



ICAO

International Civil Aviation Organization

**Eleventh Meeting of the Air Traffic Management Sub-Group
(ATM/SG/12) of APANPIRG**

Bangkok Thailand, 23 – 27 September 2024

Agenda Item 7: AOP, MET, AIM, SAR

ASIA/PACIFIC SEARCH AND RESCUE UPDATE

(Presented by the Secretariat)

SUMMARY

This paper presents an update on Search and Rescue matters related to the Asia/Pacific Region, as discussed by the Asia/Pacific Search and Rescue Working Group

1. INTRODUCTION

1.1 The Ninth Meeting of the Asia/Pacific Regional Search and Rescue Work Group (APSAR/WG/9) was held from 07 to 10 May 2024 at the Secretariat Building of the ICAO Asia and Pacific Regional Office, Bangkok, Thailand.

1.2 There were 61 participants registered for the meeting from 21 Administrations and two international organizations including Australia, Bhutan, Brunei Darussalam, Cambodia, China, Hong Kong China, Fiji, India, Japan, Lao PDR, Malaysia, Maldives, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Thailand, United States of America, Viet Nam, Cospas-Sarsat Programme, and ICAO.

1.3 All meeting documentation for APSAR/WG/9, including the final report of the meeting, may be found on the dedicated meeting web-page at:

<https://www.icao.int/APAC/Meetings/Pages/2024-APSAR-WG-9.aspx>

2. DISCUSSION

Global SAR Update

Outcomes of the ICAO/IMO Joint Working Group Meeting

2.1 USA provided an overview of the outcomes of the Thirtieth Meeting of the ICAO/International Maritime Organization (IMO) Joint Working Group on Harmonization of Aeronautical and Maritime Search and Rescue (ICAO/IMO JWG-SAR), which was held in Cape Town, South Africa, from 06 to 10 November 2023.

2.2 It was noted that the APSAR/WG had a long history of providing submissions to the ICAO/IMO JWG-SAR, as supported by the regional performance expectation in element 7.13 of the Asia/Pacific Regional SAR Plan. The Asia/Pacific Region was represented at JWG-SAR by two aeronautical SAR experts (Australia and Singapore) and three maritime experts (China, New Zealand and USA). Participation in the JWG-SAR by aeronautical and maritime experts from a broad geographical spread was strongly encouraged.

Status of the COSPAS-SARSAT Programme

2.3 The meeting was provided with a status report on the Cospas-Sarsat system, including system operations, significant developments, space and ground segments, beacons, false alerts, reporting by RCCs on use of the distress alert data provided, and results of Cospas-Sarsat Mission Control Centres (MCCs) – SAR Point of Contact (SPOC) communication tests.

2.4 Since September 1982, the Cospas-Sarsat System has provided assistance in rescuing at least 60,636 persons in 18,807 SAR events (**Figure 1**). The distribution of all SAR events for 2022, the latest year for which statistics had been compiled and reviewed, was 20% for aviation, 39% for land and 41% for maritime (**Figure 2**).

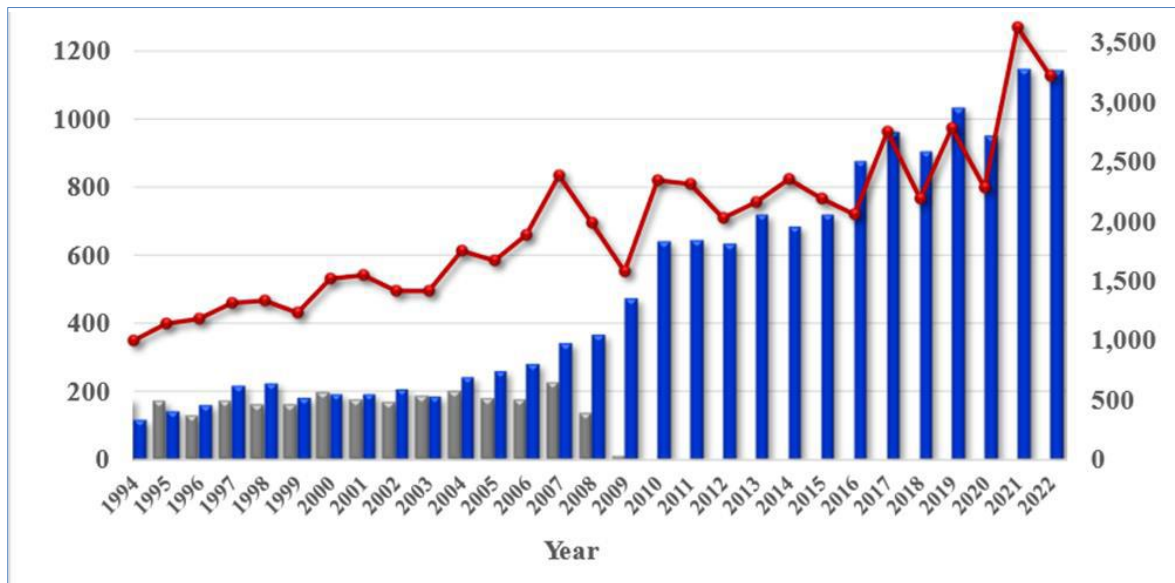


Figure 1: SAR Events with the Assistance of Cospas-Sarsat (Data (Jan. 1994 - Dec. 2022))

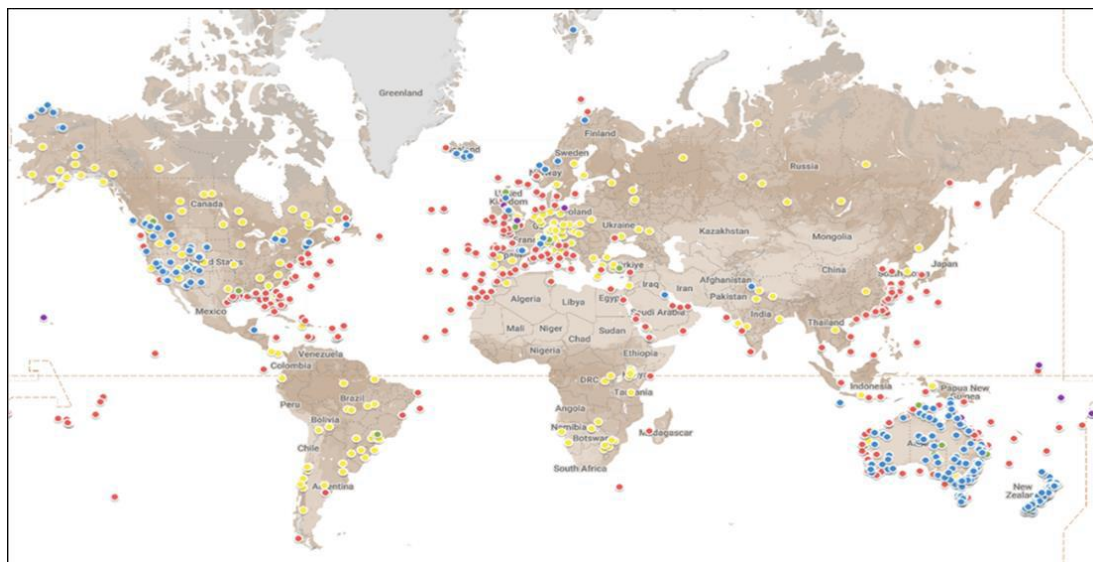


Figure 2: 2022 Geographic Distribution of SAR Events

GADSS, the ELT(DT), and a Model Template/Letter for Communication with SAR Authorities

2.5 Cospas-Sarsat presented information on deployment of Emergency Locator Transmitter – Distress Tracking (ELT [DT]), developed to support Global Aeronautical Distress and Safety System (GADSS). Noting the postponement of the ICAO requirement for Autonomous Distress Tracking (ADT) equipage to 1 January 2025, the meeting was informed that Cospas-Sarsat had declared full operational capability (FOC) for ELT (DT)s designed using first generation beacon technology from 1 January 2023 and for second-generation ELT (DT)s from 1 January 2024.

2.6 Since March 2023, numerous non-distress activations from first generation beacon (FGB) ELT (DT)s have been received by the Cospas-Sarsat System and transmitted to Rescue Coordination Centres (RCCs) and Search SPOC. Work is ongoing within the Cospas-Sarsat Programme, appropriate stakeholders and airframers to collect and analyse data with a view to taking appropriate measure to mitigate this concern.

2.7 The meeting discussed the causes of ELT (DT) false alert occurrences, often due to the very short delay (5s) between the activation of the beacon and the transmission of the first burst, the main two factors were assumed to be mishandling of beacon testing on the ground and improper installation of the beacon. The design of the device was not a cause of false alerts.

Asia/Pacific Regional Readiness for Autonomous Distress Tracking

2.8 The Secretariat presented the results of a revised survey of Asia/Pacific regional readiness for ADT as agreed by APSAR/WG/8 meeting. ICAO agreed to circulate the State Letter (ICAO APAC Regional Office in State Letter (APAC) AP143/23 (ATM), 24 October 2023) communicating the survey to ATM and SPOCs identified in the ATM POC List to ensure that the survey was distribute to a wider audience.

2.9 A total of 17 Administrations responded to the revised survey, a decrease as compared to the previous survey. **Attachments A and B** to this paper listed the survey response and comments by APAC Administrations respectively. Overall response results of the survey showed that majority of Administrations were not ready for ADT (**Figure 3**). The average number of items marked “Yes” was 51%.

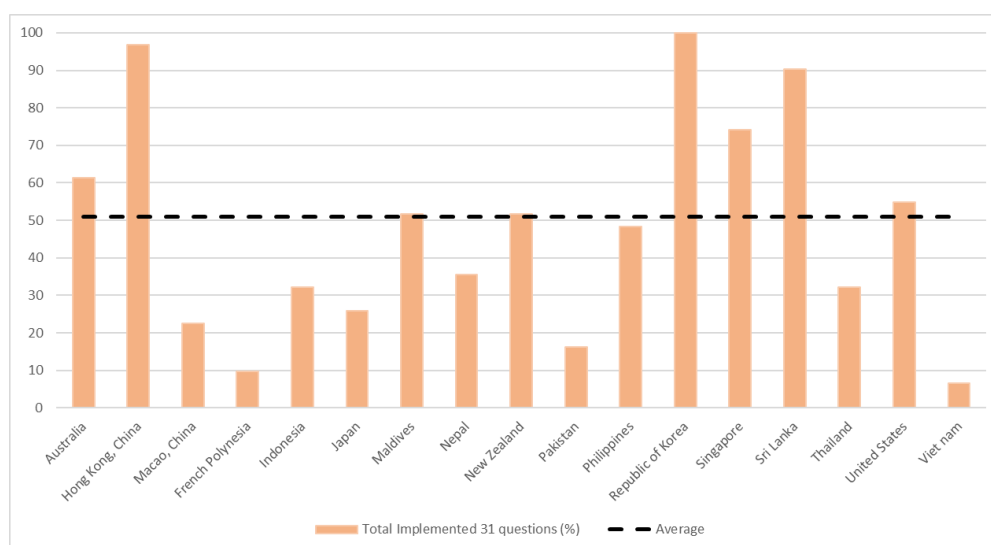


Figure 3: Overall Response Rate for All Questions in the Survey

- The majority of APAC Administrations have yet to develop procedures for the response to ADT notification or ELT (DT) alerts.
- Training of relevant SAR personnel, ATS personnel and flight despatchers to understand ADT notifications and ELT (DT) alerts has not been conducted.
- Registration to the ICAO OPS CTRL Directory has not been conducted.

2.10 In conclusion, majority of APAC Administrations were not fully ready for the planned ADT applicability with various tasks listed in the survey that have yet to be completed.

2.11 Cospas-Sarsat provided the meeting with the information showing the increasing trend of ELT (DT) activations detected by Spanish MCC from 1 January 2023 to 31 January 2024 which were understood to be false alerts (**Figure 4**) and APAC administrations were encouraged to prepare for them. Further analyses were in progress, and this topic would be considered as high priority by the Joint Committee in June 2024, and other Cospas-Sarsat meetings.

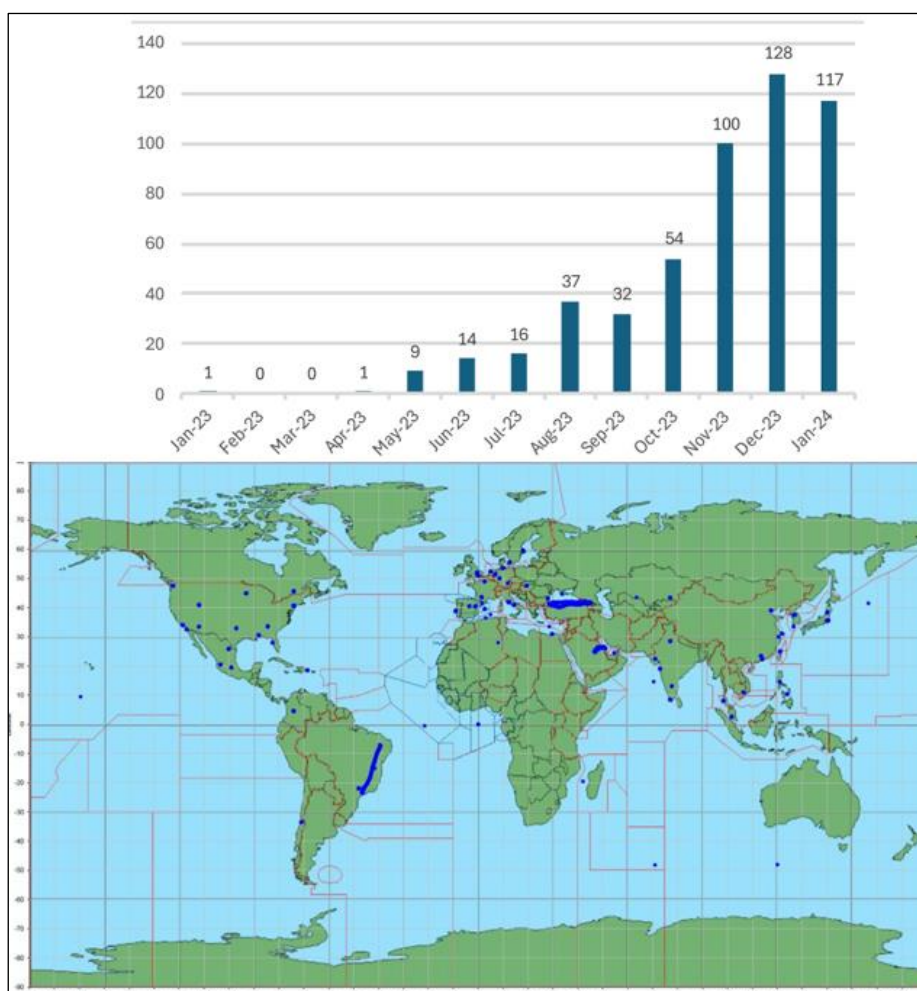


Figure 4: ELT(DT) Activations SPMCC from 1 January 2023 to 31 January 2024

Regional Air Navigation Plan Update

2.12 The Secretariat provided APSAR/WG/9 with an update on progress on the definition of Search and Rescue Regions (SRRs), as presented in a separate working paper to this meeting.

Regional SAR Status

2.13 The meeting was provided with an update of SAR implementation status in the APAC Region. The ICAO APAC Regional Office maintained records of the information provided from its accredited Administrations regarding SAR status, in order to report to APANPIRG.

2.14 The 2020 revision of the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) Protocol Questions (PQs) had resulted in the total number relating to SAR being reduced from 26 to 16. An analysis of the revised 16 USOAP SAR-related Protocol Questions in April 2024 indicated that the overall Effective Implementation (EI) for SAR had decreased when compared to the previous assessment. States that have not undergone any USOAP CMA activities since the revised PQs would still see the previous edition results in the USOAP Online Framework (OLF).

- May 2020 – 60%
- April 2021 – 59%
- May 2022 – 55%
- May 2023 – 55%
- April 2024 – 54%

2.15 From the PQ analysis, there were still weakness in the major areas of SAR indicated by USOAP, in the areas of:

- CE-3: 7.517 (26%) – [SAR service provider] SAR coordination agreements;
- CE-4: 7.499 (29%) – [SAR regulatory oversight] Implementation of training plan;
- CE-7: 7.505, 7.543 and 7.545 (38%, 42% and 46%) – [SAR regulatory oversight] effective regulatory surveillance oversight of SAR, Detailed Plans of SAR operations and checks that SAR operational personnel had regular training, including the conduct of SAREX; and
- CE-8: 7.507 (38%) – [SAR regulatory oversight and service provider] mechanism to eliminate SAR regulatory deficiencies.

2.16 ICAO secretariat clarified that the data source of the USOAP PQ analysis was based on the USOAP CMA OLF as of April 2024 and recent audit results might not be reflected in the OLF.

Regional SAR Plan Implementation Status

2.17 The following 21 APAC Administrations submitted SAR Plan implementation status reports in 2024:

Australia, Bangladesh, Cambodia, China, Hong Kong China, Macao China, Fiji, India, Indonesia, Japan, Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea, Singapore, Sri Lanka, Thailand and United States.

2.18 The SAR Plan-based 41-element assessment provided a metric of the Asia/Pacific SAR Plan implementation as of 30 April 2024 (**Figure 5**).

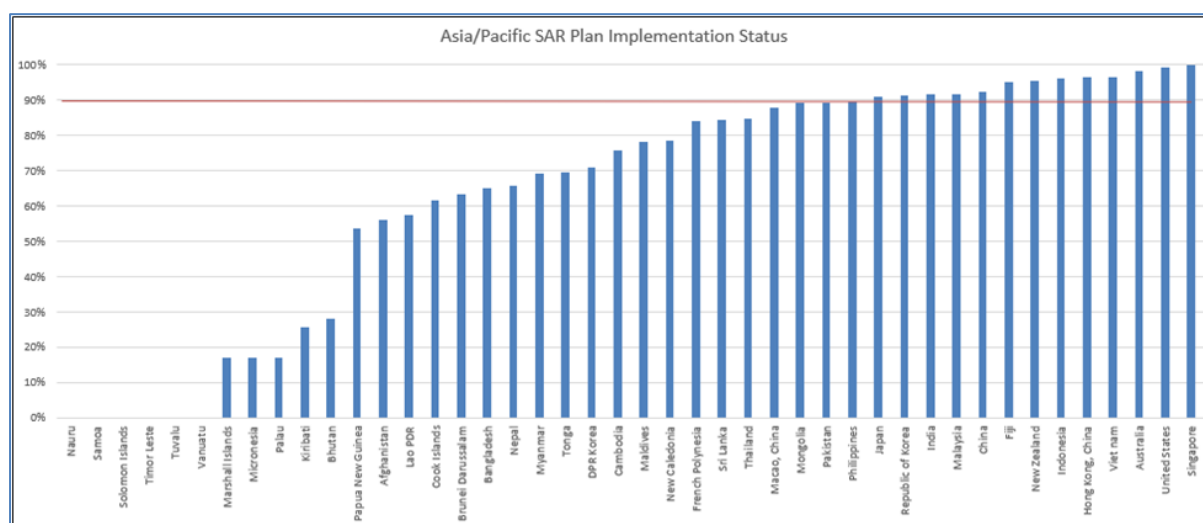


Figure 5: 41-Element Assessment of the Asia/Pacific SAR Plan Implementation

2.19 Regional policy established that States below 90% implementation would be considered to have an APANPIRG ANS Deficiency recorded for SAR implementation. Malaysia reported achieving 93% implementation status and was proposed to be removed from the Deficiency List. 13 Administrations that had reported implementation of 90% or more:

Australia, China, Hong Kong China, Fiji, India, Indonesia, Japan, Malaysia, New Zealand, Republic of Korea, Singapore, United States and Viet Nam

Optimising Homing Operations for 406 MHZ Distress Beacon and Automatic Identification System (AIS) Signals

2.20 Australia presented various considerations which may assist RCCs and (SAR) agencies to optimize the deployment of SAR units capable of receiving and interpreting 406 MHz distress beacon transmissions, and some general considerations regarding homing operations for maritime radio equipment which transmits an Automatic Identification System (AIS) signal with freeform number identities.

2.21 It was observed that, on occasions, the specific 406.0 to 406.1 MHz radio frequency detected and reported in initial Cospas-Sarsat SIT185 messages may be different to the specific radio frequency detected and reported in later SIT185 messages for the same 406 MHz distress beacon. It is important during SAR operations that RCCs monitor the frequency reported in SIT185 messages and notify SAR units that have been deployed with a 406 MHz homing capability of any change to the briefed 406 MHz frequency to enable those units to optimise their homing performance.

2.22 Some homing systems require the beacon's specific 406 MHz frequency to be manually selected to enable reception of that beacon's 406 MHz digital data. It is therefore important that the RCC provides the SAR unit crew with the frequency reported by the SIT185 message so that the homer operator could preset that frequency into the homing equipment to receive the beacon's 406 MHz signal and decode the beacon's transmitted data.

2.23 States were recommended to consider, with respect to operations by SAR units equipped with a 406 MHz homing capability and/or AIS receiver and to include the information contained within this paper in RCC and SAR unit crew procedures and training.

2.24 Furthermore, it was recommended that under national SAR plan arrangements, the SAR agencies to ensure that SAR units with 406 MHz homing equipment were capable of receiving and

interpreting all currently allocated 406 MHz beacon channels, and plan to upgrade that equipment for beacons that will transmit on the newly allocated Channel S (406.076 MHz) from 1 January 2025.

Cooperation between the SAR Service and Accident Investigation Authority

2.25 The meeting discussed the pending implementation of a revised SAR implementation reporting form which includes a new element indicating cooperation between SAR services and accident investigation agencies, as stated in the updated version of the Asia Pacific SAR Plan. Recent aviation accidents had highlighted issues and challenges for an effective cooperation between SAR services and accident investigation authorities when SAR operations were conducted concurrently, and when the operation transits from SAR services to accident investigation.

2.26 The revised reporting form included a new item number 16 which corresponded to element 7.2 (i) of the Regional SAR Plan V4. This increased the overall implementation status elements from 41 to 42.

7.2 All States should:

i) establish arrangements for situations where RCCs need to conduct SAR operations (in accordance with Annex 12) at the same time as the accident investigation authority needs to conduct search and recovery operations (in accordance with Annex 13).

2.27 The meeting was reminded that the implementation of this new element would be tracked in reports submitted to ICAO in 2025, to mitigate against the potential reduction of scores in the near term.

Autonomous Distress Tracking Possible Implementation Issues

2.28 Singapore highlighted the difference in notification processes for alerts RCCs receive for the ADT and for the only known ADT device to date, the ELT (DT).

2.29 It was important that stakeholders note that, for ELT (DT) activations, the RCC would be notified through the MCCs per the provision in Annex 12. However, stakeholders should consider the process as reflected in IAMSAR Manual Volume II (Appendix V), for activation of ADT devices other than ELT (DT), which did not change the current ATS alerting processes. States were encouraged to communicate with the relevant stakeholder to ensure that they had clarity on the difference in notification processes between ELT (DT) and other ADT devices and that communication procedures highlight these differences.

2.30 The meeting was reminded to review the possible actions necessary to clarify the differences between receipt of multiple ELT-DT notifications, including ELT (DT) alert data, from the Cospas-Sarsat Programme and receipt of one ADT activation notification from Location of an Aircraft in Distress Repository (LADR).

ICAO EUR/APAC Search and Rescue (SAR) Workshop

2.31 ICAO Secretariat highlighted the upcoming ICAO EUR/APAC SAR Workshop 2024 that was planned from 02 to 04 October 2024 in Baku, Azerbaijan.

Entry into a State's Territory for SAR

2.32 USA updated the meeting regarding the recent amendment to IAMSAR Manual, Volumes I and II, to include a sample approval process in support of proposed amendments to Annex 12 *Search and Rescue* and proposed that the Asia/Pacific Search and Rescue (SAR) Plan be updated to include the same information.

2.33 During the JWG 30 meeting, there was a major amendment regarding entry into a State's territory for SAR. It outlined a national process for expeditious interagency decision making for SAR which could also be used for decisions on other matters involving more than one agency. A frequent problem for SAR services was not having an effective procedure for expediting entry of assisting units with the least possible formalities into the territory, and sometimes (incorrectly) the SAR region, of the State benefiting from the assistance.

2.34 The meeting was recommended that the Asia/Pacific SAR Plan be updated to include words similar to that used in the IAMSAR Manual amendments, refer to IAMSAR Manual Volume I, Appendix Q sample process or insert it into the Plan and to review the entire Plan to see where updating may be necessary, including cross-border text in paragraphs 2.9, 6.6, 7.2 c) and d), 7.6 g), 7.12 b) and Annex 1 Regional SAR Plan Monitoring and Reporting Form, item 12.

Asia/Pacific Document Review Cycle

2.35 The meeting was informed the update cycle of the APAC Seamless ANS Plan and its subsidiary plans, including Asia/Pacific SAR Plan.

2.36 Since the Seamless ANS Plan update had been delayed for one year, the APAC subsidiary plan updates, including the Asia/Pacific SAR Plan, should be reviewed in 2025.

2.37 The Asia/Pacific SAR Plan, a key component of APAC SAR strategic initiatives, should also take into account the proposals by APSAR/WG/9 WP/17 Cooperation between the SAR Service and Accident Investigation Authority (Singapore) and APSAR/WG/9 WP/12 Entry into a State's Territory for SAR (USA). These proposals would significantly enhance the effectiveness of our SAR operations.

2.38 The meeting agreed to the following Draft Conclusion be considered by ATM/SG.

Draft Conclusion ATM/SG/12-X: Proposal for Annual Submission of Changes to Asia/Pacific Search and Rescue (SAR) Plan

That, States and Administrations can submit proposals to APSAR/WG to incorporate amendments of related documents such as International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual into the Asia/Pacific Search and Rescue (SAR) plan where appropriate instead of waiting for the three years cycle.

APANPIRG ATM and Airspace Safety Deficiencies in the SAR Field

2.39 The meeting reviewed and updated SAR-related APANPIRG ATM and Airspace Safety Deficiencies.

2.40 32 Administrations had ATM and Airspace Safety Deficiencies in the SAR field recorded in the 2023, update from the list by APANPIRG/34, in **Attachment C** of this paper. Deficiencies were recorded for States that had not reported implementation of 90% or more of the 41 elements of the APAC SAR Plan.

2.41 The meeting agreed on the following deficiency deletion for consideration by ATM/SG/12 and APANPIRG/35.

- SAR Capability
 - Malaysia
 - Philippines

Information provided in Malaysia's and Philippines' 2024 SAR implementation status report.

- 2.42 Deficiencies remain listed for the following Asia/Pacific Administrations:
Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Macao China, Cook Islands, DPR Korea, French Polynesia, Kiribati, Lao PDR, Maldives, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, Nepal, New Caledonia, Pakistan, Palau, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Vanuatu.
- 2.43 The updated list of deficiencies is provided in a separate working paper to this meeting.
- 2.44 It was brought to the attention of the meeting there was a working paper from APSAR/WG/4 WP/12 by Australia that may assist States when conducting the self-assessment of the SAR Performance Indicators in the Regional SAR Plan Monitoring and Reporting Form.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper;
 - b) note the regional readiness for ADT;
 - c) note the possible implementation issues with ADT regarding notification process;
 - d) note the implementation status of the performance expectations of the Regional SAR Plan, and urge States to provide *Asia/Pacific SAR Plan* status reports on their compliance with the *Asia/Pacific SAR Plan* reporting elements;
 - e) note the amendment proposal to IAMSAR Manual, Volumes I and II on agreement to enter a State's territory for SAR.
 - f) Agree to **Draft Conclusion ATM/SG/12-X: Proposal for annual Submission of changes to Asia/Pacific Search and Rescue (SAR) Plan;**
 - g) discuss any relevant matters as appropriate.

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Draft Conclusion ATM/SG/12-X: Proposal for annual Submission of changes to Asia/Pacific Search and Rescue (SAR) Plan	
What: That, States and Administrations can submit proposals to APSAR/WG to incorporate amendments of related documents such as International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual into the Asia/Pacific Search and Rescue (SAR) plan where appropriate instead of waiting for the three years cycle.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To facilitate the updating of the Asia/Pacific SAR Plan on a flexible and nimble basis	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 27-Sep-24	Status: Draft to be adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	

[illegible]

SURVEY OF STATE READINESS FOR AUTONOMOUS DISTRESS TRACKING (ADT)		Afghanistan	Australia	Bangladesh	Bhutan	Brunei	Cambodia	China	Hong Kong, China	Macao, China	Cook Islands	DPRK	Fiji	French Polynesia	India	Indonesia	Japan	Kiribati	Lao PDR	Malaysia	Maldives	Marshall Islands	Micronesia	Mongolia	Myanmar	Nauru	Nepal	New Caledonia	New Zealand	Pakistan	Palau	Papua New Guinea	Philippines	Republic of Korea	Samoa	Singapore	Solomon Islands	Sri Lanka	Timor Leste	Tonga	Thailand	Tuvalu	United States	Vanuatu	Viet nam	% of 17	
STATE																																															
SAR SERVICE PROVIDER (RCC/RSC)																																															
1	Registered in the ICAO OPS CTRL Directory when this is commissioned for RCCs (email: aircrafttracking@icao.int website: https://www4.icao.int/opscrtl/)								X							X					X						X	X						X	X	X	X			X						53	
2	Commenced preparation for subscription to LADR notifications when the service is commissioned.	X							X							X					X						X	X		X			X	X	X	X					X					65	
3	Ensured State RCCs will have the capability to receive LADR notifications and access the LADR to obtain further ADT notification information and data.	X							X							X					X						X	X	X	X			X	X	X	X					X					71	
4	Developed procedures for the response to ADT notifications and coordination with ATS units.								X				X		X														X					X	X	X					X						47
5	Developed procedures for the response to ELT(DT) alerts and coordination with ATS units.	X							X				X		X														X					X	X	X						X		X			59
6	Trained SAR personnel to understand ADT notifications and ELT(DT) alerts, and to execute ADT procedures accordingly.		X						X				X			X		X			X						X		X					X	X			X				X					65
Sub percentage implemented for SAR Service Providers (%)		0	67	0	0	0	0	0	100	0	0	0	0	50	0	83	17	0	0	0	67	0	0	0	0	0	67	0	50	67	0	0	50	100	0	83	0	100	0	0	17	0	83	0	17		60
AIR NAVIGATION SERVICE PROVIDER																																															
Check the box if all relevant Air Traffic Service (ATS) Units have:																																															
1	Registered in the ICAO OPS CTRL Directory when this is commissioned for RCCs (email: aircrafttracking@icao.int website: https://www4.icao.int/opscrtl/)		X						X								X				X						X	X						X	X	X	X			X							59
2	Commenced preparation for subscription to LADR notifications, when the service is commissioned		X						X												X							X	X					X	X	X	X					X					59
3	Ensured ATS Units will have the capability to receive LADR notifications and access the LADR to obtain further ADT notification information and data.								X												X							X	X					X	X	X	X										47
4	Developed procedures for the response to ADT notifications received from aircraft operators.		X						X																				X						X	X	X				X						41
5	Developed procedures for the response to ELT(DT) coordination received from SAR authorities.		X						X	X						X												X	X						X	X	X	X				X					59
6	Trained relevant ATS personnel to understand ADT notifications and ELT(DT) alerts, and to coordinate in accordance with procedure.								X	X																		X							X	X			X								41
Sub percentage implemented for ANSPs (%)		0	67	0	0	0	0	0	100	33	0	0	0	0	0	17	17	0	0	0	50	0	0	0	0	0	83	0	83	0	0	0	50	100	0	83	0	100	0	0	67	0	17	0	0		51
Sub percentage implemented 31 questions		0	61	0	0	0	0	0	97	23	0	0	0	9.7	0	32	26	0	0	0	52	0	0	0	0	0	35	0	52	16	0	0	48	100	0	74	0	90	0	0	32	0	55	0	6		

Last updated: Oct 2023

SURVEY OF STATE READINESS FOR AUTONOMOUS DISTRESS TRACKING (ADT)		Australia	Macao, China	New Zealand	Singapore	Sri Lanka	Thailand	United States
STATE								
1	Registered a State Focal Point in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)			Currently being worked on.			ICAO mailed, currently ACC?OCC accepted in OPS CTRL. To wait for RCC/SAR users access.	
2	Taken action to ensure and facilitate the registration of all relevant State organizations in the OPS CTRL Directory including ANSP and aircraft operators.			Currently being worked on.			Bangkok RCC	<u>U.S. Comment:</u> In progress. The U.S. Government, including ANSP, continues to discuss and coordinate plans for participation in the OPS CTRL directory. With respect to operators, the United States has notified differences to the distress tracking standards in Annex 6, Part I, 6.18. Consistent with those differences, the United States does not require U.S. operators to maintain contact details in the ICAO OPS CTRL.
3	Taken action to ensure the required operational contact details are recorded in the OPS CTRL Directory for ANSP and aircraft operators.			Currently being worked on.				<u>U.S. Comment:</u> Please refer to comment provided in 2., above.
4	Taken action to ensure and facilitate the registration of State RCCs in the OPS CTRL Directory when this is commissioned for SAR services.							
5	Take action to ensure the required operational RCC contact details are recorded in the OPS CTRL Directory when commissioned for SAR services.						To wait for ICAO to allow access	
6	Developed and implemented regulations requiring aircraft operator compliance with Annex 6 Section 6.18	Australia has not developed and implemented regulations requiring aircrfat operator compliance with Annex 6 Section 6.18. This is reflected in the Australian EFOD for ICAO Annex 6 Part 1.		Civil Aviation Regulations in New Zealand are subject to approval from the Minister of Transport. Policy work has been completed on these SARPs but is pending approval by the Minister. Once approved, development of regulations will take place. The implementation of our new primary legislation (Civil Aviation Act 2023) places a freeze on the introduction of new regulations until late 2024/early 2025. As a result, New Zealand will file an interim difference for these SARPs until the regulations can be introduced.				<u>U.S. Comment:</u> The United States has notified ICAO of a difference to the provisions in Annex 6, Part I, 6.18.1. The United States will provide a means to track aircraft using primary radar, secondary radar, ADS-B and space based ADS-B. ADS-B will track aircraft every second within the United States and every 2-8 seconds for flights outside of the U.S. airspace.
7	Identified relevant State LADR entities and ensured they are prepared to subscribe to LADR notifications when the service is commissioned							U.S. Comment: In progress. The U.S. Government, including ANSP and State SAR/RCCs, continues to discuss and coordinate an envisioned approach to interaction with LADR. However, the information currently available to States regarding the LADR deployment remains limited. The ICAO North Atlantic (NAT) Region Autonomous Distress Tracking Exercise with Location of an Aircraft in Distress Repository Project Team (NAT DISTREX PT) is established to develop and conduct an exercise to test the operation of the LADR and the coordination between ANSPs, SAR/RCCs, and air operators upon receipt of a notification (Summary of Discussions and Conclusions from the 59th NAT Systems Planning Group refers). The United States expects to review outcomes from the NAT DISTREX PT and exercise to inform continued planning for the LADR notification service.
8	Ensured relevant State LADR entities will have the capability to receive LADR notifications and access the LADR to obtain further ADT notification information and data.							<u>U.S. Comment:</u> Please refer to comment provided in 7., above.
9	Commenced preparation for the incorporation of procedures for ADT notifications, and verification by aircraft operators, in existing for ATS alerting services.							<u>U.S. Comment:</u> Please refer to comment provided in 7. and 8., above.
10	Commenced preparation for the incorporation of procedures for RCC actions in response to ADT notifications.							
11	Ensured the development of procedures for RCC actions in response procedures to ELT(DT) alerts via the Cospas-Sarsat system.							
12	Incorporated ADT considerations in procedures and manuals for safety oversight of aircraft operators, ANSPs and SAR service organizations			To be completed when regulations are introduced				<u>U.S. Comment:</u> The responsible safety oversight organizations within the U.S. Federal Aviation Administration do not anticipate revising existing procedures and manuals at this time. However, changes may be considered as additional information regarding ADT implementation and LADR deployment continues to become available, including outcomes from the NAT DISTREX PT and exercise.
13	Published and promulgated educational material on ADT for aircraft operator, ATS Unit and RCC personnel and other necessary stakeholders	Yes for RCC		To be completed when regulations are introduced				
AIRCRAFT OPERATOR								
Check the box if the Aircraft Operator has:								
1	Registered in the ICAO OPS CTRL Directory (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)	Australia has not yet mandated that relevant aircraft conducting air transport operations be fitted with an ELT(DT)		Air operator comments: Note 1: Whilst registered, no procedures have been developed and this site is not actively reviewed. Note 2: Air New Zealand has specified ELT(DT) for equipage of future deliveries in 2024.	Yes for SIA & Jetsatr Asia, Nil for Scoot			<u>U.S. Comments – Aircraft Operators:</u> While aircraft must be appropriately equipped to operate in non-U.S. airspace consistent with the applicable requirements, there is no additional U.S. requirement in place for U.S. operators specific to Annex 6, Part I, 6.18.1-3 in addition to existing surveillance capabilities. These questions are therefore Not Applicable to U.S. operators.
2	Commenced preparation for subscription to LADR notifications when the service is commissioned.				Yes for SIA & Jetsatr Asia, Nil for Scoot			
3	Ensured relevant aircraft operators will have the capability to receive LADR notifications and access the LADR to obtain further ADT notification information and data on their aircraft.							
4	Commenced preparation for development of procedures for the initial aircraft operator response to ADT notifications and for informing appropriate ATS units of the outcome of ADT validation checks.							
5	Commenced preparation for the development of procedures for the initial aircraft operator response to ELT(DT) alert coordination received from SAR authorities or ATSUs					Not For Sri Lankan Airline: Not capable of receiveiong alerts from ELT(DT)		
6	Trained flight despatch and other relevant personnel to understand ADT notifications and ELT(DT) alerts (according to fleet equipage), and to execute ADT procedures accordingly					Not for FITs aviation		

SURVEY OF STATE READINESS FOR AUTONOMOUS DISTRESS TRACKING (ADT)		Australia	Macao, China	New Zealand	Singapore	Sri Lanka	Thailand	United States
STATE								
SAR SERVICE PROVIDER (RCC/RSC)								
1	Registered in the ICAO OPS CTRL Directory when this is commissioned for RCCs (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)	It is our understanding that this hasn't been made available to RCCs.	RCC is not established due Macao has ATZ only					
2	Commenced preparation for subscription to LADR notifications when the service is commissioned.							
3	Ensured State RCCs will have the capability to receive LADR notifications and access the LADR to obtain further ADT notification information and data.							
4	Developed procedures for the response to ADT notifications and coordination with ATS units.	Awaiting LADR implementation		RCC comment: RCC has made contact with Airways (ANSP) to establish procedures and co-ordination between our organisations. Expecting procedures to be in accordance with guidelines that have already been set out in IMO COMSAR.1/Circ.59/Rev.1 3 July 2023. (ICAO annex 11 and 12).				<u>U.S. Comment:</u> Please refer to comment provided in STATE question 7., above.
5	Developed procedures for the response to ELT(DT) alerts and coordination with ATS units.			RCC comment: RCC has made contact with Airways to establish procedures and co-ordination between our organisations. Expecting procedures to be in accordance with guidelines that have already been set out in IMO COMSAR.1/Circ.59/Rev.1 3 July 2023. (ICAO annex 11 and 12).				<u>U.S. Comment:</u> Please refer to comment provided in STATE question 7., above.
6	Trained SAR personnel to understand ADT notifications and ELT(DT) alerts, and to execute ADT procedures accordingly.			RCC comment: Material is under development for handling of ADT and ELT(DT) alerts by Search and Rescue Officers (SAROs). Initial training for SIT185 “Distress Tracking” will be provided, once LADR is commissioned additional training will be conducted on its use and procedures				
AIR NAVIGATION SERVICE PROVIDER								
Check the box if all relevant Air Traffic Service (ATS) Units have:								
1	Registered in the ICAO OPS CTRL Directory when this is commissioned for RCCs (email: aircrafttracking@icao.int website: https://www4.icao.int/opsctrl/)		Note: According to the OPS Control Directory, the information is for the Area Control Centre of ANSP. Macao, China has only Aerodrome Control Unit to provide ATS within Macao ATZ. However, the Macao Aerodrome Control Unit has implemented the procedures for point 5 & 6 in this section.					
2	Commenced preparation for subscription to LADR notifications, when the service is commissioned							<u>U.S. Comment:</u> Please refer to comment provided in STATE questions 7. through 9., above.
3	Ensured ATS Units will have the capability to receive LADR notifications and access the LADR to obtain further ADT notification information and data.	LADR will be with National Coordination Centre not in ATS unit						
4	Developed procedures for the response to ADT notifications received from aircraft operators.							
5	Developed procedures for the response to ELT(DT) coordination received from SAR authorities.							
6	Trained relevant ATS personnel to understand ADT notifications and ELT(DT) alerts, and to coordinate in accordance with procedure.	Information already provided , further training planned for March 2024 completion.						

Last updated: Oct 2023

ATM and Airspace Safety Deficiencies List (Updated 28 November 2023 + APSAR/WG/9)

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	<u>WGS-84 Requirements of Paragraph 1.2.1 of Annex 15</u>					
Afghanistan	WGS-84 - Not implemented	24/6/2014		Afghanistan	TBD	A
Brunei Darussalam	WGS-84 - Not implemented	24/6/2014		Brunei Darussalam	TBD	A
Marshall Islands	WGS-84 - Not implemented	24/6/2014		Marshall Islands	TBD	A
Micronesia	WGS-84 - Not implemented	24/6/2014		Micronesia	TBD	A
Nauru	WGS-84 - Not implemented		Conferring with consultant	Nauru	TBD	A
Palau	WGS-84 - Not implemented	24/6/2014		Palau	TBD	A
Samoa	WGS-84 - Not implemented	24/6/2014		Samoa	TBD	A
Vanuatu	WGS-84 – Not implemented	2/7/1999	Implemented at main airports	Vanuatu	1999	A
	<u>AIP Format Requirements of Chapter 5 of Annex 15</u>					
Kiribati	AIP Format - Not implemented	7/7/99	ATM/AIS/SAR/SG/18 (June 2009) was advised AIP in draft stage	Kiribati		A
Nauru	AIP Format - Not implemented	7/7/99	ATM/AIS/SAR/SG/18 (June 2008) was advised work soon to start	Nauru		A
	<u>AIS Quality Management System Requirements of Paragraph 3.6.1 of Annex 15 Quality Management System - Not implemented</u>					
Afghanistan	AIS Quality Management System - Not implemented	24/6/2014		Afghanistan	TBD	A
Bangladesh	AIS Quality Management System - Not implemented	24/6/2014		Bangladesh	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Bhutan	AIS Quality Management System - Not implemented	24/6/2014		Bhutan	TBD	A
Brunei Darussalam	AIS Quality Management System - Not implemented	24/6/2014		Brunei Darussalam	TBD	A
Cambodia	AIS Quality Management System - Not implemented	24/6/2014		Cambodia	TBD	A
Kiribati	AIS Quality Management System - Not implemented	24/6/2014		Kiribati	TBD	A
Lao PDR	AIS Quality Management System - Not implemented	24/6/2014		Lao PDR	TBD	A
Maldives	AIS Quality Management System - Not implemented	24/6/2014		Maldives	TBD	A
Marshall Islands	AIS Quality Management System - Not implemented	24/6/2014		Maldives	TBD	A
Micronesia	AIS Quality Management System - Not implemented	24/6/2014		Micronesia	TBD	A
Myanmar	AIS Quality Management System - Not implemented	9/6/2016		Myanmar	TBD	A
Nauru	AIS Quality Management System - Not implemented	24/6/2014		Nauru	TBD	A
Nepal	AIS Quality Management System - Not implemented	24/6/2014		Nepal	TBD	A
Palau	AIS Quality Management System - Not implemented	24/6/2014		Palau	TBD	A
Philippines	AIS Quality Management System - Not implemented	24/6/2014		Philippines	TBD	A
Samoa	AIS Quality Management System - Not implemented	24/6/2014		Samoa	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Solomon Islands	AIS Quality Management System - Not implemented	24/6/2014		Solomon Islands	TBD	A
Sri Lanka	AIS Quality Management System - Not implemented	9/6/2016		Sri Lanka	TBD	A
Timor-Leste	AIS Quality Management System - Not implemented	24/6/2014		Timor-Leste	TBD	A
Vanuatu	AIS Quality Management System - Not implemented	24/6/2014		Vanuatu	TBD	A
	<u>Aeronautical Data Area of Responsibility</u> - requirements of Paragraph 2.1.2 of Annex 2 to ensure that the provision of aeronautical data and aeronautical information covers its own territory and those areas over the high seas for which it is responsible for the provision of ATS					
Bangladesh	Aeronautical Data Promulgation Within the State's Area of Responsibility - Not implemented	29/03/2019 SAIOACG /9		Bangladesh	TBD	A
	<u>Designation of Restricted Areas</u> - requirements of Annex 2 (Definitions) to ensure that restricted areas are designated above the land areas or territorial waters of a State					
Australia	Designation of Restricted Areas Above the Land Areas or Territorial Waters of a State - Not implemented	29/03/2019 SAIOACG /9	Danger areas within international airspace that is part of a State's responsibility is acceptable	Australia	December 2022	A
India	Designation of Restricted Areas Above the Land Areas or Territorial Waters of a State - Not implemented	29/03/2019 SAIOACG /9	Danger areas within international airspace that is part of a State's responsibility is acceptable	India	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	<u>Airspace Classification Requirements of Paragraph 2.6 of Annex 11</u>					
China	Airspace Classification - Not implemented	7/7/99	Difference to Annex 11 is published in AIP, China.	China	APANPIRG/19 updated, implementation planned by end 2010.	A
Macau, China	Airspace Classification - Not implemented	05/09/2018		Macau, China	TBD	A
Nauru	Airspace Classification - Not implemented	7/7/99		Nauru	TBD	A
Solomon Islands	Airspace Classification - Not implemented	7/7/99		Solomon Islands	TBD	A
	<u>ATS Message Addressing Requirements of Doc 4444 PANS-ATM Section 11.4 (Message Types and their Application)</u>		Note: the threshold for a Deficiency is 5% or more DEP messages reported to have not been sent, and where the analysed data provided evidence of a systemic (either systems or human factors) failure to send the message			
Maldives	DEP message transmission	09/08/2019	DEP messages inconsistently transmitted Conclusion APANPIRG/27/12 and ICAO correspondence	Maldives	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	SAR capability: Requirements of Annex 12 as defined in the Regional Air Navigation Plan Volume II Part I – GENERAL PLANNING ASPECTS Section 3 SPECIFIC REGIONAL REQUIREMENTS, failure to reach 90% or more implementation of the Asia/Pacific SAR Plan					
Afghanistan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/6 56%	Afghanistan	2019	U
Bangladesh	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 65% APSAR/WG/9 65%	Bangladesh	2019	U
Bhutan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 28%	Bhutan	2019	U
Brunei Darussalam	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 63%	Brunei	2019	U
Cambodia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 76% APSAR/WG/9 76%	Cambodia	2019	U
Macau, China	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 85% APSAR/WG/9 88%	Macao, China	2019	U
Cook Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 62%	Cook Islands	2019	U
DPR Korea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 71%	DPR Korea	2019	U
French Polynesia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 84%	French Polynesia	2019	U
Kiribati	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 26%	Kiribati	2019	U
Lao PDR	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 57%	Lao PDR	2019	U
Malaysia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 85% APSAR/WG/9 92%	Malaysia	2019	U

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Maldives	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 78%	Maldives	2019	U
Marshall Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Marshall Islands	2019	U
Micronesia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Micronesia	2019	U
Mongolia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/5 73% APASR/WG/9 89%	Mongolia	2019	U
Myanmar	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 67% APASR/WG/9 69%	Myanmar	2019	U
Nauru	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Nauru	2019	U
Nepal	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/7 56% APASR/WG/9 66%	Nepal	2019	U
New Caledonia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 78%	New Caledonia	2019	U
Pakistan	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 89% APASR/WG/9 89%	Pakistan	2019	U
Palau	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17%	Palau	2019	U
Papua New Guinea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/7 54%	Papua New Guinea	2019	U
Philippines	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 86% APSAR/WG/9 90%	Philippines	2019	U
Samoa	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Samoa	2019	U
Solomon Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Solomon Islands	2019	U
Sri Lanka	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 83% APSAR/WG/9 84%	Sri Lanka	2019	U
Thailand	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 82% APSAR/WG/9 85%	Thailand	2019	U
Timor-Leste	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Timor-Leste	2019	U
Tonga	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 70%	Tonga	2019	U
Tuvalu	Asia/Pacific SAR Plan	28/05/2022	APSAR/WG/7 0%	Tuvalu	2024	U

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Vanuatu	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 0%	Vanuatu	2019	U
	<u>Non Provision of Safety-related Data Requirement of Paragraph 3.3.5.1 of Annex 11 (provision of data for monitoring the height-keeping performance of aircraft) and APANPIRG Conclusion 16/6 – Non Provision of safety related data by States</u>					
Afghanistan	Non-provision of safety related data	12/07/2019	Failure to submit Kabul LHD data for January-December 2018 and 2020. Afghanistan had submitted data for the period January to July 2021, but no further LHD reports were received after August 2021.	Afghanistan	RASMAG/27	U
	State Responsibility to comply with the Annex 6 Height-Keeping Monitoring Requirement Annex 6 Part I Section 7.2.9 (10th Ed.) and Part II Section 2.5.2.10 (9th Ed.)					
Afghanistan	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/23	Remaining monitoring burden of 85% (RASMAG/26) MAAR informed ICAO that all known airframes in Afghanistan have complied with the monitoring requirement (November 2022). Deficiency retained due to the unknown status of the Afghanistan aeronautical authority responsible for ensuring monitoring is conducted.	Afghanistan	RASMAG24	A
Mongolia	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/28	Remaining monitoring burden of 43% (RASMAG/28)	Mongolia	TBD	A
Nepal	Non-compliance with LTHM requirement (remaining monitoring	RASMAG/28	Remaining monitoring burden of 45% (RASMAG/28)	Nepal	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	burden more than 30%)					
New Zealand	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/28	Remaining monitoring burden of 36% (RASMAG/28)	New Zealand	TBD	A
Pakistan	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/22	Remaining monitoring burden of 45% (RASMAG/28)	Pakistan	RASMAG24	A
Papua New Guinea	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/28	Remaining monitoring burden of 69% (RASMAG/28)	Papua New Guinea	TBD	A
Solomon Islands	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/28	Remaining monitoring burden of 50% (RASMAG/28)	Solomon Islands	TBD	A
	Data Link Performance Monitoring and Analysis Requirements of Paragraph 2.28 and/or 3.3.5.2 of Annex 11 not met					
India	Post-implementation monitoring not implemented	13/07/2017	Performance monitoring and analysis was reported for the Chennai and Kolkata FIRs, but was not reported for the Mumbai FIR.	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

** Note: In accordance with the *APANPIRG Handbook - Asia/Pacific Supplement to the Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies*, priority for Air Navigation Deficiencies is guided by the principle that a deficiency with respect to an ICAO Standard is accorded a “U” status, while a non-compliance with a Recommended Practice or a PANS is considered as “A” or “B” subject to additional expert evaluation. The final prioritization of deficiencies is the prerogative of APANPIRG.