **UNITED STATES**
18.	**VIET NAM (15)**		
	100.	Mr. Nguyen Tuan	Official Civil Aviation Authority of Viet Nam **VIET NAM**
	101.	Mr. Nguyen Huu Duc	Official Civil Aviation Authority of Viet Nam **VIET NAM**
	102.	Mr. Ho Sy Tung	Deputy Derector General Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	103.	Mr. Tuan Le Bui	Deputy Manager of Safety Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**

	STATE/NAME		TITLE/ORGANIZATION
	104.	Mr. Nghia Trinh	Deputy Manager of Technical and Quality Management Department Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	105.	Mr. Loc Trinh	CNS System Engineer Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	106.	Ms. Ly Dang Hong	Official Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	107.	Ms. Hanh Hoa Bui	Official Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	108.	Mr. Nguyen Hong Hiep	IT Specialist Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**

	STATE/NAME		TITLE/ORGANIZATION
	109.	Mr. Manh Cuong	Technical Staff Air Traffic Technical Company Limited (ATTECH) **VIET NAM**
	110.	Mr. Dung Viet Truong	Pilot Vietnam Airlines **VIET NAM**
	111.	Mr. Tran Tuan Hung	Pilot Vietnam Airlines **VIET NAM**
	112.	Mr. Van Kiem Tran	Flight Operation Engineering Vietnam Airlines **VIET NAM**
	113.	Mr. Thang Le	Flight Operation Engineering Vietnam Airlines **VIET NAM**
	114.	Mr. Ha Pham	DM Bamboo Airways JSC **VIET NAM**
19.	**AAPA (1)**		
	115.	Mr. Desmond Yeoh	Manager – Technical Affairs Association of Asia Pacific Airlines (AAPA) **MALAYSIA**

	STATE/NAME		TITLE/ORGANIZATION
20.	**CANSO (1)**		
	116.	Mr. Poh Theen Soh	Director, Asia Pacific Affairs CANSO **SINGAPORE**
21.	**IATA (7)**		
	117.	Mr. Prashant Sanglikar	Assistant Director Safety & Flight Operations IATA **INDIA**
	118.	Mr. George Chan	Regulatory Affairs Manager – Operations and Industry Cathay Pacific Airways Ltd. **HONG KONG, CHINA**
	119.	Mr. Yoshiki Imawaka	Executive Advisor All Nippon Airways (ANA) **JAPAN**
	120.	Mr. Nobumichi Akagi	Staff Director IATA/Japan Airlines **JAPAN**
	121.	Mr. Leonard Wee	Head of Operations Singapore Airlines **SINGAPORE**

	STATE/NAME		TITLE/ORGANIZATION
	122.	Ms. Sachie Ito	Manager Japan Air Lines Co., Ltd. **JAPAN**
	123.	Mr. Cong Fu	Senior Dispatcher China Southern Airlines **CHINA**
22.	**BOEING (1)**		
	124.	Ms. Rochelle Perera	Datalink Systems Engineer The Boeing Company **UNITED STATES OF AMERICA**
23.	**COLLINS AEROSPACE (1)**		
	125.	Mr. Sarawut Assawachaichit	Engineering Manager Collins Aerospace **THAILAND**
24.	**ICAO (7)**		
	126.	Mr. Shane Sumner	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**
	127.	Mr. Hiroyuki Takata	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**

	STATE/NAME		TITLE/ORGANIZATION
	128.	Mr. Mior Adi Bin Mior Sallehhuddin	Regional Officer, Air Traffic Management (AOM-ASM) ICAO Asia and Pacific Regional Sub-Office **CHINA**
	129.	Ms. Sunok Lee	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Sub-Office **CHINA**
	130.	Mr. Han Chee Chew	Air Traffic Management Officer ICAO Asia and Pacific Regional Office **THAILAND**
	131.	Ms. Wenhan Zhong	Associate Regional Officer, Communications, Navigation and Surveillance ICAO Asia and Pacific Regional Office **THAILAND**
	132.	Ms. Prakayphet Chalayonnawin	Programme Analysis Associate, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**

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International Civil Aviation Organization

Eleventh Meeting of the FANS Interoperability Team – Asia (FIT-Asia/11)

Video Teleconference, 23 – 27 August 2021

PROVISIONAL LIST OF WORKING AND INFORMATION PAPERS

(Presented by the Secretariat)

WORKING PAPERS

NUMBER	AGENDA	TITLE	PRESENTED BY
WP/1	1	Provisional Agenda	Secretariat
WP/2	2	FIT Central Reporting Agency (CRA) Problem Report Briefing (SP/1)	Boeing (FIT-Asia CRA)
WP/3	2	PBCS Performance in the South China Sea	Boeing (FIT-Asia CRA)
WP/4	3	FANS/1A CPDLC Latency Timer Value	New Zealand
WP/5	3	Regional PBCS Implementation Update	Secretariat
WP/6	3	Regional Supplementary Procedures Update	Secretariat
WP/7	4	Data Link Performance Report for China	China
WP/8	4	Data Link Performance Report for Kuala Lumpur FIR	Malaysia
WP/9	4	Data Link Performance Report for Chennai FIR	India
WP/10	4	Data Link Performance Report for India	India
WP/11	4	Data Link Performance Reporting and Analysis for Kolkata FIR	India
WP/12	4	Data Link Performance Report for Ujung Pandang FIR	Indonesia
WP/13	4	Singapore Data Link Performance Report for 2020	Singapore
WP/14	4	Data Link Performance Report for Philippines	Philippines
WP/15	4	Data Link Performance Report for Sri Lanka	Sri Lanka
WP/16	4	Reviewing the L888 HF Issues	China
WP/17	4	Asia/Pacific Region Combined PBCS Monitoring Report	China and USA
WP/18	3	Competent Airspace Safety Monitoring Organizations List	Secretariat
WP/19	4	Asia/Pacific CRA Arrangements, Problem Reporting and Performance Analysis Reporting	Secretariat
WP/20	6	Air Navigation Deficiencies Relating to Data Link Performance Monitoring and Analysis	Secretariat
WP/21	7	FIT-Asia Terms of Reference and Task List	Secretariat

INFORMATION PAPERS

NUMBER	AGENDA	TITLE	PRESENTED BY
IP/1	-	List of Papers	Secretariat
IP/2	3	Latency Monitor Reject Analysis	New Zealand
IP/3	3	PBCS Monitoring Progress in China	China
IP/4	3	PBCS Implementation and Readiness Status in Singapore	Singapore

PRESENTATIONS

NUMBER	AGENDA	TITLE	PRESENTED BY
SP/1	2	FIT Central Reporting Agency (CRA) Problem Report Briefing (WP/2)	Boeing (FIT-Asia CRA)
SP/2	3	Latency Monitor Reject Analysis (IP/2)	New Zealand
SP/3	3	FANS/1A CPDLC Latency Timer Value (WP/4)	New Zealand
SP/4	4	FAA PBCS Non-compliance Investigations	USA
SP/5	5	Asia/Pacific Region Combined PBCS Monitoring Report	China and USA

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APANPIRG Asia/Pacific Airspace Safety Monitoring

RASMAG LIST OF COMPETENT AIRSPACE SAFETY MONITORING ORGANISATIONS

The Regional Airspace Safety Monitoring Advisory Group of APANPIRG (RASMAG) is required by its terms of reference to recommend and facilitate the implementation of airspace safety monitoring and performance assessment services and to review and recommend on the competency and compatibility of airspace monitoring organisations. In order to assist in addressing these requirements, RASMAG updates and distributes the following list of competent airspace safety monitoring organizations for use by States requiring airspace safety monitoring services. In the context of the list, abbreviations have meanings as follows:

- RMA – Regional Monitoring Agency – safety assessment and monitoring in the vertical plane (i.e. RVSM);
- EMA – En-route Monitoring Agency – safety assessment and monitoring in the horizontal plane (i.e. RSP, RCP, RNP for performance-based horizontal separations);
- CRA – Central Reporting Agency – technical performance of data link systems (i.e. ADS/CPDLC); and
- FIT – FANS 1/A Interoperability/Implementation Team – parent body to a CRA.

(FIT-Asia update 26 August 2021)

Organisation *(including contact officer)*	**State**	**Competency**	**Status**	**Airspace assessed (FIRs)**
Australian Airspace Monitoring Agency (AAMA) - Airservices https://www.airservicesaustralia.com/about-us/our-services/aama/ Dr Amelia Gontar, Risk Intelligence Specialist Safety and Risk Airservices Australia Email: amelia.gontar@airservicesaustralia.com; or aama@airservicesaustralia.com;	Australia	RMA	Current	Brisbane, Honiara, Jakarta, Melbourne, Nauru, Port Moresby and Ujung Pandang (including Timor-Leste) FIRs
		EMA	Current	Brisbane, Melbourne, Honiara, Nauru, and Port Moresby FIRs
China RMA - Air Traffic Management Bureau, (ATMB) of Civil Aviation	China	RMA & EMA	Current	RMA for: Beijing, Guangzhou, Kunming, Lanzhou, Pyongyang,

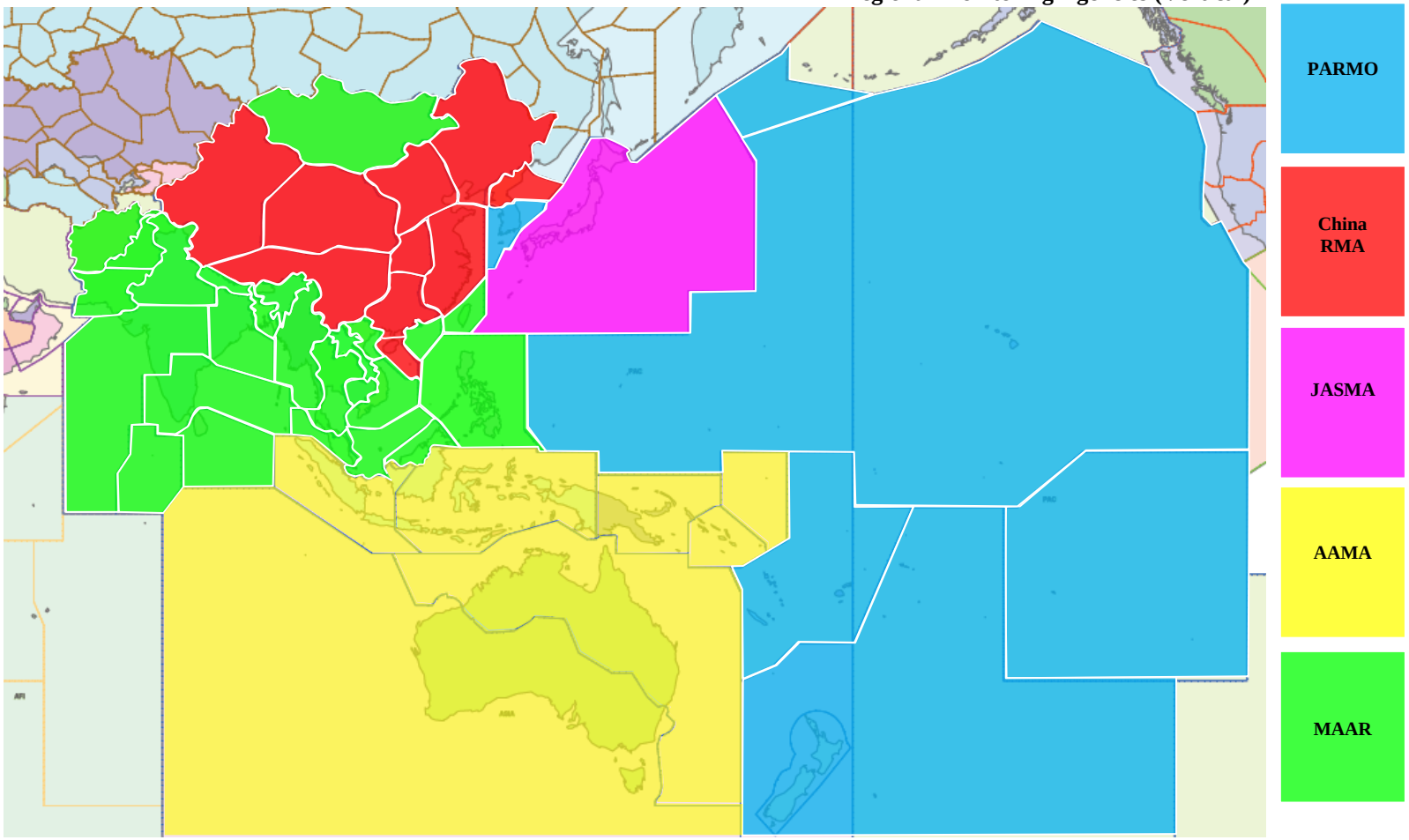
Administration of China (CAAC) http://www.chinarma.cn Mr.Yongyue Chen (Monsoon), Coordinator of China RMA, ADCC, ATMB of CAAC email: rmachina@rmachina.cn				Sanya, Shanghai, Shenyang, Urumqi, and Wuhan FIRs. EMA for: Lanzhou and Urumqi FIRs
India Bay of Bengal Arabian Sea Indian Ocean Safety Monitoring Agency (BOBASMA) http://www.aai.aero/public_notices/aaisite_test/bobasma_index.jsp Mr. A. P. Udayanarayanan Joint General Manager (ATM) Phone No:+ 91 44 22561253 Fax No: +91 44 22561740 Email: bobasmachennai@gmail.com : bobasma@aai.aero	India	EMA	Current	Chennai, Colombo, Delhi, Dhaka, Kabul, Karachi, Kolkata, Lahore, Male, Mumbai, Yangon,
Japan Airspace Safety Monitoring Agency (JASMA) - Japan Civil Aviation Bureau (JCAB) Mr. Yasuhiro MARUTSUKA, Special Assistant to the Director, Flight Procedures and Airspace Program Office, Japan Civil Aviation Bureau, email : marutsuka-y0799@mlit.go.jp : ~~hqt-JASMA@ml.mlit.go.jp~~ hqt-JASMA@gxb.mlit.go.jp : jasma-hq@jasma.jp ~~CRA function:~~ Central Reporting Agency Japan (CRA Japan) Mr. Hiroyuki WADA, Special Assistant to the Director, Air Navigation Services Planning Division, Civil Aviation Bureau, MLIT email: wada-h22t5@mlit.go.jp	Japan	RMA~~,~~ and EMA ~~and CRA~~ CRA	Current Current	Fukuoka FIR
Monitoring Agency for the Asia Region (MAAR) **Aeronautical Radio of Thailand LTD** (AEROTHAI) http://www.aerothai.co.th/maar	Thailand	RMA	Current	Bangkok, Kolkata, Chennai, Colombo, Delhi, Dhaka, Hanoi, Ho Chi Minh, Hong Kong, Kabul, Karachi, Kathmandu,

Mr. Theeravut Sungseemek Director, Safety Management Department & MAAR AEROTHAI Email: maar@aerothai.co.th				Kota Kinabalu, Kuala Lumpur, Lahore, Male, Manila, Mumbai, Phnom Penh, Singapore, Taibei, Ulaan Bataar, Vientiane, Yangon FIRs
Pacific Approvals Registry and Monitoring Organization (PARMO) – Federal Aviation Administration (US FAA) http://www.faa.gov/air_traffic/separation_standards/parmo/ Christine Falk Federal Aviation Administration Separation Standards Analysis Branch Safety Analysis Subject Matter Expert parmo@faa.gov	USA	RMA and EMA	Current	RMA for Anchorage Oceanic, Auckland Oceanic, Incheon, Nadi, Oakland Oceanic, Tahiti FIRs EMA for Anchorage Oceanic, Auckland Oceanic, Nadi, Oakland Oceanic, Tahiti FIRs
South East Asia Safety Monitoring Agency (SEASMA) - Civil Aviation Authority of Singapore (CAAS) Mr. Ying Weng Kit Principal Air Traffic Control Manager (ANS Safety & Security), Air Navigation Services Group Email: ying_weng_kit@caas.gov.sg; https://www.caas.gov.sg/operations-safety/airspace/south-east-asia-safety-monitoring-agency	Singapore	EMA and CRA	Current	EMA for Hong Kong, Ho Chi Minh, Kota Kinabalu, Kuala Lumpur, Manila, Jakarta, Sanya, Singapore and Ujung Pandang FIRs CRA for Singapore, Viet Nam and Philippines
FIT-ASIA ICAO Asia and Pacific Regional Office Email: apac@icao.int; ssumner@icao.int; Mr. Kwek Chin Lin Chair, FIT-Asia Email: kwek_chin_lin@caas.gov.sg.	FIT-Asia States	FIT	Current	FIRs in the Asian Region not covered by IPACG/FIT and ISPACG/FIT

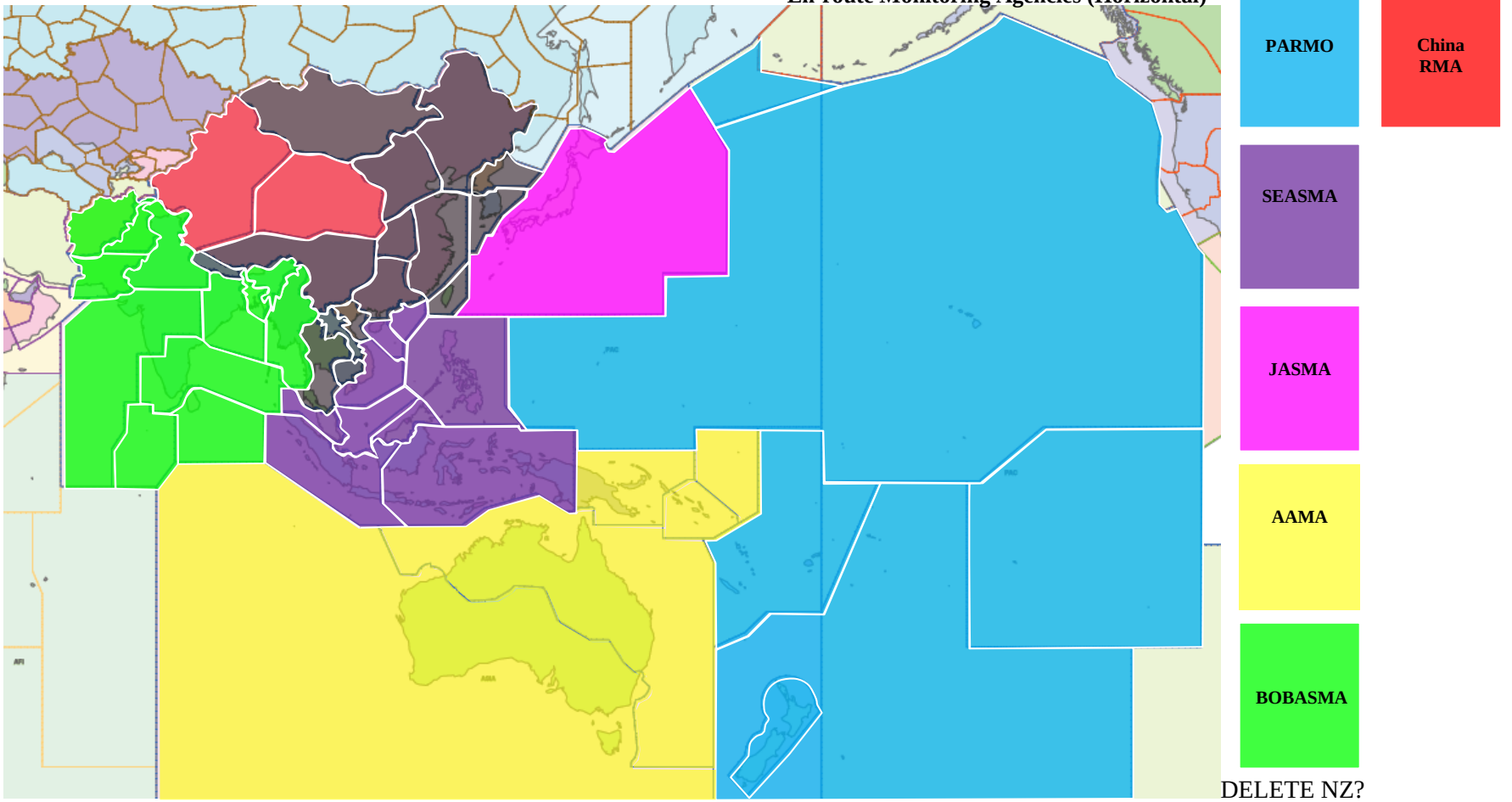
Mr. Bradley Cornell, Boeing Engineering email: Bradley.D.Cornell@Boeing.Com	Boeing USA	CRA	Current	FIRs in the Asian Region not covered by IPACG/FIT, ISPACG/FIT, JASMA or SEASMA
IPACG/FIT ~~To be advised (FAA)~~ ~~email: to be advised~~ Mr. Hiroyuki WADA~~, JCAB Co-Chair,~~ IPACG/FIT Co-Chair (JCAB) email : wada-h22t5@mlit.go.jp; Mr. John Roman IPACG/FIT Co-Chair (FAA) Email: johnnroman@faa.gov	Japan and USA	FIT & CRA	Current	North & Central Pacific (Oceanic airspace within Fukuoka FIR, and Anchorage & Oakland FIRs)

ISPACG/FIT Mr. Mat Fraser Airways New Zealand ISPACG Co-Chair Email: mathew.fraser@airways.co.nz Mr. Ahmad UJsmani, FAA ISPACG Co-Chair Email: ahmad.usmani@faa.gov Mr. Bradley Cornell, Boeing Engineering ISPACG/FIT Chair email: Bradley.D.Cornell@Boeing.Com Mr. Michael Matyas Boeing Engineering ISPACG lead Email: michael.matyas@boeing.com	ISPACG States Boeing USA Boeing USA	FIT&CRA FIT CRA	Current	South Pacific FIRs and members of the Informal South Pacific ATS Coordination Group (ISPACG)

Regional Monitoring Agencies (Vertical)

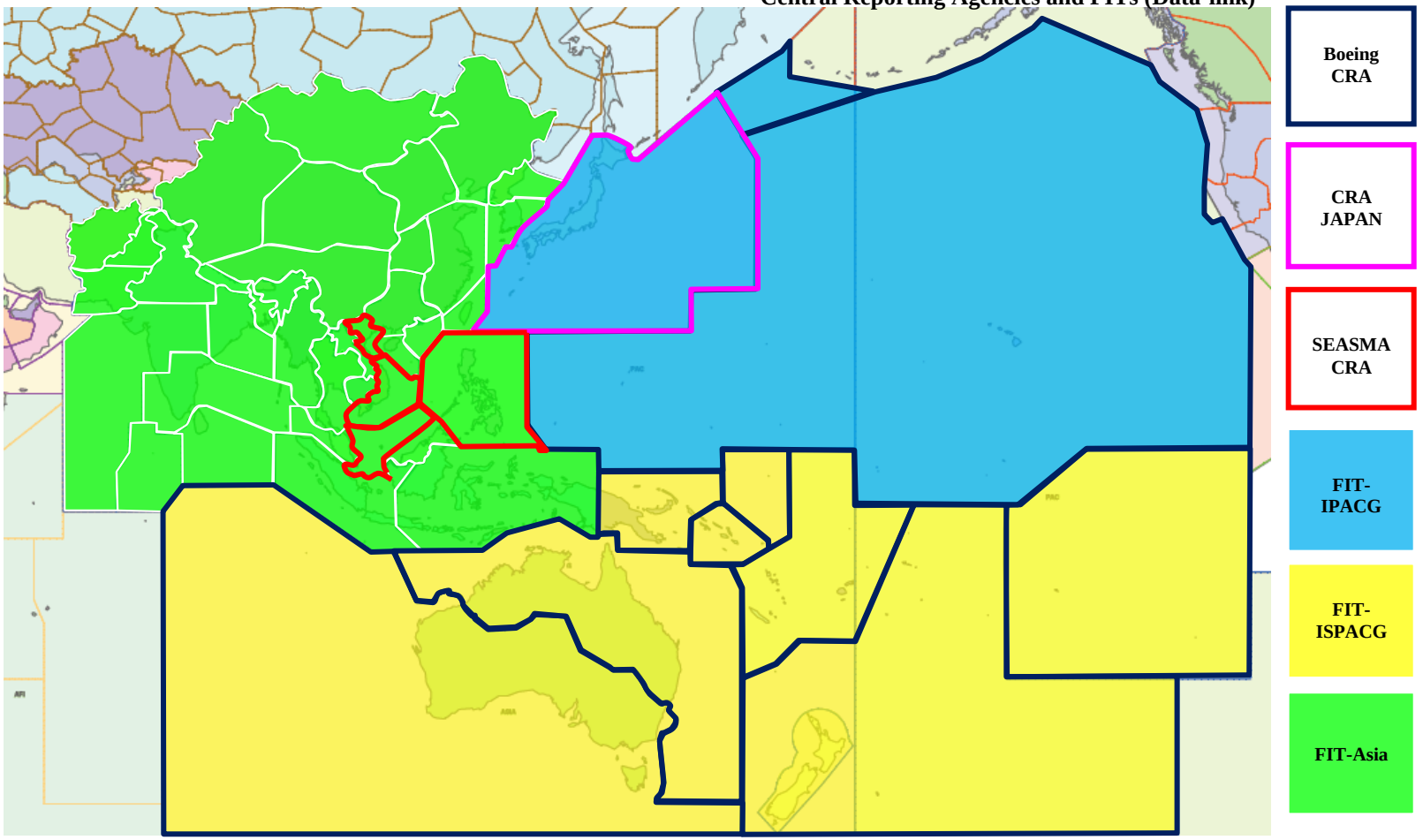


En-route Monitoring Agencies (Horizontal)



DELETE NZ?

Central Reporting Agencies and FITs (Data-link)



Excerpt - ATM and Airspace Safety Deficiencies List – Updated 26 August 2021 (FIT-Asia/11)

Identification		**Deficiencies**			**Corrective Action**			
Requirements	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Target date for completion**	**Priority for action****
Data Link Performance Monitoring and Analysis Requirements of Annex 11 paragraph 2.29 and/or 3.3.5.2 not met.								
	~~Fiji~~	~~Post-implementation monitoring not implemented~~	~~25/06/2018~~	~~Problem reports not provided to CRA.~~		~~Fiji~~	~~TBD~~	~~A~~
	India	Post-implementation monitoring not implemented	5/6/2017	Performance monitoring and analysis not reported for the ~~Kolkata and~~ Mumbai FIR~~s~~.	Performance monitoring and analysis reported for Chennai and Kolkata FIRs only. Delhi FIR N/A.	India	TBD	A
	Maldives	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT.		Maldives	TBD	A

FIT-ASIA — TASK LIST

(last updated 26 August 2021)

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
2/4	States to inform Regional Office of current data-link service status, and/or provide update on planned implementation	Ongoing	FIT-Asia States/Secretariat	Closed	Closed FIT-Asia/10 Reporting defined in RASMAG Conclusions
3/4	Register on FANS CRA Website	Ongoing	All FIT-Asia Administrations providing data link services in the FIR All FIT-Asia Administrations' Regulatory Authorities responsible for approving aircraft and aircraft operators for PBCS operations	Closed	In accordance with APANPIRG Conclusion 24/24 Non-data link service provider States also to register, to provide access to the PBCS Charter, problem report information, and data link performance reports. Updated FIT-Asia/9 Closed FIT-Asia/10 Registration defined in APANPIRG Conclusion
4/4	Provide problem reports to CRA of switching to HF in areas where good SATCOM coverage exists.	Ongoing	China, Boeing CRA	~~Open~~ Completed	CRA to analyse why aircraft are reverting to HF in areas where good SATCOM coverage exists. Description modified at FIT-Asia/6 FIT-Asia/11 WP/16

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
6/1	CRAs to provide a list of States having made problem reports, and the number of problem reports submitted by each State, prior to each FIT-Asia meeting	ongoing	BOBASMA/FIT-Asia/Boeing CRA	Closed	To ensure consistency of information on State engagement with CRA is provided to Fit-Asia meetings, and to ensure accurate update of the deficiency list. Closed FIT-Asia/10: Merged with Task 7/1
6/3	Provide a briefing on the timing of the HF Data Link Network upgrade and expected improvements	FIT-Asia/11	Secretariat	Open	Collins Aerospace No reply from Collins Aerospace (formerly Rockwell Collins). Informal information indicates hardware upgrade 2022, full improved capability 2024 Updated ~~FIT-Asia/9~~ FIT-Asia/10
6/7	Provide Contact Details for FIT-Asia PBCS SWG participants	Ongoing	FIT-Asia SWG Participants	Open	SWG India, New Zealand, Singapore, IATA (Japan) Updated FIT-Asia/9
6/11	Review TOR	Fit-Asia/9	Chair, Secretary, in consultation with FIT-Asia PBCS SWG	Completed	Updated FIT-Asia/9
7/1	All APAC FIT and CRA to provide a list of States having submitted problem report and performance analysis reports to CRA (including number of reports) and FIT	Ongoing	FIT-Asia CRA Japan IPACG/FIT ISPACG/FIT SEASMA	Open	FIT-Asia/7 IP/3 To be provided one month prior to each annual FIT-Asia meeting Updated FIT-Asia/10

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
7/2	Direct correspondence to survey non-respondent States with FIRs listed in Doc 7030 with performance-based separations	Ongoing FIT-Asia/12	Secretariat	Open	FIT-Asia/7 WP/4 and IP/13 Include availability of guidance for operations authorizations Updated ~~FIT-Asia/10~~ FIT-Asia/11
7/3	Direct correspondence to survey non-respondent States known/believed to have implemented performance-based separations without Doc 7030 support	Ongoing FIT-Asia/12	Secretariat	Open	FIT-Asia/7 WP/4 and IP/13 Include availability of guidance for operations authorizations Updated ~~FIT-Asia/10~~ Fit-Asia/11
8/1	States to complete annual data link performance analysis in new template format	Ongoing By 31 March each year	States	Open	1. Forward to Secretariat for forwarding to State responsible for aggregated Regional data. 2. Prepare report of State performance for FIT-Asia

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
8/2	Prepare aggregated Regional data link performance data for submission to FIT-Asia and RASMAG	Ongoing By 31 May each year	~~USA~~ China (2021 2022)	Open	Rotational responsibility ~~The US as a member of the FIT SWG agreed during RASMAG/23 and FIT-Asia/9 to lead this effort in the first two years. FIT Asia agreed to the creation of this report with responsibility of production rotating on an annual basis.~~ ~~USA to retain this task pending the agreement of another APAC Administration to accept responsibility.~~ ~~Secretariat and Chair to seek interest from others Administrations. May require a transitional arrangement to become familiar~~ The US will work with Europe to assure poor performing global fleets are reported to the states of registry outside of their region of operation. Following FIT-Asia/10 China contacted the Secretariat and volunteered to take on this responsibility. China subsequently provided the report to FIT-Asia/11 Updated ~~FIT-Asia/10~~ FIT-Asia/11

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
8/3	Re-circulate PBCS implementation survey	Ongoing	Secretariat	Closed	Include formal State POCs, and relevant FIT-Asia participant or other ATM-related POCs that may assist in getting the survey completed. Follow-up with all APAC States known to be providing data link services to ensure response. ~~Updated FIT-Asia/9~~ FIT-Asia/10 RASMAG Conclusion Refers
9/1	Aircraft Operators to ensure contact details on the FANS CRA website are up to date, and include, the correct contact for approving release of data link logs	Ongoing	IATA States (non IATA members) Boeing CRA	Open	FIT-Asia/9 Report paragraph 2.5 Updated FIT-Asia/10
9/2	Make performance data available to all APAC Administrations for regulatory oversight purposes, on request.	Ongoing	All ANSPs providing data link	Closed	FIT-Asia/9 Report paragraph 3.14 Draft Conclusion FIT-Asia/9-2 Closed FIT-Asia/10 RASMAG Conclusion Refers
9/4	Remove old performance analysis reporting templates from Regional Office website	12 July 2019	Secretariat	Completed	FIT-Asia/9 Report paragraph 4.6 Completion recorded FIT-Asia/10
9/5	Review and develop Draft of new version of *Guidance Material for End-to-End Safety and Performance Monitoring of ATS Data Link Systems in the APAC Region*. Include region-specific matters from Appendix B to the GOLD Manual (to be removed from the manual in 2020)	~~FIT-Asia/11~~ FIT-Asia/12	China, India, Indonesia, New Zealand, Singapore, USA, Boeing CRA, Secretariat FIT-Asia/SWG	Open	FIT-Asia/9 Report paragraphs 3.5 and 5.1 Updated ~~FIT-Asia/10~~ FIT/Asia/11

ACTION ITEM	DESCRIPTION	TIME FRAME	RESPONSIBLE PARTY	STATUS	REMARKS
10/1	Provide details of operators that were not signed up to the PBCS Charter, for IATA to follow up to encourage their participation	~~30 September 2020~~ FIT-Asia/12	Fit-Asia CRA/IATA	Open	FIT-Asia/10 Report paragraph 2.7 Progress to be reported to FIT-Asia/11
10/2	~~Confirm separation minima for~~ Provide formal letter to Regional Office requesting inclusion of FIRs in Doc 7030 Proposal for Amendment (50 NM longitudinal, 30 NM longitudinal 50 NM lateral, 23 NM lateral, as appropriate).	10 August 2020 10 September 2021	Indonesia, Philippines, Sri Lanka, Singapore	Open	FIT-Asia/10 Report paragraph 3.20 and WP/4 Updated FIT-Asia/11 report paragraph 3.21 and Table 3
10/3	Confirm need for Doc 7030 procedure for Hong Kong FIR and Sanya FIR (50 NM longitudinal)	FIT-Asia/11 10 September 2021	Hong Kong, China China Secretariat	Open	FIT-Asia/10 Report paragraph 3.17 FIT-Asia/11 Report paragraph 3.21 and Table 3.
10/4	Seek clarification on regulatory readiness to issue PBCS approvals and conduct performance monitoring of aircraft operators	Fit-Asia/11	Secretariat, various States.	~~Open~~ Closed	FIT-Asia/10 Report paragraph 3.17 Will need preliminary analysis of P2 and SUR/RSP180 in FPL
11/1	Explore options to make a formal approach to the States of Operator/Registry of two operators failing to release data link logs for CRA analysis	RASMAG/26	Secretariat, Boeing CRA	Open	FIT-Asia/11 Report paragraph 2.6
11/2	Contact relevant authority to determine whether data link ground station NTX (Natunas) can be reactivated or relocated.	FIT-Asia/12	Indonesia/SITA/Boeing CRA	Open	FIT-Asia/11 Report paragraph 2.13
11/3	Implement or conduct operational trial of 300 second latency timer value, and report back to FIT-Asia/12	FIT-Asia/12	New Zealand	Open	FIT-Asia/11 Report paragraphs 3.8 and 3.9 ***Draft Conclusion FIT-Asia/11-1***
11/4	Provide separate SATCOM and VHF data in data link performance reports	31 March 2022	Sri Lanka and SITA	Open	FIT-Asia/11 Report paragraph 4.49