ICAO **TENTH MEETING OF THE REGIONAL AVIATION SAFETY GROUP - ASIA AND PACIFIC REGIONS (RASG-APAC/10)**

(Bangkok, Thailand, 17-18 December 2020 on Virtual Platform)

Agenda Item 5: ICAO / Member State / Industry Presentations

RASMAG/25 AND ATMSG/8 OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper provides a summary of the key outcomes from the Twenty-Fifth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/25) and Eighth Meeting of the Air Traffic Management Sub-Group (ATM/SG/8), and its contributory bodies.

1. INTRODUCTION

1.1 The Twenty-Fifth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/25) was held from 27 to 30 October 2020 by Video Teleconference (VTC) from the ICAO Asia and Pacific Regional Office, Bangkok, Thailand.

1.2 A total of 117 participants attended RASMAG/25 from Australia, Bangladesh, Cambodia, China, Hong Kong China, India, Indonesia, Japan, Malaysia, Myanmar, Nepal, New Zealand, Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Thailand, United States of America (USA), Viet Nam, IATA, IFALPA and ICAO.

1.3 A total of 40 Working Papers (WPs), five Information Papers (IPs) and three flimsies were presented to the meeting.

1.4 The full RASMAG/25 Report is available on the ICAO APAC Regional Office website at:
https://www.icao.int/APAC/Meetings/2020%20RASMAG25/Final%20Report%20RASMAG25.pdf

1.5 The Eighth Meeting of the Air Traffic Management Sub-Group (ATM/SG/8) of the Asia Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held by Video Teleconference (VTC, 23 – 27 November 2020) from the ICAO Regional Office, Bangkok, Thailand.

1.6 The meeting was attended by 220 registered participants from 27 States, two Special Administrative Regions of China and five International and ATM-related organizations, including Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong China, Macao China, Fiji, France (French Polynesia), India, Indonesia, Japan, Lao People's Democratic Republic (PDR), Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Thailand, United States of America (USA), Viet Nam, CANSO, IATA, IFALPA, IFATCA, and ICAO.

1.7 A total of 32 WPs, 17 Information Papers (IPs), one flimsy and eight presentations were considered by the meeting.

1.8 The full ATM/SG/8 Report is available on the ICAO APAC Regional Office website at: https://www.icao.int/APAC/Meetings/2020%20ATMSG8/Final%20Report.pdf.

2. DISCUSSION

Relevant FIT-Asia and RASMAG Outcomes

Datalink Performance

2.1 ICAO had provided a summary of the outcomes from the Tenth Meeting of the FANS Interoperability Team-Asia (FIT-Asia/10, VTC, 03 – 06 August 2020) and the Twenty-Fifth Meeting of the Regional Airspace Safety Monitoring Advisory Group (RASMAG/25, VTC, 27 – 30 October 2020).

2.2 The improvement in the submission of datalink Problem Reports (PRs) that had been noted at FIT-Asia/9 continued at FIT-Asia/10. A total of 66 PRs had been raised between July 2019 and June 2020, compared with 45 in the previous 12-month period.

2.3 **Table 1** summarised the aggregated Required Surveillance Performance (RSP) for the Asia/Pacific Region.

REQUIRED SURVEILLANCE PERFORMANCE						
Region	Asia-Pacific Region					
Performance Criteria	RSP180					
Time Period	2019 January-June			2019 July-December		
Colour key: Meets criteria / 99.0%-99.9% / Under criteria — Agg RGS	No. Messages	Criteria 95% % < = 90sec	Criteria 99.90% % <= 180sec	No. Messages	Criteria 95% % < = 90sec	Criteria 99.90% % <= 180sec
KZAK	4,880,557	98.40%	99.40%	4,994,635	98.50%	99.50%
NFFF	285,717	98.40%	99.15%	265,859	98.65%	99.31%
NTTT	74,795	99.52%	99.78%	64,708	99.51%	99.73%
NZZO	428,959	98.76%	99.49%	447,371	99.04%	99.60%
PAZA	1,315,506	98.38%	99.42%	1,233,417	98.47%	99.46%
RJJJ	2,454,906	98.39%	99.48%	2,668,737	98.44%	99.52%
RPHI	232,422	98.34%	99.51%	527,755	98.74%	99.65%
VCCF	598,937	98.45%	99.46%	563,057	98.53%	99.49%
VOMM	501,815	96.75%	98.65%	491,115	97.33%	98.94%
VVTS	244,731	98.33%	99.59%	255,457	98.22%	99.61%
VYYF	312,442	98.64%	99.36%	366,077	98.92%	99.52%
WAAF	290,831	98.58%	99.39%	272,656	98.89%	99.55%
WMFC	648,166	98.28%	99.51%	429,463	97.93%	99.45%
WSJC	1,189,990	98.91%	99.74%	581,546	98.65%	99.67%
YBBB	1,325,093	99.04%	99.65%	1,329,879	99.31%	99.75%
YMMM	1,003,859	98.92%	99.55%	1,000,861	99.14%	99.65%
ZLLL	344,490	97.92%	99.55%	301,206	97.83%	99.47%
ZWWW	190,925	98.08%	99.57%	176,263	98.08%	99.55%

Table 1: Asia/Pacific Region Aggregated RSP Data.

2.4 Analysis of the RSP data indicated that:

- aggregate performance was fairly stable between the first and second half of 2019;
- performance for messages delivered via HF continues to fall below requirements for RSP180;
- performance for messages delivered via Iridium paths (IG1-ARINC, IGW1-SITA) fell below RSP180 95% in a number of APAC FIRs;
- performance for messages delivered via some Inmarsat paths fell below RSP180 95% in some APAC FIRs; and
- some aircraft operators were observed below the RSP180 95% requirements within multiple APAC FIRs.

Table 2 summarised the aggregated Required Communications Performance (RCP) for the Asia/Pacific Region.

REQUIRED COMMUNICATION PERFORMANCE										
Region	Asia-Pacific Region									
Performance Criteria	RCP240									
Time Period	2019 January-June					2019 July - December				
Colour key: Meets criteria; 99.0%-99.9%; Under criteria	No. Messages	ACP Criteria		ACTP Criteria		No. Messages	ACP Criteria		ACTP Criteria	
		95%	99.90%	95%	99.90%		95%	99.90%	95%	99.90%
Aggregate All RGS		% <= 180sec	% <= 210sec	% <= 120sec	% <= 150sec		% <= 180sec	% <= 210sec	% < = 120sec	% <=150sec
KZAK	295,992	99.10%	99.40%	99.50%	99.60%	306,146	99.20%	99.50%	99.30%	99.60%
NFFF	9,533	99.55%	99.74%	99.65%	99.73%	9,731	99.44%	99.65%	99.60%	99.69%
NTTT	2,195	99.68%	99.72%	99.86%	99.86%	2,183	99.72%	99.90%	99.86%	99.86%
NZZO	12,133	99.42%	99.59%	99.60%	99.71%	11,741	99.60%	99.59%	99.77%	99.72%
PAZA	84,241	99.05%	99.23%	99.33%	99.44%	85,796	98.35%	98.16%	98.76%	98.68%
RJJJ	51,506	99.46%	99.62%	99.38%	99.62%	54,855	99.50%	99.64%	99.47%	99.70%
RPHI	9,311	97.24%	98.71%	97.47%	98.81%	17,727	97.39%	98.62%	97.58%	98.88%
VCCF	29,676	98.31%	99.27%	99.24%	99.69%	32,594	98.12%	99.21%	99.39%	99.68%
VOMM	133,127	99.29%	99.50%	99.55%	99.71%	133,189	99.29%	99.51%	99.55%	99.71%
VVTS	27,923	94.67%	99.13%	95.37%	99.48%	30,462	94.58%	99.15%	95.29%	99.48%
VYYF	59,919	98.52%	98.90%	98.85%	99.18%	67,469	98.31%	98.69%	98.66%	99.04%
WAAF	41,583	98.61%	99.21%	98.88%	99.44%	38,744	96.46%	99.63%	97.31%	99.68%
WMFC	20,441	97.97%	98.73%			30,246	97.67%	98.45%		
WSJC	31,694	98.47%	98.27%	98.93%	98.88%	47,765	98.74%	98.62%	99.16%	99.09%
YBBB	36,891	98.99%	99.26%	99.82%	99.13%	40,094	99.30%	99.52%	99.16%	99.42%
YMMM	38,326	99.43%	99.58%	99.39%	99.57%	42,827	99.48%	99.64%	99.54%	99.69%
ZLLL	2,805	99.14%	99.35%	98.36%	98.89%	3,080	99.22%	99.41%	98.40%	99.18%
ZWWW	787	97.83%	98.22%	96.56%	97.20%	558	98.74%	99.28%	97.13%	97.84%

Table 2: Asia/Pacific Region Aggregated RCP Data.

2.5 Analysis of the RCP data indicated that:

- aggregate performance was fairly stable between the first and second half of 2019, with some degradation observed in the second half for a couple of FIRs;
- performance for Controller Pilot Datalink Communication (CPDLC) transactions delivered via High Frequency (HF) and mixed media continues to fall below requirements for RCP240;
- Performance for CPDLC transactions delivered via Iridium paths (IG1-ARINC, IGW1-SITA) fell below RCP240 95% in a few of Asia-Pacific FIRs; and
- Some aircraft operators were observed below the RCP240 95% requirements in multiple APAC FIRs.

South Asia Indian Ocean (SAIO)Airspace

2.6 The 2019 RVSM risk estimate for SAIO airspace indicated that the Target Level of Safety (TLS) had <u>not</u> been met at **36.78 x 10^{-9}** (**Figure 1**).

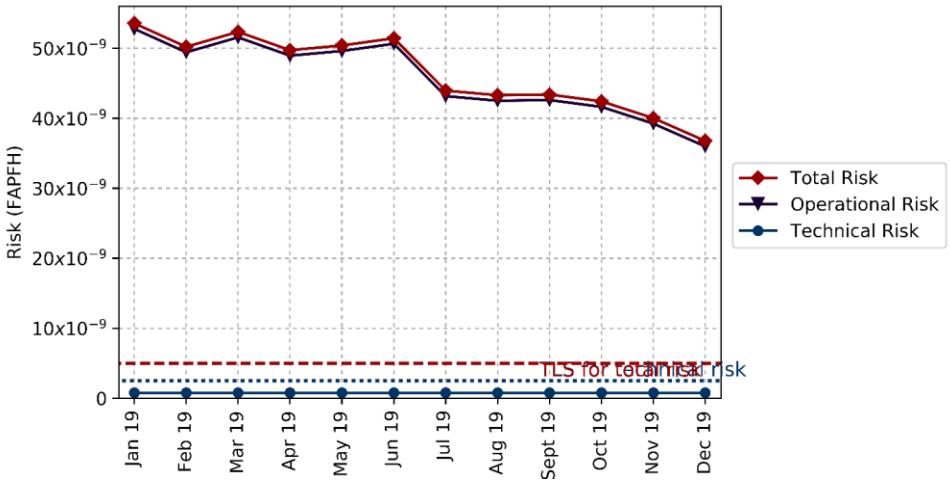

Figure 1: 2019 Vertical Risk Estimate for SAIO airspace

2.7 As had been the case in previous years, the vast majority of the 434 Large Height Deviation (LHD) cases that had been reported were Category E events, with 411 (95%).

2.8 LHD Hot Spot F (Mogadishu – Mumbai) and Hot Spot G (Sanaa/Muscat – Mumbai) remained as LHD hot spots. In 2019, the operational risk of this hotspot accounted for **25.65 x 10^{-9}**, which was 71% of the SAIO area's total risk. The 2019 operational risk in SAIO airspace was dominated by LHDs at Mumbai – Muscat interface. Out of 16 long duration LHDs in SAIO airspace, 12 LHDs occurred at this interface, accounting for 38% of the total operational risk in this subregion.

2.9 The majority of LHDs between Muscat and Mumbai were Category E, with a sub-category of 'No or Late FL revision' and 'Negative Transfer'. The poor communication services and lack of surveillance coverage at this interface worsened the situation, due to the slower identification that led to long-duration occurrences.

2.10 In addition, the Pakistan airspace closure from 27 February to 16 July 2019 and contingency operations had contributed to the increase in LHDs particularly at waypoint RASKI, PARAR and TOTOX (**Figure 2**).

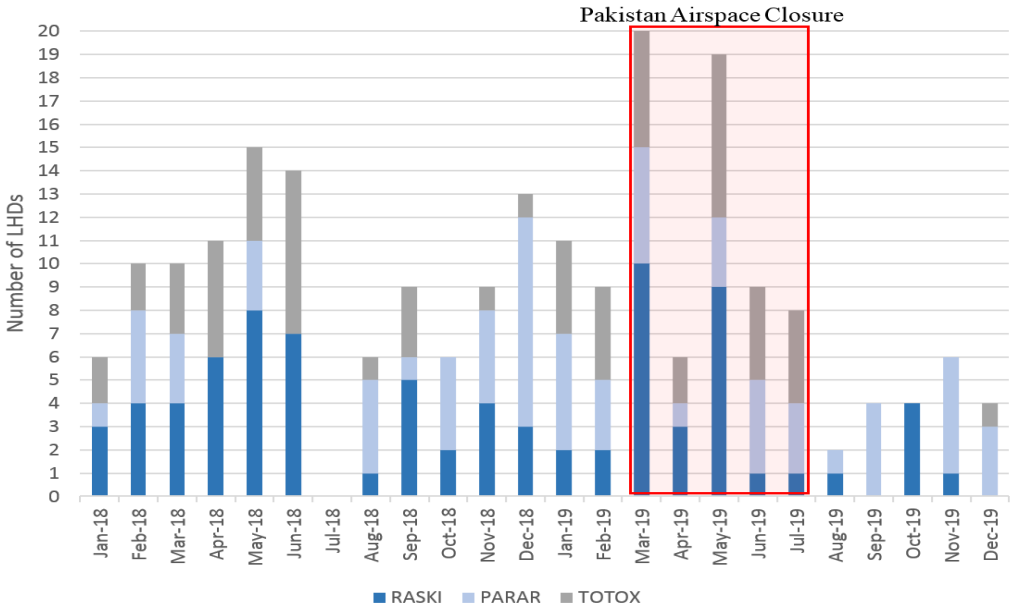

Figure 2: LHDs at RASKI, PARAR and TOTOX, January 2018 – December 2019

Call sign confusion

2.11 With regard to the Category D (Air Traffic Control – Air Traffic Control (ATC) system loop error) events, Japan had provided more detailed analysis to the meeting after ICAO asked whether English Language Proficiency (ELP) might be an issue. While acknowledging the potential role of ELP, Japan had noted that a number of these incidents were due to similar call signs.

2.12 In response to a query from ICAO, IATA clarified that its similar call sign initiative successfully implemented in the MID Region had not been able to progress in the APAC Region. One of the reasons for this had been the reluctance of aerodrome operators to implement change until an automated tool was available to accommodate alphanumeric call signs. Noting the grave safety risks from such occurrences, RASMAG/25 had agreed to the following Draft Conclusion, which was endorsed by the AOP/SG/4 and the ATM/SG/8:

Draft Conclusion RASMAG/25-3: Alphanumeric Call Sign Initiative

Noting:

1) the extreme safety risks associated with pilot-ATC miscommunication and the number of Category D (ATC Loop Error) Large Height Deviations (LHDs);

2) APANPIRG Conclusion 27/15. ATMSG Conclusions 5-5 and 5-6 regarding the Asia Pacific Alpha Numeric Call-Sign (ANCS) call sign project; and

3) alphanumeric call signs were a well-established call sign confusion mitigation, that:

leading Air Navigation Service Providers (ANSPs) and aerodrome operators, in coordination with CANSO and ACI, were urged to consider a trial to identify and overcome any barriers for the implementation of alphanumeric call signs, with a view to developing a project for the Asia/Pacific (APAC) Region.

AKARA – FUKUE Corridor

2.13 There had been twelve reported LHDs during 2019 that contributed towards the estimate of operational vertical risk, with a total of 35.9 minutes of duration at an incorrect flight level and 10 flight levels crossed without an ATC clearance. This had resulted in a 57% increase in estimated vertical risk to **247.0×10^{-9}** (**Figure 3**).

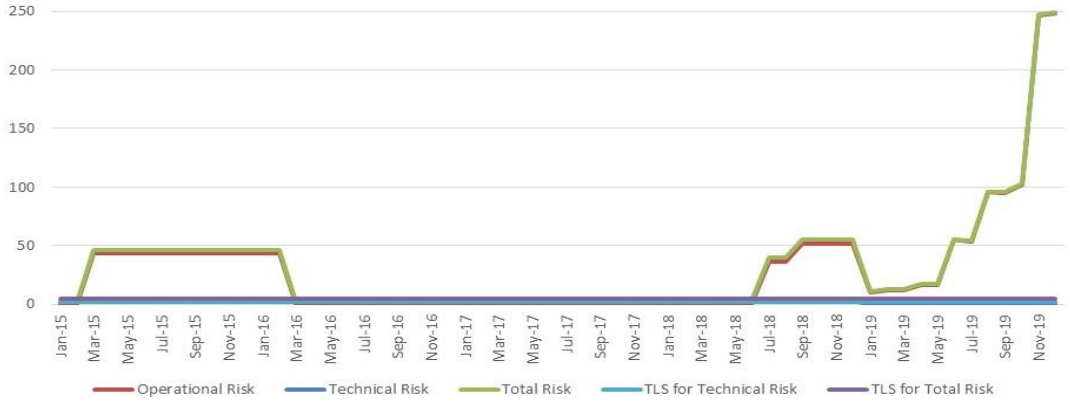

Figure 3: AKARA Twelve-month Rolling Vertical Collision Risk Estimates, 2015 – 2019

2.14 The numbers of reported LHDs within this airspace had been increasing rapidly, with only three in 2015 and 2016, and none in 2017. After discussions at RASMAG on the need for improved safety reporting, a major increase of 19 for 2018 was recorded, and again in 2019 29 LHDs were recorded, 16 of which were Category E (55%), seven were Category D (24%) and one each for Category A and Category B (7% together).

2.15 China stated that safety reporting was not an issue as 'Just Culture' had been implemented in China, meaning that there was no punishment for reporting of safety incidents. China recalled that the AKARA-FUKUE Corridor had been established in 1983, and had maintained a high level safety record, so it was not a new airspace structure. They also stated that there were different views with regard to the Corridor's compliance with Annex 11. China suggested that the relevant issues were not suitable for discussion at APAC meetings before the TWG determined a formal solution, as many participants did not know about the background and detailed information.

2.16 In response, ICAO noted that RASMAG/25 had identified that China's Category E (*Coordination errors in the ATC-to-ATC transfer or control responsibility as a result of human factors issues*) reporting had been well below what could be expected for an environment with only partial AIDC implementation [in 2018 and 2019]. ICAO also noted that with increased scrutiny from multiple States concerned, there had been a major increase in safety reports near position SADLI, at the interface between Chinese and Japanese service within the AKARA – FUKUE Corridor (**Figure 4**).

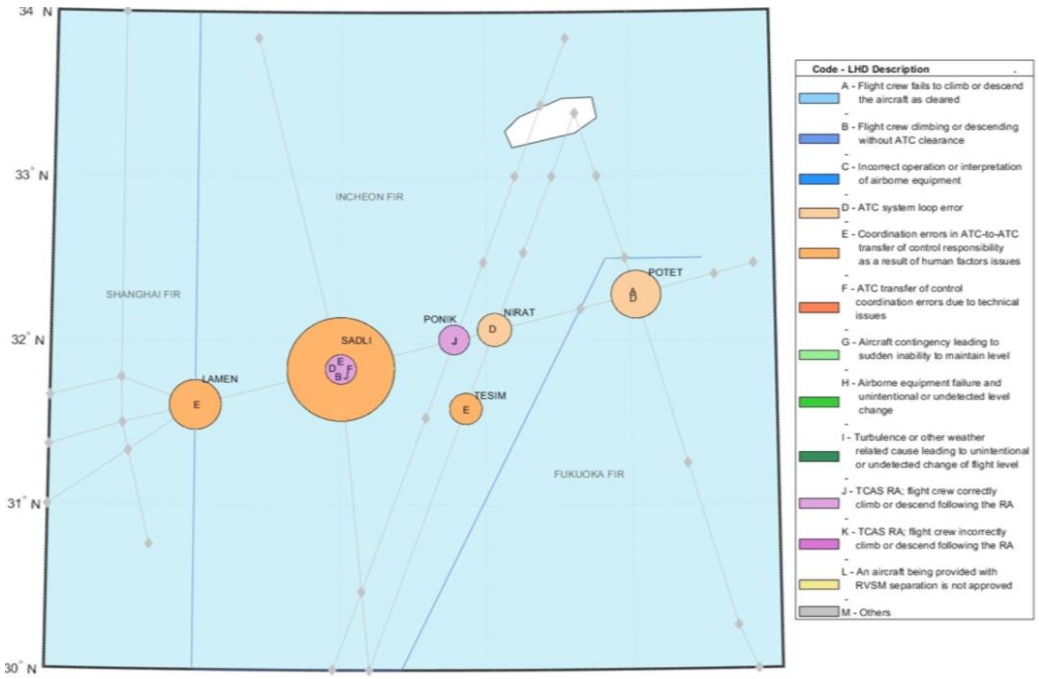

Figure 4: Locations of 2019 Reported AKARA Corridor LHDs

Regional Airspace Safety Assessment

2.17 **Figure 5** is an Asia/Pacific Reduced Vertical Separation Minimum (RVSM) TLS compliance overview, as at RASMAG/25:

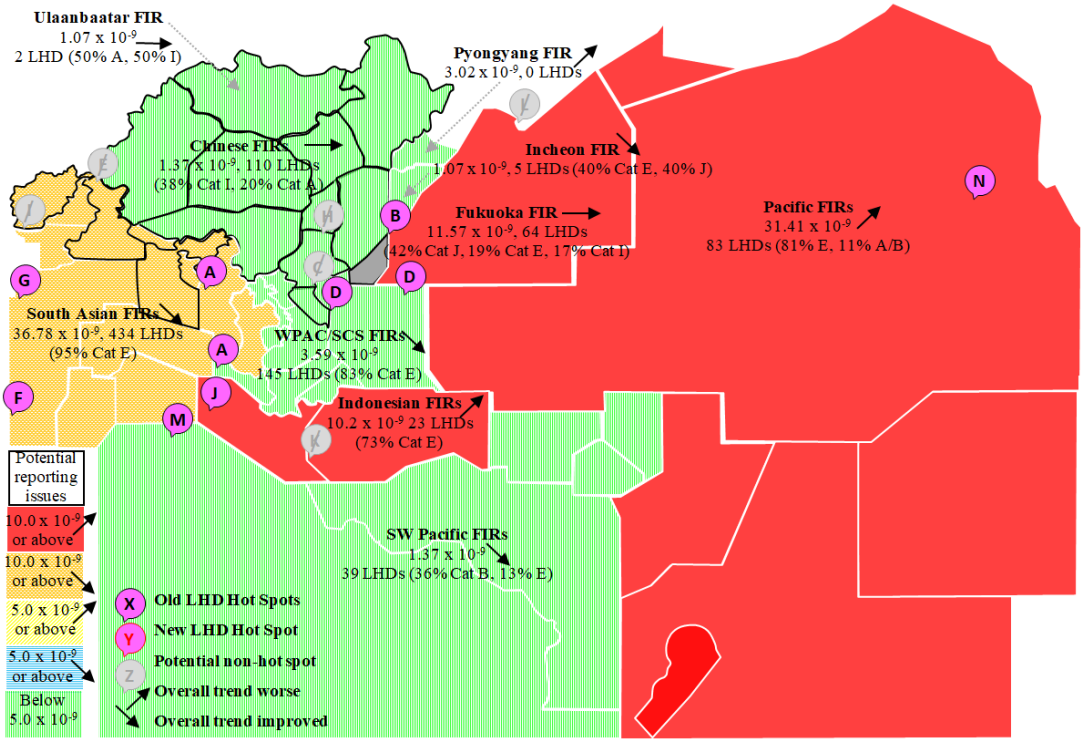

Figure 5: Asia/Pacific RVSM TLS subregion compliance reported to RASMAG/25

2.18 The following risk estimates were calculated for Asian airspace in 2019:

a) Vertical: RVSM operations were non-compliant with the TLS at **12.88 x 10^{-9}** (a decrease from 12.53 x 10^{-9} (2016), 27.30 x 10^{-9} (2017) and 15.50 x 10^{-9} (2018); and

b) Horizontal: all separations, including 30NM, were compliant with the TLS at **0.0001 x 10^{-9}** (30NM lateral) and **0.25 x 10^{-9}** (50NM longitudinal), an appreciable improvement since 2018 (0.52 x 10^{-9} and 3.91 x 10^{-9} respectively).

2.19 The following risk estimates were calculated for Pacific airspace in 2019:

a) Vertical: RVSM operations were non-compliant with the TLS at **30.21 x 10^{-9}** (an increase from 5.01 x 10^{-9} (2016), 7.30 x 10^{-9} (2017) and 19.40 x 10^{-9} (2018); and

b) Horizontal: all separations except for 10 minute longitudinal were compliant with the TLS at **3.35 x 10^{-9}** (50NM 1.45 x 10^{-9}, 50NM longitudinal 2.02 x 10^{-9} and 30NM longitudinal 4.10 x 10^{-9}).

5.1 **Table 3** highlights the following Regional Monitoring Agency (RMA) airspace aspects:

RMA Airspace Subdivision	Safety trend	Notes
Chinese FIRs	No change	Potential ATC reporting issues
Incheon FIR(excl. AKARA)	Improving	AKARA would dramatically worsen
Indonesia FIRs	Worsening	Improving reporting
Fukuoka FIR	No change	Still affected by the Manila FIR
Pacific FIRs	Worsening	Dramatic increase in CAT E LHDs
Pyongyang FIR	Worsening	Insufficient traffic to judge compliance
South Asia Indian Ocean FIRs	Improving	Still has the second worst hot spots
Southwest Pacific FIRs	Improving	Best performing APAC airspace
Ulaanbaatar FIR	No change	Potential ATC reporting issues
W Pacific/Southeast Asia FIRs	Improving	Second best performing APAC airspace

Table 3: Airspace Vertical Safety Performance Overview

2.20 **Table 4** provides a comparison of Asia/Pacific Region (APAC) RVSM risk as a measure against the TLS by grouped FIRs, according to the RMA responsibilities for airspace. Over the past six years, the performance of APAC in compliance with the TLS for RVSM had been poor overall, averaging 40% when measured by the grouped FIRs. However, of the 29 FIRs that achieved TLS, 10 FIRs had potential reporting issues (discussed later in this paper).

2.21 Therefore, the compliance rate may be significantly worse than reported. In conclusion, measures taken to improve adherence to the TLS in the past six years have yielded localised improvements, but overall had failed to produce a positive result for the APAC Region as a whole.

	2014	2015	2016	2017	2018	2019
FIRs	53%	32%	51%	16% (8 FIRs)	37% (18 FIRs)	53% (26 FIRs)

Table 4: Comparison of Regional RVSM TLS Achievement

Hot Spot Summary

2.22 **Table 5** provides a summary of the Hot Spots.

Hot Spot	Involved FIRs	Identified	Remarks
A1	Kolkata/Chennai/Dhaka – Yangon	2015	Potential non-hot spot
A2	Chennai – Kuala Lumpur	2015	LHDs increased
B	Incheon	2015	AKARA Corridor
D	Manila – all adjacent FIRs	2015	LHDs reduction
F	Mogadishu – Mumbai	2015	LHDs reducing
G	Sana'a/Muscat – Mumbai	2015	Cat. E LHDs (Sana'a improved)
J	Jakarta – Singapore/Kota Kinabalu	2018	Minor, Cat. E LHDs
M	Colombo - Melbourne	2019	Potential non-hot spot
N	Oakland USA – Hawaii CEP	2019	Cat. E LHDs

Table 5: Comparison Summary of LHD Hot Spots

Non-RVSM Approved Aircraft

2.23 **Table 6** compared the number of non-RVSM airframes reported by each RMA annually:

Report	AAMA	China RMA	JASMA	MAAR	PARMO	Total
RASMAG/20	8	45	15	234	26	328
RASMAG/21	5	6	15	106	11	143
RASMAG/22	7	40	11	163	25	246
RASMAG/23	5	20	9	43	38	115
RASMAG/24	5	4	17	34	1	61
RASMAG/25	2	24	6	26	9	67

Table 6: Trend of Non-RVSM Airframes Observed by Asia/Pacific RMAs

Regional Horizontal TLS Compliance

2.24 The following Asia/Pacific En-Route Monitoring Agency (EMAs) reported horizontal risk assessments as follows, which all met the TLS of 5.0×10^{-9} (**Table 7**):

ATC Separation	EMA	2018 Estimated Risk	2019 Estimated Risk
50NM Lateral	BOBASMA	2.05×10^{-9}	1.59×10^{-9}
	JASMA	0.05×10^{-9}	1.45×10^{-9}
	PARMO	-	-
	SEASMA	0.52×10^{-9}	0.012×10^{-9}
30NM Lateral	PARMO	0.16×10^{-9}	3.35×10^{-9}
50NM Longitudinal	BOBASMA	4.21×10^{-9}	4.97×10^{-9}
	PARMO	2.22×10^{-9}	-
	SEASMA	0.38×10^{-9}	0.38×10^{-9}
30NM Longitudinal	BOBASMA	-	-
	JASMA	0.001×10^{-9}	0.015×10^{-9}
	PARMO	4.08×10^{-9}	4.08×10^{-9}

Table 7: Comparison of Horizontal Risk Assessments

Safety Reporting

2.25 RASMAG/25 noted that the following States had reporting issues:

a) Afghanistan, which did not report any LHDs during 2020;

b) China, with respect to Category E (*ATC-ATC coordination errors as a result of human factors*);

c) India – Delhi and Kolkata FIRs (although Mumbai and Chennai had made distinct improvements); and

d) Mongolia had a rate of reported LHDs per hour that was very low, many factors less than that expected.

2.26 The Monitoring Agency for the Asian Region (MAAR) had also noted: In most cases, ATCO report LHDs only when they are affected by mistakes made by ATCO in their neighbouring FIRs. However, in 2018, the MAAR started to receive LHD reports which occurred inside an FIR.

2.27 Significant improvements in safety reporting had been noted in within the AKARA – FUKUE Corridor. Previously, some States had insisted that there were no safety issues within the Corridor, and it had been very rare to receive safety incident reports. RASMAG/25/WP14 illustrated the level of data that showed the Corridor was a Hot Spot with very high latent safety risks.

2.28 The Australian Airspace Monitoring Agency (AAMA) also noted that Indonesia had probably improved its safety reporting culture.

2.29 It was appropriate to remind States, even those which had taken significant positive steps to improve reporting, to continually monitor their reporting culture and systems to optimise reporting. Experience from developed nations had shown that educating operational personnel was not enough to achieve the open reporting objective of the 'aviation culture', as described in the *Asia/Pacific Seamless ATM Plan*.

2.30 Given that operational errors constituted by far the vast majority of safety risk in both the vertical and horizontal planes, the assurance of having an appropriate safety reporting culture was one of the most critical functions of airspace safety monitoring agencies. Yet, analysis of safety reporting culture, associated policies and the identification of potential missing reports remained almost non-existent in RMA/EMA safety reports.

2.31 In order to be more proactive, ICAO recommended that RMAs and EMAs better analyse safety data to identify potential under-reporting and undertake safety culture surveys and audits to monitor safety reporting culture. RASMAG/25 agreed to the following Decision on safety reporting as part of RMA/EMA safety reports.

Decision RASMAG/25-4: Safety Reporting Assessments

That, RMAs and EMAs will include within their vertical and horizontal safety reports to RASMAG an assessment of the safety reporting culture of the States concerned (including 'Just Culture'), and specifically, whether safety reports for events such as LHDs were consistently being made by pilots and ATC.

Relevant ATM/SG/8 Outcomes

RASG and APRAST Meeting Outcomes

2.32 The ATM/SG/8 discussed the outcomes of the Ninth Meeting of the Regional Aviation Safety Group – Asia and Pacific Regions (RASG-APAC/9, Bangkok, Thailand, 07 – 08 November 2019) and the Fifteenth Meeting of the Asia Pacific Regional Aviation Safety Team (APRAST/15, VTC, 24 – 25 June 2020).

2.33 The RASG-APAC/9 meeting had been invited to recognize the importance of human performance management in Air Navigation Service Providers (ANSPs), encourage ANSPs to avail themselves of the *CANSO Standard of Excellence in Human Performance* and to use it as a means for assessing their current level of maturity with respect to human performance.

2.34 APRAST/15 had adopted *Decision APRAST 15/1 — Establishment of ICAO APAC COVID-19 Contingency and Recovery Planning Group (ACCRPG).*

2.35 APRAST/15/WP/20 had discussed occurrences of near miss events as being a safety concern area identified in the Global Aviation Safety Plan (GASP) 2020-2022. The meeting agreed to develop Safety Enhancement Initiatives (SEI) in coordination with the ATM/SG and the Regional Airspace Safety Advisory and Monitoring Group (RASMAG) to mitigate mid-air collision risk in the Asia/Pacific (APAC) Region. The meeting had endorsed the following Decision:

Decision APRAST 15/13 — Mid-Air Collision Risk Mitigation

2.36 India had recalled that the procedure for managing Aircraft Collision Avoidance System (ACAS) equipped and non-equipped aircraft was now more significant, with an expected major increase of non-transponder unmanned systems and the possible presence of helicopter operations. India suggested that the helicopter industry should be considered for inclusion as a stakeholder. ICAO agreed to pass this concern to the ICAO officers responsible for APRAST so this could be taken into account.

ANS USOAP Update

2.37 ICAO had provided information on the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA). The paper discussed the Protocol Questions (PQs) used to assess a State's safety oversight system, and an annual update of ANS USOAP status.

2.38 The average ANS Effective Implementation (EI) of the Asia and Pacific (APAC) region at February 2020 was 68.52%. **Figure 6** illustrates the ANS-related PQs EI ratings of APAC States:

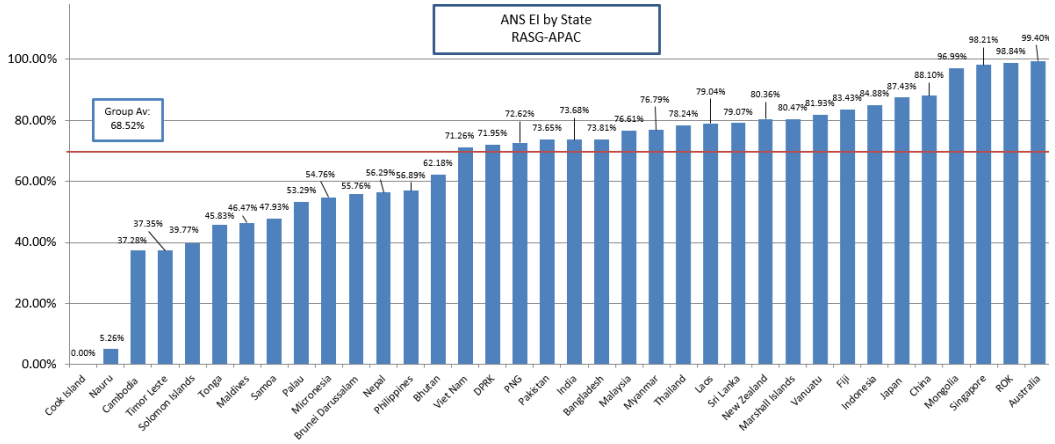

Figure 6: USOAP ANS EI Comparisons by State (July 2020)

Civil/Military Cooperation Update

2.39 ICAO highlighted Asia/Pacific's civil-military cooperation issues and initiatives, which were critical for safety and efficient procedures relevant to COVID-19 recovery to support airlines. The meeting recalled that civil-military cooperation remained one of the highest priority items in the Asia/Pacific Region, as evidenced by the eleven Seamless ATM elements on this subject.

2.40 Unlike past years, during 2020 the ICAO Regional Office had not received reports of significant disruptions or rocket debris from launches originating from China's Jiuquan and Taiyuan sites landing near populated areas in other States. However, the meeting reviewed details of ballistic launch and re-entry activities emanating from Hainan Island that had been notified by China affecting Viet Nam's international and national (territorial) airspace during July and September 2020. The meeting noted that it appeared that these notifications and the process of expected consultation did not comply with regional policy set out by APANPIRG and the *Asia/Pacific Seamless ATM Plan*. ICAO HQ was involved in discussing this matter with China.

2.41 Viet Nam expressed its thanks to ICAO for highlighting the significant concerns related to ballistic launch and space re-entry from Hainan Island. According to Viet Nam, the space flight activities from China potentially created significant hazards to the safety of flight operations within its FIRs (especially those operations on high density ATS routes). Moreover, 'restricted areas' were established by China outside its sovereign airspace, and civil flight activity was 'forbidden' over the high seas, which was inconsistent with the Chicago Convention and the UN Convention on the Law of the Sea (UNCLOS), to which China is a Party. Viet Nam requested China to strictly comply with international law, ICAO SARPS and regional policy set out by APANPIRG and the *Asia/Pacific Seamless ATM Plan*, to ensure the safety of flight operations. Viet Nam stated that it supported ICAO having a leading role in resolving this matter.

2.42 In response, China stated that it had strictly followed the regional policy, and that issues relating to civil-military operations were too sensitive and political to be discussed at the ATM/SG. China proposed to have a bilateral meeting between China and Viet Nam to resolve this issue.

2.43 ICAO extended its appreciation to the Air Traffic Management Bureau (ATMB) of the China Civil Aviation Administration (CAAC) for the effort undertaken to reduce ATM delays, with fewer reports of this nature reported in 2020.

2.44 With respect to Special Use Airspace (SUA), there had been a number of restricted areas designated within international airspace, which was not permissible. The meeting noted that SUA in Chinese, Japanese, Korean and Malaysian airspace could be subject of a Deficiency, unless the airspace was re-designated as a danger area or disestablished before APANPIRG/32.

Regional ATM Contingency Planning and Status Reporting

2.45 ICAO provided information on ATM contingency planning. The meeting was reminded that Annex 11 Section 2.32 *Contingency Arrangements* required that ATS authorities must develop and promulgate contingency plans. The *Asia/Pacific Regional ATM Contingency Plan* also included relevant performance expectations that were expected to be implemented by 10 November 2016, reflecting the Annex 11 requirement which had been applicable since November 2003.

2.46 Based on annual status reports, the implementation of ATM contingency planning by APAC Administrations were assessed as *robust* (90 – 100% implementation), *marginal* (70 – 89%) or *incomplete* (0 – 69%).

2.47 Australia, Indonesia and Singapore were assessed as having *robust* contingency plans implemented. Marginal implementation was recorded for Malaysia, Pakistan, Republic of Korea and Viet Nam. The contingency planning of Bangladesh, Cambodia, Hong Kong China, Macao China, Japan, Maldives, Mongolia, Myanmar, Nepal, New Caledonia, Papua New Guinea, Philippines, Sri Lanka and Thailand was assessed as *incomplete*.

2.48 The following States had not reported their contingency planning status:

Afghanistan, Bhutan, Brunei Darussalam, China, Cook Islands, Fiji, France (French Polynesia), DPR Korea, India, Kiribati, Lao PDR, Marshall Islands, Micronesia, Nauru, New Zealand, Palau, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu, United States and Vanuatu.

2.49 The meeting was informed of APAC activities relating to ATM contingency planning in response to the COVID-19 pandemic. Activities included ATM-specific seminars held by VTC, and presentations and proposed recommendations to the Asia/Pacific COVID-19 Contingency Recovery and Planning Group (ACCRPG). Outcomes of these activities included the development of the APAC Regional Strategy for COVID-19-related ATM Contingency Recovery (**ATM/SG/8 WP/24 Attachment B**). The meeting was particularly urged to consider the impact of re-opening of traffic to service travel bubbles or city pairs, and the need to ensure that the ATM capacity of all affected FIRs was taken into account, as described in the list of ANSP and ICAO actions in the strategy document.

2.50 ICAO stressed that ANSPs needed to be aware of the imminent increase of freight flights delivering vaccines worldwide, so they should consider the capacity and contingency ramifications of this as part of their planning in the next few weeks. IATA expressed its thanks to the ICAO Regional Office for its efforts to strengthen contingency planning. IATA estimated that about 8,000 extra flights would be undertaken over a period of some months for vaccine distribution, depending on the production of vaccines. IATA informed the meeting that vaccine guidance material was available at:

- https://www.iata.org/en/programs/covid-19-resources-guidelines/; and
- https://www.iata.org/en/programs/cargo/

Search and Rescue

2.51 The Fifth Meeting of the Asia/Pacific Regional Search and Rescue Work Group (APSAR/WG/5) had been held from 09 to 11 June 2020 by VTC.

2.52 ICAO HQ had presented a summary of the activities undertaken by ICAO at the global level to support the implementation of the Global Aeronautical Distress and Safety System (GADSS), including developments relating to the location of an aircraft in distress repository (LADR). The meeting was informed that the PANS-OPS Volume III GADSS Autonomous Distress Tracking (ADT) and LADR procedures were now envisaged for applicability on 4 November 2021, while the Annex 6 ADT aircraft equipage requirements were delayed from 01 January 2021 until 01 January 2023. Provisions included procedures for aircraft operators to track aircraft, responding to tracking systems in an appropriate manner and forwarding information received from an ADT to the LADR.

2.53 The meeting had noted that in 2018, the SAR false alert rate was 96.85%, or about one real alert confirmed in 32 alerts received. The rate of false reports had not changed substantially since 2014. Cospas-Sarsat had reported an increase in the number beacons that report location in an alert message (87.4% in 2018), and the number of 406 MHz beacons worldwide by about 7%.

2.54 An analysis of the 26 USOAP SAR-related PQs indicated that the overall SAR EI had risen for the Asia/Pacific Region since 2015 from 50.7% to 60% in May 2020. The APSAR/WG/5 noted that this represented positive progress, although the average achieved fell well short of what would be a satisfactory level to SAR experts.

2.55 The SAR Plan-based 41 element assessment provided a metric of *Asia/Pacific SAR Plan* implementation as at November 2020, taking into account updates from Afghanistan, Cook Islands, Fiji, French Polynesia, New Caledonia, Pakistan, Republic of Korea and Viet Nam (**Figure 7**).

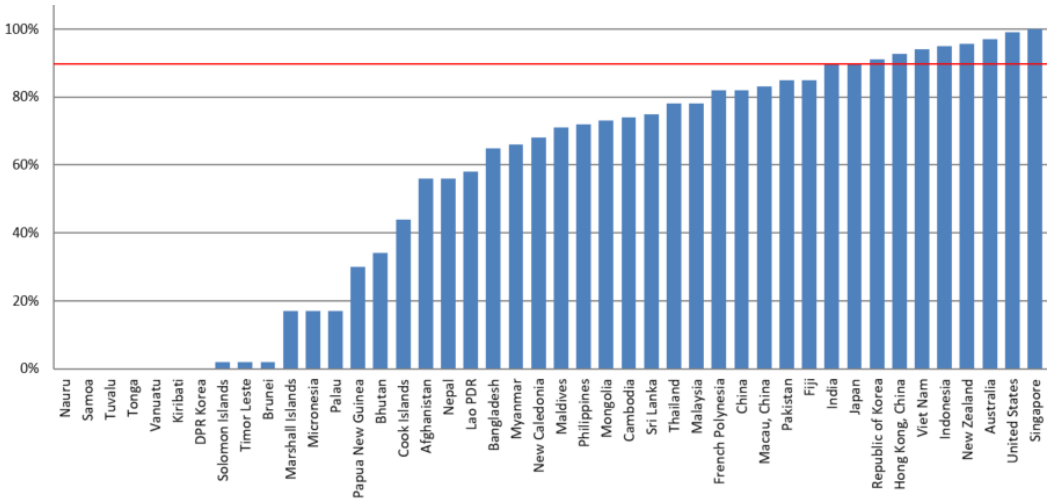

Figure 7: *Asia/Pacific SAR Plan* Implementation Status (November 2020, average 55%)

2.56 The overall *Asia/Pacific SAR Plan* compliance is illustrated in **Figure 8**.

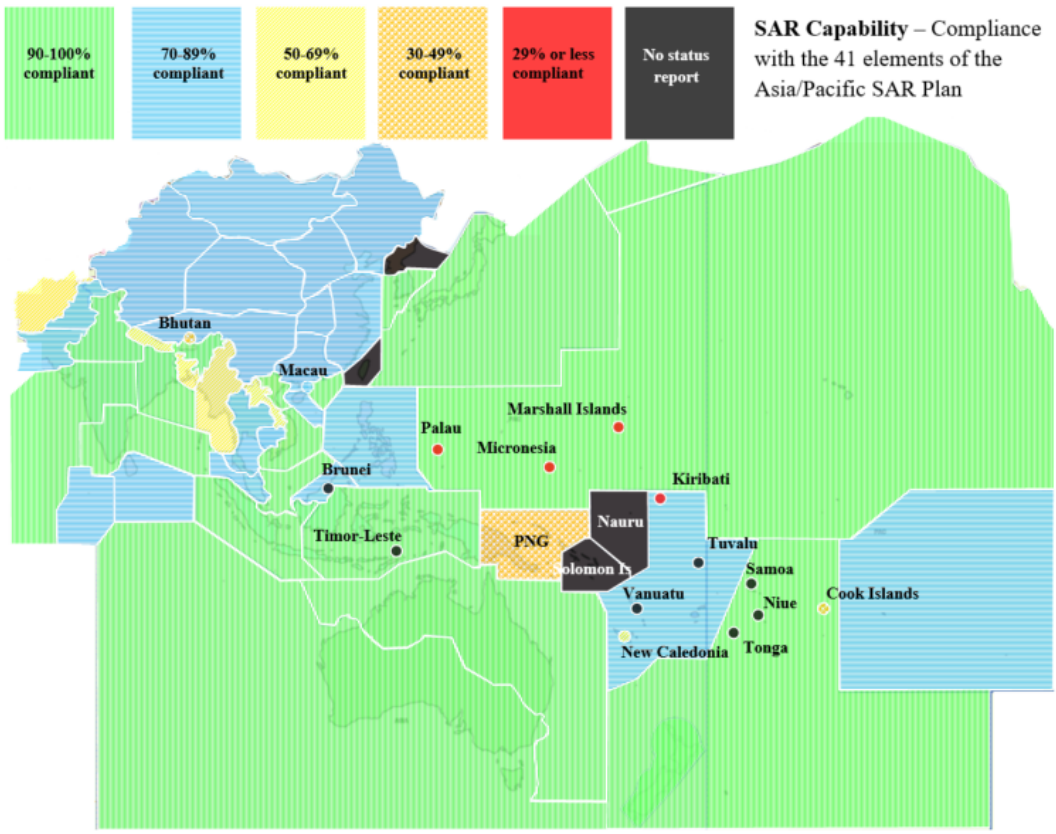

Figure 8: Asia/Pacific SAR Plan Implementation Status (November 2020)

2.57 The USA congratulated the APAC Region for its continued work to support SAR, which had been recognised at HQ level.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

a) note the information in this paper;

b) discuss the status of the mid-air collision initiative; and

c) discuss any other relevant matter.

— END —