INTERNATIONAL CIVIL AVIATION ORGANIZATION

**REPORT OF THE TENTH MEETING OF THE
ASIA/PACIFIC SEARCH AND RESCUE WORKGROUP
(APSAR/WG/10)**

SIEM REAP, CAMBODIA, 27 – 30 MAY 2025

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

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

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INTRODUCTION

Meeting

1.1   The Tenth Meeting of the Asia/Pacific Search and Rescue Workgroup (APSAR/WG/10) was held from 27 to 30 May 2025 at the Sokhalay Angkor Resort & Spa, Siem Reap, Cambodia. The Meeting was graciously hosted by the State Secretariat of Civil Aviation (SSCA) of Cambodia.

Attendance

2.1   There were 143 participants registered for the Meeting from 20 Administrations and one international organization including Australia, Bangladesh, Brunei Darussalam, Cambodia, China, Fiji, Lao PDR, Malaysia, Maldives, Mongolia, Nepal, New Zealand, Pakistan, Philippines, Republic of Korea (ROK), Singapore, Sri Lanka, Thailand, United States of America (USA), Viet Nam and ICAO.

2.2   A list of registered participants is provided at **Appendix A to this report**.

Officers and Regional Office

3.1   Mr. Tai Kit, Head Air Traffic Control Specialist (Search and Rescue/Contingency Planning), Civil Aviation Authority of Singapore, presided over the APSAR/WG/10 meeting throughout its duration as Chairperson.

3.2   Mr. Mior Adli Bin Mior Sallehhuddin, Regional Officer Air Traffic Management (ATM) and Mr. Hiroyuki Takata, Regional Officer ATM were Secretaries for the Meeting. They were supported by Mr. Ying Weng Kit, ATM Officer and Dr. Prakayphet Chalayonnawin, Programme Analysis Associate (ATM).

Opening of the Meeting

4.1   The Meeting was officially opened by H.E Mr. Chea Aun, Permanent Secretary of State, and the high representative of H.E Dr. Mao Havannall, Minister in charge of State Secretariat of Civil Aviation, Cambodia.

4.2   Mr. Tai Kit welcomed participants to the meeting as APSAR/WG Chairperson.

4.3   On behalf of Mr. Tao Ma, Regional Director of the ICAO Asia/Pacific Regional Office, Mr. Mior Adli Bin Mior Sallehhuddin welcomed participants to the APSAR/WG/10 meeting.

Documentation and Working Language

5.1   The working language of the meeting and all documentation was in English. There were 16 Working Papers (WPs), eight Information Papers (IPs), two presentations and three flimsies considered by the Meeting.

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

DISCLAIMER: The presentation of material in this report does not imply the expression of any opinion whatsoever on the part of ICAO, APANPIRG the ATM Sub-Group of APANPIRG or APSAR/WG concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries.

Conclusions, Draft Conclusions, Draft Decisions and Decisions – Definition

6.1   The APSAR/WG recorded its actions in the form of Conclusions, Draft Conclusions, Draft Decisions and Decisions within the following definitions:

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

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

d) **Decisions** of the APSAR/WG relate solely to matters dealing with the internal working arrangements of APSAR/WG.

List of Conclusions, Draft Conclusions, Draft Decisions and Decisions

7.1   List of Conclusions

Nil

7.2   List of Draft Conclusions/Draft Decisions

Draft Conclusion APSAR/WG/10-1: Revised Asia/Pacific SAR Plan			
What: That, 1. the revised Asia/Pacific SAR Plan at **Appendix E to the Report** be adopted, and uploaded to the ICAO Asia/Pacific Regional Office eDocuments webpage to replace the existing version; and 2. States are urged to update their national SAR Plans to align with the revised *Asia/Pacific SAR Plan*.		Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical	
Why: To conduct the triennial review of the Asia/Pacific SAR Plan.		Follow-up: ☒Required from States	
When: 29-Aug-25		Status: Draft to be adopted by Subgroup	
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:			

Draft Conclusion APSAR/WG/10-2: Proposal Annual Submission of Asia/Pacific Search and Rescue Unit (SRU) Capability

What: That, 1. States and Administrations to submit update of their SRU capability information (template to be included in the revised *Asia/Pacific SAR Plan Appendix 2*) to the ICAO Asia/Pacific Regional Office annually, no later than 28 February. The ICAO Secretariat would compile the data and present it as a working paper at the APSAR/WG meeting, include it as an appendix to the meeting report, and subsequently publish it on the ICAO APAC eDocuments webpage; and 2. the *Asia/Pacific SAR Plan* and the corresponding SAR Performance Indicator in the *Regional SAR Plan Monitoring and Reporting Form* be amended (**Appendix F to the Report**) to support the States/Administrations' submission of Asia/Pacific SRU Capability information and be uploaded to the ICAO Asia/Pacific Regional Office website to replace the existing version.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To enhance RCC situational awareness of SRUs outside their own SRR to better identify potential SRUs in another State that they could request to assist during SAR response.	Follow-up: ☒Required from States
When: 29-Aug-25	Status: Draft to be adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

Draft Conclusion APSAR/WG/10-3: The Use of Digital Form to Collect Annual Regional SAR Plan Monitoring and Reporting Data

What: That, the digital form (Microsoft Forms) be used as the primary means to collect annual *Regional SAR Plan Monitoring and Reporting* data.	Expected impact: ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☒ Ops/Technical
Why: To streamline and enhance efficiency in processing the Regional Plans' Implementation Status Monitoring	Follow-up: ☒Required from States
When: 29-Aug-25	Status: Draft to be adopted by Subgroup
Who: ☒Sub groups ☒APAC States ☒ICAO APAC RO ☐ICAO HQ ☐Other:	

7.3 <u>List of Decisions</u>

Nil

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REPORT ON AGENDA ITEMS

Agenda Item 1: Adoption of Agenda

Adoption of Agenda (WP/01)

1.1   The provisional agenda was adopted by the Meeting.

Agenda Item 2: Review Outcomes of Related Meetings

Relevant Meetings Outcomes (WP/02)

2.1   The Meeting was informed of SAR-related outcomes from the:

- Twelfth Meeting of the Air Traffic Management Sub-Group (ATM/SG/12) of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) was held in Bangkok, Thailand, from 23 to 27 September 2024;

- Thirty-Fifth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/35) was held in Bangkok, Thailand, from 25 to 27 November 2024; and

- ICAO EUR and APAC Search and Rescue (SAR) Workshop 2024 was held in Baku, Azerbaijan, from 02 to 04 October 2024.

2.2   The APANPIRG/35 meeting agreed to the removal of Malaysia and the Philippines from the list of Administrations with an APANPIRG ANS Deficiency for SAR Plan implementation, as both had reported achieving 90% or greater implementation. As a result, there were now 14 Administrations that reported a SAR Plan implementation of 90% or more.

2.3   The ATM/SG/12 agreed to the following Conclusion to facilitate the updating of the *Asia/Pacific SAR Plan* on a flexible and nimble basis:

Conclusion ATM/SG/12-6: Proposal for Annual Submission of Changes to Asia/Pacific Search and Rescue (SAR) Plan

2.4   The APANPIRG/35 meeting adopted the following Conclusion:

Conclusion APANPIRG/35-1: Asia/Pacific Seamless ANS Plan

2.5   The Meeting noted the following information, as presented by the ICAO Secretariat:

a) *Asia/Pacific Seamless ANS Plan Version 4.0* had been uploaded to the ICAO Asia/Pacific Regional Office eDocuments webpage (https://www.icao.int/APAC/Pages/eDocs.aspx);

b) Starting from 2025, APAC States/Administrations were required to submit their *Asia/Pacific Seamless ANS Plan* implementation status annually, using the Seamless ANS Plan Reporting Tool, with submissions due by 28 February each year; and

c) ICAO Asia/Pacific Regional Office was integrating the *Asia/Pacific Seamless ANS Plan* with other regional plans and guidance material into the *Asia/Pacific Air Navigation Plan (ANP) Volume III*, which was expected to be completed in Q2 of 2025.

2.6   The Meeting was also briefed on the ICAO EUR/APAC SAR Workshop 2024. All workshop presentations could be accessible on the ICAO EUR/NAT Office webpage (link).

ICAO EUR/APAC SAR Workshop 2024 (IP/02)

2.7   The Meeting was provided with an overview of the ICAO EUR/APAC SAR Workshop 2024, which took place in Baku, Azerbaijan, from 02 to 04 October 2024. The key objective of the workshop was to assess States' readiness in applying the Global Aeronautical Distress and Safety System (GADSS), with a focus on Autonomous Distress Tracking (ADT). The workshop included presentations on various SAR-related topics, updates on the Location of Aircraft in Distress Repository (LADR), and discussions on civil-military collaboration in SAR operations.

2.8   The workshop also featured a presentation detailing the outcomes of the North Atlantic (NAT) Autonomous Distress Tracking Exercise (NAT DISTREX), conducted by the LADR Project Team on 24 September 2024. This exercise was crucial for evaluating adjustments needed in response to the implementation of ADT.

2.9   Recognizing the benefits achieved during the ICAO EUR/APAC SAR Workshop 2024, the Chairperson encouraged States/Administrations to actively participate in future events organized by ICAO.

Outcomes of the ICAO/IMO Joint Working Group on SAR Meeting (WP/03)

2.10   USA provided an overview of the outcomes of the Thirty-First Meeting of the ICAO/International Maritime Organization (IMO) Joint Working Group on Harmonization of Aeronautical and Maritime SAR (JWG 31, Dublin, Ireland, 04 – 08 November 2024).

2.11   JWG 31 discussions and decisions included:

a)   reports on outcomes of ICAO and IMO from the viewpoint of their headquarters (HQ);

b)   proposed amendments to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, such as naming convention for rescue coordination centres (RCCs);

c)   development of a strategic outlook for the global SAR operating environment; and

d)   assisting States in implementing improvements in SAR service, quality, capacity and capability and use of ICAO and IMO technical cooperation activities and IMO SAR Fund.

2.12   Outcomes from JWG 31 included:

a)   proposed IAMSAR Manual Volume I amendments:

•   RCCs should be named geographically, based on the name of cities or ports, or where there was only one RCC in a State, such an RCC could be named after that State. The type of RCC facility should be identified as aeronautical rescue coordination centre (ARCC), maritime rescue coordination centre (MRCC), or joint rescue coordination centre (JRCC), as appropriate. The format should be the type of facility followed by geographical name (city or port or State), e.g. MRCC Buenos Aires or JRCC Australia;

•   rescue sub-centres (RSCs) should be named using the same principle as RCCs;

b) ICAO Annex 12 *Search and Rescue*, Ninth Edition, July 2024, had an amendment initiated by discussions within the APSAR/WG regarding approval to allow SAR units from an assisting State to enter the territory of the State of the RCC. The 2025 edition of *IAMSAR Manual Volume I*, had background information and a template with a sample process for expeditious approval to allow entry of SAR units. The template outlines 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, such as cross-border transit matters, etc;

c) the ICAO/IMO JWG initiated discussion on development of a strategic outlook for the global SAR operating environment, including State and industry SAR system initiatives, identification of new and emerging issues, global SAR system implementation status and SAR system data and trends; and

d) JWG 32 would convene from 03 to 07 November 2025 in Sydney, Australia. Its invitation letter would be sent out in late June 2025 and would be available on the IMO website as a circular letter or upon request. ICAO HQ would publish an invitation as a memorandum which would be provided upon request.

2.13   The Meeting was informed about the Pacific Search and Rescue Workshop (PACSAR), which was organized biennially by five principal States, namely Australia, Fiji, France, New Zealand, and the USA. The workshop's primary focus was on strengthening SAR services within Pacific Island States and territories. It had demonstrated a consistent record of facilitating improvements across the region. The upcoming PACSAR was scheduled to be held in Fiji from 10 to 14 November 2025.

2.14   Asia/Pacific States/Administrations were encouraged to participate in ICAO/IMO JWG meetings and PACSAR Workshop.

2.15   In response to an inquiry regarding the proposed amendment of the *IAMSAR Manual Volume I* pertaining to RCC name format [i.e. type of facility followed by geographical name (city or port or State)], the USA clarified that the expected applicability date for this amendment was January 2026.

2.16   Australia provided further elaboration on the JWG considerations concerning the development of a "strategic outlook" for the global SAR operating environment, including the underlying rationale. The Meeting was informed that this initiative would function as a tool to assist the JWG to identify emerging issues affecting, or that could potentially affect, global SAR services.

Outcomes of the APAC Common SWIM Aeronautical Information Services Ad Hoc Group (WP/04)

2.17   This paper presented the outcomes of the discussions held by the APAC Common System Wide Information Management (SWIM) Aeronautical Information Services Ad Hoc Group.

2.18   The Meeting noted that despite Aeronautical Information Exchange Model (AIXM) Version 5.2 being the most recent release with several enhancements, a significant number of existing implementations continued to be based on AIXM Version 5.1.1, which was published in 2016. Accordingly, the Ad Hoc Group had agreed to adopt AIXM Version 5.1.1 as the common regional version for aeronautical information exchange.

2.19   The Ad Hoc Group convened five meetings to review and discuss the message sets proposed by the System Wide Information Management Task Force (SWIM/TF). As a result of these discussions, the Ad Hoc Group proposed to SWIM/TF the following changes as highlighted in yellow in **Figure 1**, covering six of the message sets, excluding SAR service.

Business functionality of the service	Brief description of the service	Type of information to be exchanged	Information exchange model / Message type	Message exchange pattern	Recommended service in initial APAC Common SWIM IS (1) / (2) / (3)
APAC Common SWIM Aeronautical Information Services					
Airspace management service	Exchanges of airspace status information between ASM Support System and Air Traffic Control (ATC) System. The sharing of airspace availability and airspace structure in real-time will contribute to a more efficient execution of the flight as information impacting the trajectory will be exchanged.	~~Airspace availability~~ Availability or activation/deactivation or temporarily change of airspace, restricted area, danger area, search and rescue regions	AIXM	Pub/Sub or Req/Reply	2
Airspace feature service	Provides the characteristics of the three-dimensional airspace, described as horizontal projection with vertical limits, and their relevance to air traffic.	FIR/UIR boundaries, waypoints, enroute ATS routes, SIDs and STARs, navaids, procedures, and other airspace not limited to restricted area, prohibited area, danger area, search and rescue regions (Remarks - Other data published in the AIP may be included)	AIXM	Pub/Sub or Req Reply	2
Aerodrome feature service	Provides current and/or planned airport layout features, such as aerodrome mapping data, runway, taxiway, passenger facilities.	Runways, movement areas, aerodrome services, navaids, instrument landing systems, Aerodrome location, communication facilities (frequencies)	AIXM	Pub/Sub or Req/Reply	2
Runway Condition Report service	Provides runway surface conditions and contaminants (least to most slippery) that are directly correlated to aircraft take-off and landing performance.	Global Reporting Format (GRF) for runway surface conditions	AIXM	Pub/Sub or Req/Reply	2
Digital NOTAM distribution service	Provides aeronautical information in accordance with the Digital NOTAM Specification, such as runway closure.	Digital NOTAM (e.g. Special activity airspace (SAA) NOTAMs, or other types of NOTAMs)	AIXM	Pub/Sub or Req/Reply	2
ATIS distribution service	Provides continuous and automated broadcast of recorded aeronautical information in airport and terminal areas.	Current weather conditions, runway in use, available approaches, and other data relevant to arriving and departing aircraft, specific ATC procedures, and any airport construction activity that could affect taxi planning	TBD	Pub/Sub	~~2~~ 3

Figure 1: Proposed Initial Set of APAC Common SWIM Aeronautical Information Services

2.20   **Figure 2** provides the SAR service message set defined under APAC Common SWIM Aeronautical Information Services, as proposed by SWIM/TF.

Business functionality of the service	Brief description of the service	Type of information to be exchanged	Information exchange model / Message type	Message exchange pattern	Recommended service in initial APAC Common SWIM IS (1) / (2) / (3)
APAC Common SWIM Aeronautical Information Services					
Search and rescue service	Allows Rescue Coordination Centres (RCCs) to exchange information with neighbouring RCCs and ATS units for coordination during SAR operations.	Search and rescue regions, Registered aircraft operator details and contacts, ICAO Autonomous Distress Tracking (ADT) data, Location of Aircraft in Distress Repository (LADR) data, ICAO OPS CTRL database contact information, SAR Unit (SRU) location and capability data	TBD	Pub/Sub	3

Figure 2: SAR Service Message Set

2.21   The Ad Hoc Group discussed and concluded that the implementation of SAR service should be considered in the future phase, as the information exchange model and message types had yet to be defined, currently marked as "TBD".

Outcomes of the SWIM/TF/10 Related to the APAC Common Swim Aeronautical Information Services (Flimsy/02)

2.22   ICAO Secretariat reported on the outcomes of the discussions conducted during the Tenth Meeting of System Wide Information Management Task Force (SWIM TF/10, Bangkok, Thailand, 20 – 23 May 2025) with respect to the proposed message sets, which were agreed upon by the APAC Common SWIM Aeronautical Information Services Ad Hoc Group, which were slated for incorporation into the forthcoming APAC SWIM Implementation Guidance Document currently under development.

2.23   After considering various options, it was agreed that the first version of the APAC Common SWIM Information Services list would include only services with complete information. Entries containing "TBD" would be excluded from publication but retained in a working draft for further refinement and future review by SWIM/TF, in coordination with relevant expert groups.

2.24   The Meeting noted the conclusions of SWIM/TF/10 that message sets related to SAR were to be discussed with APSAR/WG and other relevant bodies once further clarification was made available. The APSAR/WG was encouraged to actively engage with the APAC Common SWIM Aeronautical Information Services Ad Hoc Group and SWIM/TF from an early stage.

2.25   The Meeting noted the concern raised by Australia, Pakistan and the USA regarding the lack of understanding and expertise within the SAR community on SWIM implementation and its impact on SAR services. In response, ICAO agreed to arrange a specific session with the SWIM/TF Co-Chair and/or experts from the APAC Common SWIM Aeronautical Information Services Ad Hoc Group at the next APSAR/WG meeting, to provide detailed presentation on the expectations and impact on SAR services.

Agenda Item 3: Global Update

Status of the Cospas-Sarsat Programme (WP/14, SP/01)

3.1   The paper provided 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.

System Operation

3.2   In 2023, the latest year for which statistics have been compiled and reviewed, Cospas-Sarsat alert data assisted in 1,076 distress incidents (1,144 in 2022) and 3,109 persons were rescued (3,223 in 2022). Since September 1982, the Cospas-Sarsat System had provided assistance in rescuing at least 63,745 people in 19,883 SAR events (**Figure 3**).
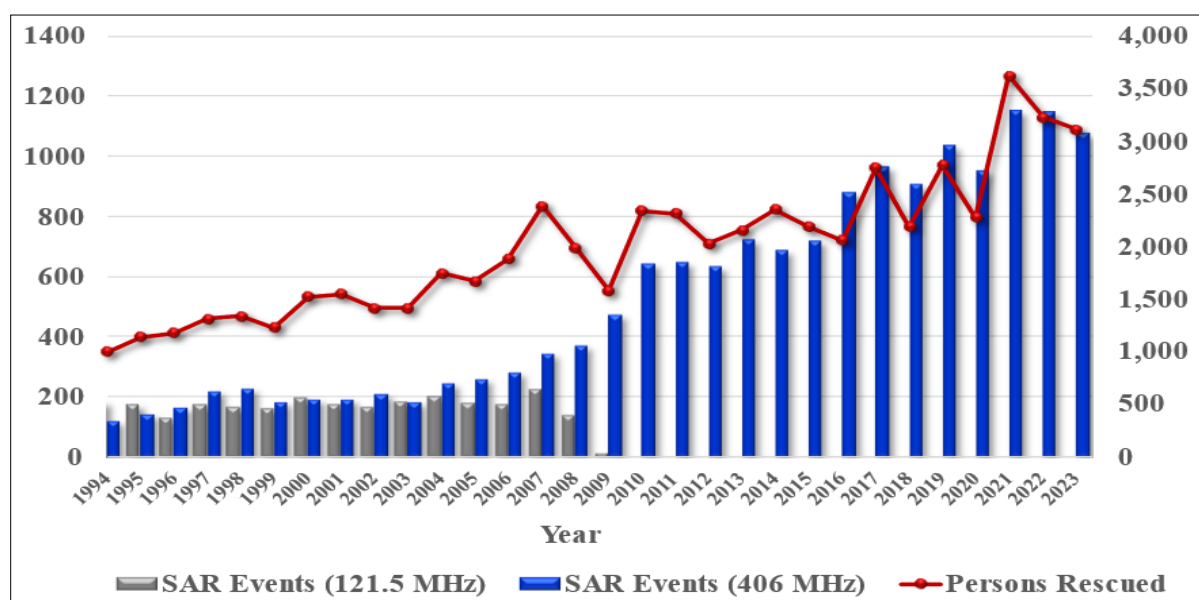
Figure 3: SAR Events with the Assistance of Cospas-Sarsat Data (Jan. 1994 – Dec. 2023)

3.3   The geographic distribution of all reported SAR events for which Cospas-Sarsat alert data was used in 2023 was presented in **Figure 4**. The distribution of all SAR events was 20% for aviation, 44% for land and 36% for maritime.
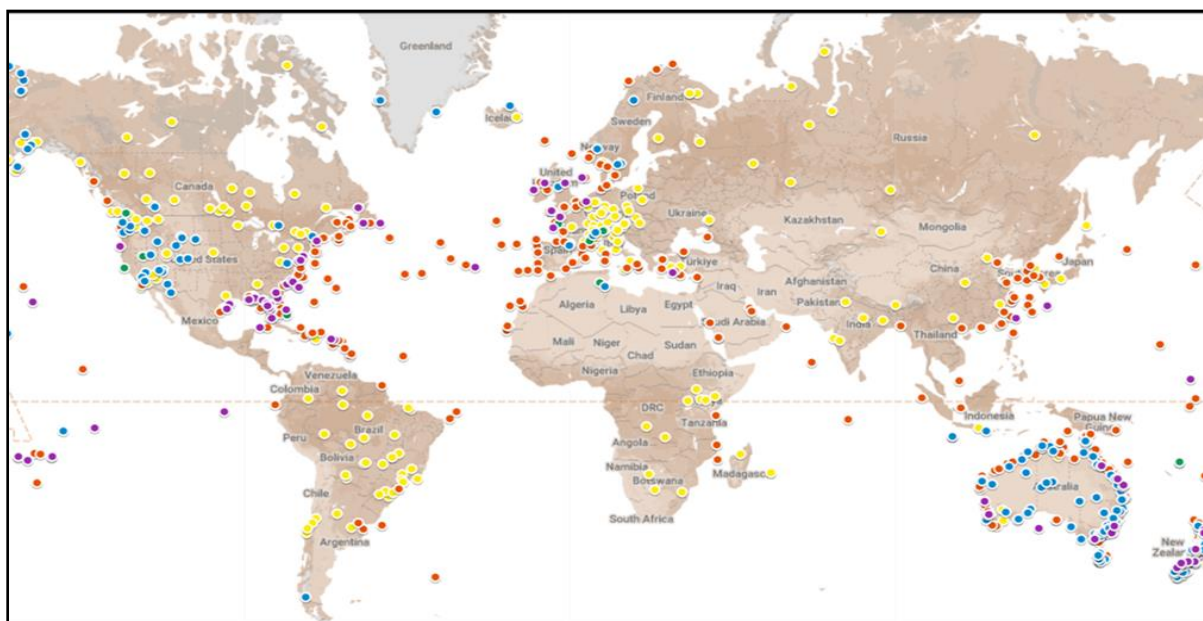
Figure 4: 2023 Geographic Distribution of SAR Events

406 MHz Beacons

3.4   Based on estimates derived from beacon-registration data and the number of activated registered beacons, approximately 3,170,000 Cospas-Sarsat beacons had the potential to activate worldwide at the end of 2023, representing a growth of about 2.2 per cent compared to 2022 (3,100,000). It was estimated that over 75 per cent of globally deployed beacons were equipped with global navigation satellite system (GNSS) receivers, enabling the beacon's location to be reported directly in distress messages, in addition to independent localization via "trilateration" within the Cospas-Sarsat System.

3.5   The Cospas-Sarsat Secretariat maintained an International Beacon Registration Database (IBRD), an internet portal that was available for beacon registration for 167 Administrations (national and territorial) that allow its use in place of a national registration mechanism for at least one type of beacon. The IBRD also allows bulk upload and duplication of existing national databases as a means of making national records easily available on a 24/7 basis. As of 01 May 2025, there were 112,500 beacons registered in the IBRD (110,600 in March 2024). In 2022, Cospas-Sarsat deployed a new IBRD user interface to accommodate the registration of new beacon types, such as the Emergency Locator Transmitter (Distress Tracking) [ELT(DT)] and second-generation beacons (SGBs) that used more modern "spread spectrum" transmission technology. The new IBRD, with a recently available improved user-friendly interface could be found at www.406registration.com/.

Space and Ground Segments

3.6   Cospas-Sarsat relied on three satellite-constellation types: the original Low-altitude Earth Orbiting (LEO), Geostationary Earth Orbiting (GEO), and the latest technology payloads on Medium-altitude Earth Orbiting (MEO) satellites. As of 01 May 2025, a total of 36 MEO earth stations, known as Medium Earth Orbit Local User Terminals (MEOLUTs), capable of tracking up to 400 satellites simultaneously, had been commissioned for MEO search-and-rescue satellite payloads (MEOSAR), with planned to deploy at least 11 additional MEOLUTs with multiple antennas and channels between 2025 and 2026.

SPOC Communications

3.7   Since 2008, Cospas-Sarsat had conducted regular testing of communications links between Cospas-Sarsat MCCs that distributed distress alerts to their supported SPOCs. **Table 1** provides a summary of MCC/SPOC communication test results for the period from 2019 to 2024. Some MCCs did not support SPOCs outside of their country and therefore were not required to conduct these tests.

Table 1: SPOC Communication Test Results (2019 – 2024)

	2019	**2020**	**2021**	**2022**	**2023**	*2024**
Number of SPOCs tested by MCCs	161	166	171	171	161	*74*
Non-responsive SPOCs (no response to tests)	8.70%	7.23%	8.19%	5.26%	4.97%	*8*
Rarely responsive SPOCs (less than 20% successful tests)	5.59%	6.02%	3.51%	5.85%	4.97%	*0*
SPOCs with low success ratio (between 20 and 50% successful tests)	9.94%	7.23%	9.94%	8.19%	11.18%	*10*
Insufficiently responsive SPOCs	**24.23%**	**20.48%**	**21.64%**	**19.30%**	**21.12%**	*18*

Note*: 2024 information was yet to be reviewed by the Cospas-Sarsat Joint Committee in May-June 2025.

3.8   The list of Cospas-Sarsat MCC and SPOC agreements/arrangements, copies of which were held by Cospas-Sarsat Secretariat, were provided in **APSAR/WG/10 WP/14**.

System Enhancement

3.9   Cospas-Sarsat announced full operational capability (FOC) for first-generation beacon (FGB) ELT(DT)s from January 2023, and for SGB ELT(DT) from January 2024. In some cases, the ELT(DT) replaces the ELT(AF), which might initially result in the loss of the 121.5 MHz homing signal; however, update of the ICAO regulation might ensure that at least one automatic ELT [including ELT(DT)] onboard commercial aircraft shall include a 406 MHz distress beacon transmitting on 121.5 MHz as well.

3.10   Cospas-Sarsat also focused developments necessary to begin operational phases for SGBs that would transmit more information in their distress message and had greater location accuracy. This work principally involved commissioning of new or upgraded ground segment equipment within Cospas-Sarsat Participant States and territories to ensure global coverage.

3.11   Cospas-Sarsat had begun the design of 406 MHz distress beacons allowing two-way communication (TWC). The TWC for distress beacons would provide a number of benefits in emergency situations.

3.12   Based on the Return Link Service (RLS) technology, the TWC service could be seen as an enhancement of the current RLS - Type 1. Cospas-Sarsat held a dedicated experts working group in February 2024 and more recently in March 2025, and had established a correspondence working group led by the European Commission to further consider matters related to TWC.

3.13   Interested participants were invited to join the correspondence working group on TWCs to monitor and contribute to the work being done and to assist in the further development of the planned TWC capability for RLS SGBs.

Training Material and Public Relations

3.14   Development of video material continued with the creation of a series of video frequently asked questions (FAQs). All videos were available free-of-charge in English on YouTube (406.org/en/search-and-rescue/programme-videos-en) and at https://moodle.406.org/ with subtitles in the French and Russian languages. The Meeting noted that videos on new SIT 185 format message and the use of the new IBRD were released recently, and production of videos addressing ELT(DT)s and SGBs was in progress.

3.15   The Meeting was informed that Cambodia was in the process of reviewing its Cospas-Sarsat MCC and SPOC agreement, and would furnish the signed copies to the Cospas-Sarsat Secretariat.

3.16   The Chairperson expressed appreciation to the Cospas-Sarsat Secretariat for providing the comprehensive working paper, which contributed significantly to the knowledge and understanding of APSAR/WG participants.

Autonomous Distress Tracking (ADT) Implementation Status (SP/02)

3.17   The presentation provided a comprehensive update on ADT implementation, emphasizing the collaborative effort required among stakeholders to improve aviation safety and SAR effectiveness. It also outlined the key components, applicable documents and actions required for successful ADT implementation.

3.18   The Meeting recognized that ADT significantly improved SAR operations, particularly in oceanic and remote areas with limited air traffic services (ATS) surveillance, due to its ability to provide immediate distress notifications.

3.19   ADT devices could be activated manually or automatically based on events like unusual attitude or speed, terrain proximity warnings, or complete engine failure. Deactivation requires the same method used for activation.

3.20   ICAO established LADR as a central repository for storing and providing all information related to the position of aircraft in distress. LADR had been operational since 10 June 2024 (ICAO State Letter AN 11/1.1.29-24/16 dated 25 June 2024 refers). LADR would notify aircraft operators, ATS units and RCCs about aircraft in distress, and provided geographic display showing an icon for each ADT notification in the Flight Information Region (FIR).

3.21   The Meeting noted that the OPS Control Directory, formerly hosted by ICAO, was transferred to EUROCONTROL and now included as a function within the LADR. The OPS Control Directory itself provided a means to establish contact among aircraft operators, ATS units and RCCs, in the event of any uncertainty regarding the safety of an aircraft. Access to the LADR was provided directly through the OPS Control Directory (https://ladr.eurocontrol.int/ops/frontend).

3.22   Each stakeholder in the OPS Control Directory (i.e. aircraft operator, ATS unit, RCC or State) was required to nominate a single focal point user to enable access also to the LADR. The focal point would be responsible for updating the operational contact details of the organization (where appropriate) and would also be able to authorize additional users from the same organization with access to the OPS Control Directory, and therefore the LADR. Request for focal point registration should be sent to aircrafttracking@icao.int.

3.23   Upon receiving the request for focal point registration, ICAO would verify and set up the focal point account in the OPS Control Directory along with the allocated responsibility as appropriate. The registered focal point would then receive the email from ICAO and would be required to complete the authentication using the Data Network for Aviation (DNA) platform (https://www4.icao.int/dna).

3.24   To access the system, all users, including focal point and additional authorized users, must also request a DNA account. This account must be created with the same email used to register for the OPS Control Directory, which allows both accounts to be linked to provide authentication and authorization.

3.25   The ELT(DT) was currently the only ADT device flying on aircraft. When activated, the ADT device sends ADT information into the LADR and also the Cospas-Sarsat SIT 185 format ELT(DT) message to the RCC.

3.26   When the ADT device was activated, it would send ADT information into the LADR. The LADR then sends one email notification to the relevant RCC, ATS unit and aircraft operator to notify them that there was information in the LADR. These three stakeholders then need to access the LADR to view that information. The ELT(DT) concurrently sends the SIT 185 ELT(DT) notification message to the RCC.

3.27   In response to an inquiry from Cambodia, it was noted that there was currently no global guidance available regarding the management of aircraft from other States that wished to operate within a different State's FIR that were non-compliant with the standards outlined in ICAO Annex 6 Section 6.18.

3.28   The Meeting noted the clarification provided by the Chairperson and Australia regarding the roles of stakeholders registered in the OPS Control Directory. It was emphasized that their primary purpose was to ensure that relevant contact information was readily accessible, thereby facilitating prompt and clear communication between ATS, aircraft operators, and SAR services. This coordination was essential for effective response during distress and safety-related incidents.

Agenda Item 4: Asia/Pacific and Inter-regional SAR Planning, Coordination and Cooperation

Regional Air Navigation Plan Update (WP/05)

4.1   ICAO Secretariat presented an update on the *Asia/Pacific ANP Volume I*, which was available on the ICAO Asia/Pacific Regional Office website at:

https://www.icao.int/APAC/Pages/APAC-eANP.aspx

4.2   Proposals for Amendment (PfAs) to the *Asia/Pacific ANP Volume I* were necessary to enable the establishment by States of Search and Rescue Regions (SRRs) under the provisions of ICAO Annex 12 and required approval by the Council of ICAO. The PfA template was also provided on the ICAO Asia/Pacific Regional Office website.

4.3   The exercise to review the *Asia/Pacific ANP Volume I* with SRR coordinates should be based on ICAO historical records and not new proposal for changes. Some States had submitted major amendments to their FIRs during the review process. These would only be considered if it was a change that only affected the national airspace and not the neighbouring airspace, or if all parties agreed with the change proposal before submission to ICAO. **Figure 5** shows the status of SRR verification.
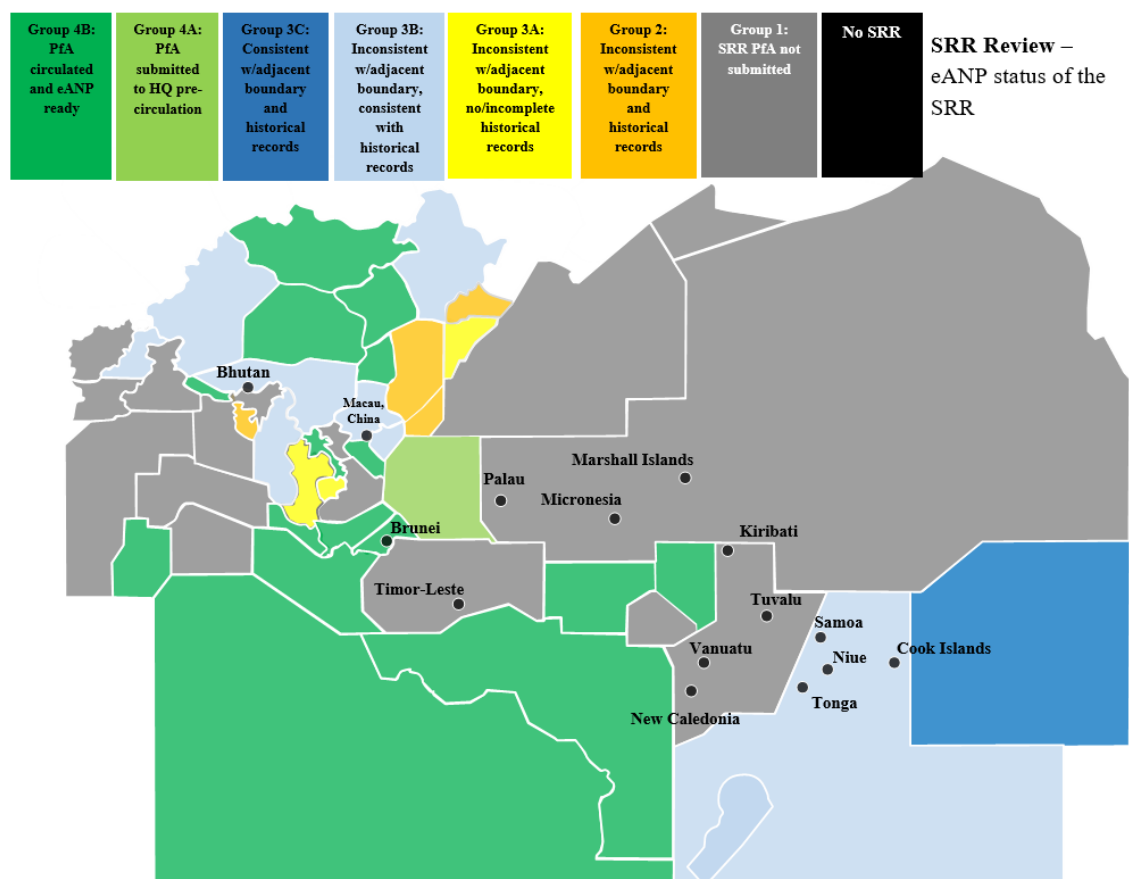
Figure 5: SRR Review Status, as of March 2025

4.4   15 SRRs were approved by President of the Council and incorporated in the Table SAR I-1 of the *Asia/Pacific ANP Volume I* and 13 PfAs had been submitted to the ICAO Asia/Pacific Regional Office that require further clarifications/justifications in coordination with neighbouring States.

4.5   In response to a query, ICAO explained that the PfA of the Phnom Penh FIR had not been approved by ICAO, despite the consensus among all neighbouring States. This was attributable to the unusual narrow sliver shape, which served no aviation purpose. ICAO recommended that Cambodia consider the ICAO counter-proposal. Cambodia proposed initiating a separate discussion with Viet Nam to explore appropriate solutions concerning this matter.

4.6   ROK highlighted some discrepancy with Incheon SRR data in the **WP/05 Attachment B**. ICAO would update the working paper with the information consistent with APSAR/WG/9 meeting and upload the revised copy of WP/05 to the APSAR/WG/10 webpage.

4.7   In response to a query from the Philippines regarding the formal establishment of Manila SRR, ICAO clarified that the matter was currently on hold pending the receipt of updated feedback from the Philippines concerning the outcomes of coordination with Indonesia.

Regional SAR Status (WP/06)

4.8   ICAO Secretariat presented the records of the information provided from administrations regarding SAR Status in order to report to the APANPIRG.

USOAP Analysis

4.9   The Meeting was informed regarding the 2024 edition of the Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA) Protocol Questions (PQs). This edition had integrated State Safety Programme Implementation Assessment (SSPIA) with traditional USOAP CMA activities. Notable additions include Safety Management System (SMS)-related PQs in areas of personnel licensing and training (PEL), aircraft operations (OPS), airworthiness of aircraft (AIR), air navigation services (ANS), and aerodromes and ground aids (AGA), as well as the addition of a set of new PQs on State Safety Programme (SSP) as a new audit area.

4.10   The 2024 PQs would be applicable for all USOAP CMA activities after 01 July 2025, with the exception of the SSP-related PQs, which would be implemented at a later date. The 2024 edition of the PQs could be found at the USOAP CMA online framework (OLF) (https://www.icao.int/usoap) under the heading "CMA Library". The total number of PQs relating to SAR remained 16.

4.11   An analysis of the 16 USOAP SAR-related PQs in April 2025 indicated that the overall Effective Implementation (EI) for SAR had slightly increased when compared to the previous year's assessment. States that had not undergone any USOAP CMA activities since the revised PQs would still see the previous edition results in the USOAP OLF.

- May 2020 – 60%
- April 2021 – 59%
- May 2022 – 55%
- May 2023 – 55%
- April 2024 – 54%
- April 2025 – 55%

4.12   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 (29%) – [SAR service provider] SAR coordination agreements;
- **CE-4**: 7.499 (32%) – [SAR regulatory oversight] Implementation of training plan;
- **CE-7**: 7.505, 7.543 and 7.545 (41%, 42% and 43%) – [SAR regulatory oversight] effective regulatory surveillance oversight of SAR, detailed plans of SAR operations and checks that SAR operational personnel have regular training, including the conduct of SAREX; and
- **CE-8**: 7.507 (43%) – [SAR regulatory oversight and service provider] mechanism to eliminate SAR regulatory deficiencies.

SAR Agreements

4.13   The updated List of SAR Agreements and SAR Agreements Matrix were provided in **Appendices C and D to this Report**.

Asia/Pacific SAR Plan Implementation Status

4.14   The Meeting recalled at the Ninth Meeting of the ICAO Asia/Pacific Search and Rescue Working Group (APSAR/WG/9, Bangkok, Thailand, 07 – 10 May 2024), the *Regional SAR Plan Monitoring and Reporting Form* was revised to include an additional element of:

> *(new) 16. Establishment of arrangements to conduct SAR operations at the same time as the accident investigation authority needs to conduct search & recovery operations (in accordance to Annex 13).*

4.15   The SAR Plan-based 42-element assessment provided a metric of the *Asia/Pacific SAR Plan* implementation as of 30 April 2025 (**Figure**). The Meeting noted that Administrations which did not provide the annual *Regional SAR Plan Monitoring and Reporting Form* for 2025 or submitted the report to the ICAO Asia/Pacific Regional Office using the outdated version (SAR Plan-based 41-element) were assigned a "0%" implementation status for the new element.
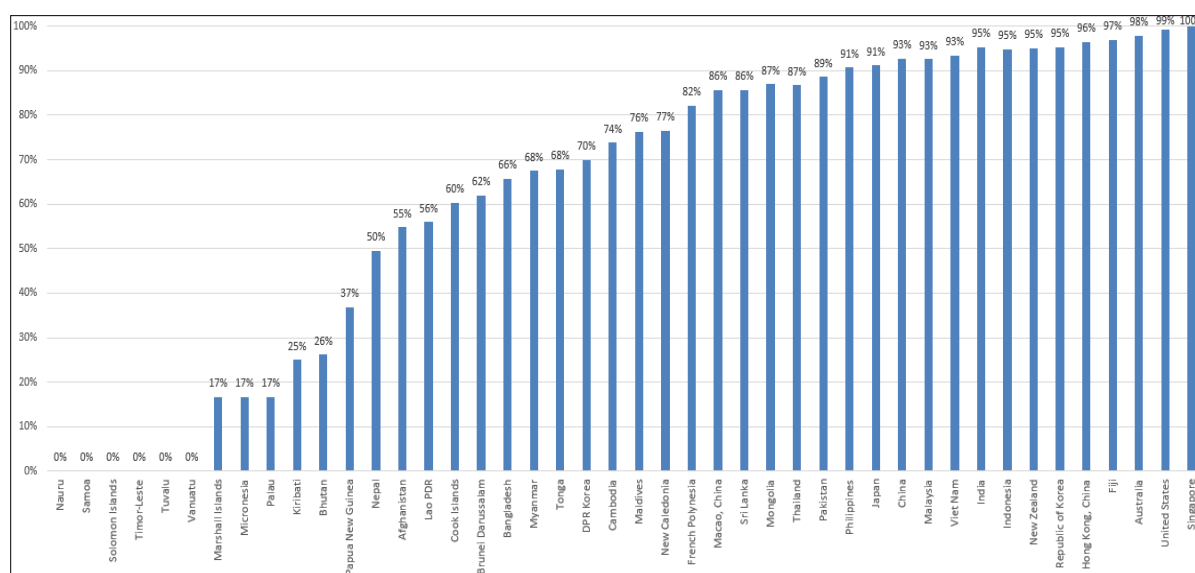
Figure 6: *Asia/Pacific SAR Plan* Implementation Status, as of 30 April 2025

4.16   **Figure 7** provides an overview of reported *Asia/Pacific SAR Plan* compliance, as of 30 April 2025.
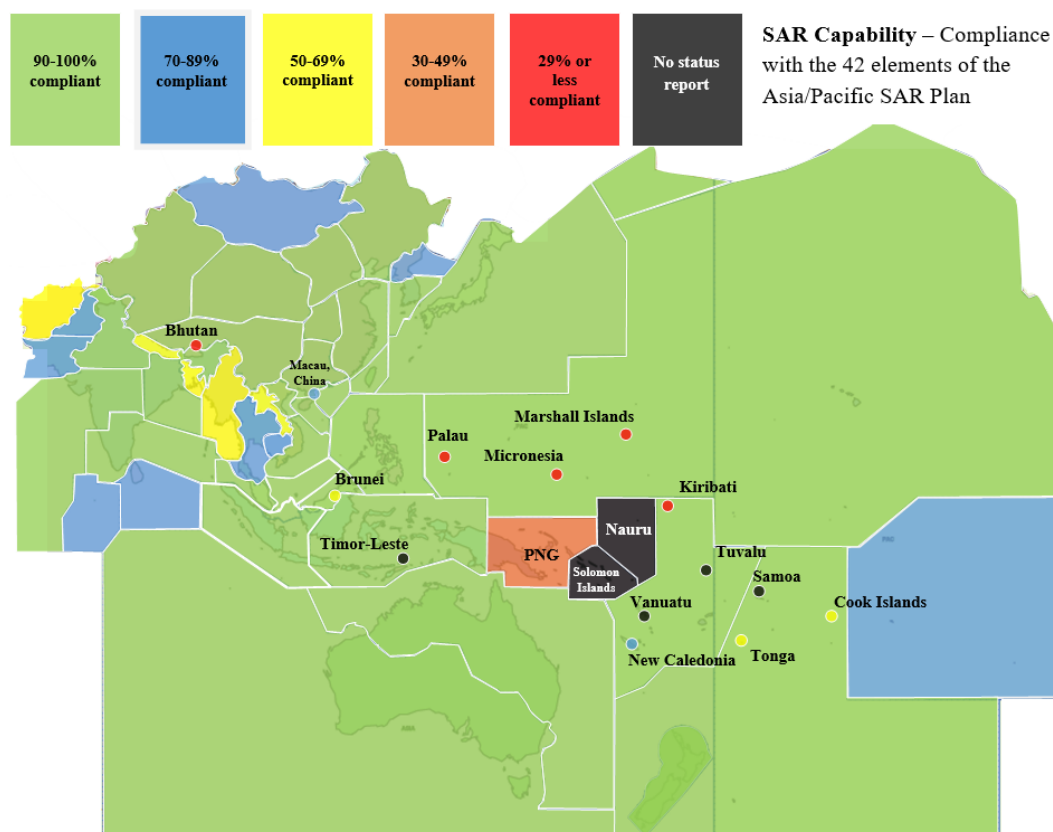
Figure 7: Reported Compliance with the *Asia/Pacific SAR Plan*, as of 30 April 2025

4.17   In response to an inquiry, ICAO clarified that any *Regional SAR Plan Monitoring and Reporting Form* submissions received after the APSAR/WG/10 meeting would be incorporated into the working paper to be presented at the Thirteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/13) of APANPIRG, scheduled in August 2025.

Asia/Pacific Regional Implementation for Autonomous Distress Tracking (WP/07)

4.18   The Meeting was presented with the survey results of the Asia/Pacific regional implementation for the ADT applicability.

4.19   The last APSAR/WG/9 meeting concluded that most of the Asia/Pacific Administrations were not fully ready for the planned ADT applicability with various tasks listed in the survey that have yet to be completed. Therefore, this year's revised implementation survey (**WP/07 Attachment A**) presented the latest status to assess the implementation status from States/Administrations in receiving, processing and managing ADT notifications.

4.20   A total of 14 Administrations responded to the 2025 survey, a decrease as compared to the previous survey (received as of 29 April 2025). **WP/07 Attachments B and C** listed the survey response and comments by Asia/Pacific Administrations respectively. Overall response results of the survey showed that majority of respondents were still in progress of implementing the ADT applicability (**Figure 8**). The average number of items marked "Yes" was 48 % (decreased from 51%).
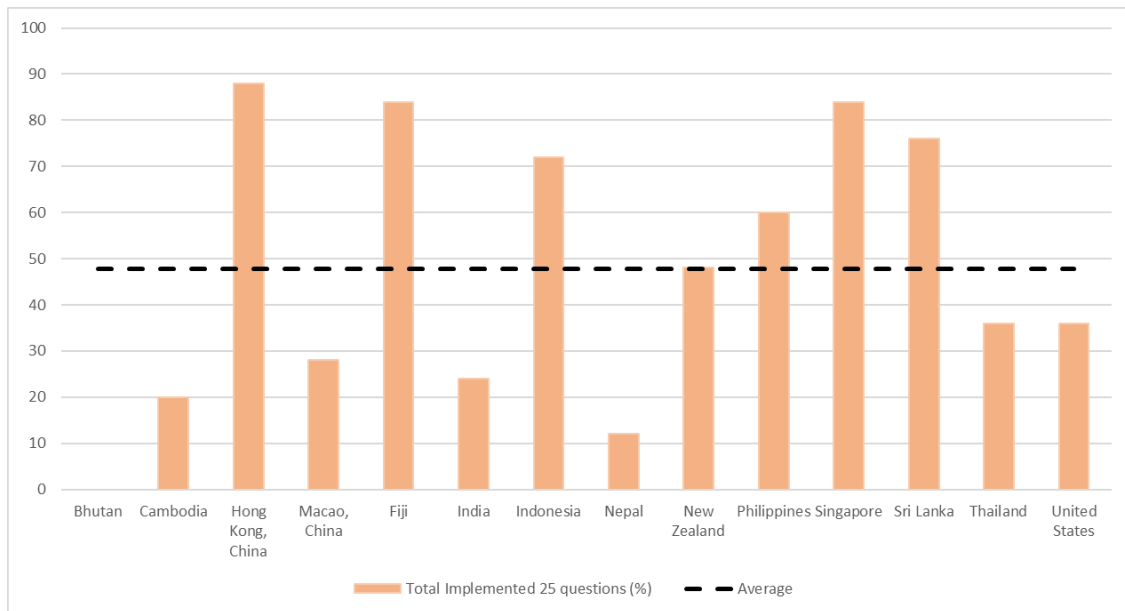
Figure 8: Overall Responses Rate for All Questions in the Survey

4.21   The paper also provided further analyses in the four categories (1. State, 2. Aircraft Operator, 3. SAR Service Provider and 4. Air Navigation Service Provider) used in the survey based on the responses from 14 Asia/Pacific Administrations.

4.22   States/Administrations would need to step up efforts to conduct the various actions required for ADT implementation such as:

   a)   incorporate ADT considerations in procedures and manuals for safety oversight and procedures for response to ADT notification of air navigation service providers (ANSPs), SAR service providers and aircraft operators; and

   b)   train relevant personnel to understand ADT notifications and ELT(DT) alerts, and to execute procedures accordingly.

4.23   In conclusion, the majority of Asia/Pacific Administrations were not fully ready for the implementation of the ADT applicability with various tasks listed in the survey that had yet to be completed.

4.24   ICAO Secretariat informed that States/Administrations could refer to the presentation materials provided during the GADSS Workshop held on 23 May 2022 (https://www.icao.int/APAC/Meetings/Pages/2022-APSAR-WG7.aspx) to familiarize themselves, as well as airspace users and international organizations, with the ICAO provisions pertaining to aircraft distress tracking, the LADR system, and the procedures and preparatory steps for SAR satellite service providers, aeronautical regulators, SAR authorities, and ANSPs.

   Proliferation of Technology and Services for Emergency Satellite Communications and Automatic Crash Detection (Non-ICAO Applications) (WP/15)

4.25   This paper presented a brief update on APSAR/WG Action Item 8/6 regarding proliferation of technology and services for emergency satellite communications and automatic crash detection (non-ICAO applications).

4.26   While there had been general discussion about this matter and ideas of a way forward, the ICAO, IMO and ICAO/IMO JWG had no specific agenda item for in-depth discussion on this subject.

4.27   An update on steps since APSAR/WG/8 includes:

   a)   updating of the existing standard for Satellite Emergency Notification and Locating Devices (SENDs). The Radio Technical Commission for Maritime Services (RTCM) developed the SENDs standard. RTCM was a USA-based organization that creates standards for satellite positioning and navigation system to facilitate all modes of transportation. RTCM standards were often accepted by other national authorities. Its update would take into account the mobile and global nature of today's devices such as Apple, T-Mobile, Garmin and other providers. A primary goal was to explore and identify the current means by which mobile device providers interface with SAR authorities and promote data content and format interface standards;

   b)   content in the IAMSAR Manual could be updated by the ICAO/IMO JWG. IAMSAR Manual Volume I and Volume II each cover parts of the matter but needed to be updated and edited for consistency. For example, *IAMSAR Volume I* briefly mentioned SENDs but *IAMSAR Volume II* addressed commercial locating, tracking and emergency notification service provider (non-Cospas-Sarsat); and

   c)   APSAR/WG/8 WP/10 discussed "Crash Detection" capability provided by the Apple Watch or iPhone. This capability used the local cellular connection or Wi-Fi calling with an Internet connection. An update on this capability was not being provided at this time.

4.28   Australia, Pakistan, the Philippines and New Zealand shared their respective experiences in managing the increased volume of genuine SEND alerts and/or crash detections, which had contributed to the effectiveness of rescue operations.

4.29   The Meeting acknowledged that this subject was beyond the scope of the APSAR/WG and accordingly agreed to remove it from the APSAR/WG Task List. Further discussion on this matter could be conducted at the ICAO/IMO JWG meetings.

Enhanced 406 MHz Direction Finding Training for Search and Rescue Units (WP/16)

4.30   This paper discussed the use of 406 MHz test protocol coded beacons to enhance direction finding (DF) and homing techniques training for Australian Search and Rescue Units (SRUs). It highlighted the importance of well-trained SRU crews in using 406 MHz DF equipment for successful SAR missions, and the challenges of using actual distress frequencies for training purposes. The paper detailed how the Australian Maritime Safety Authority (AMSA) utilized 406 MHz test beacons, which transmit a test protocol HEX ID, GNSS-encoded position, and a homing signal on 121.4 MHz, without triggering distress alerts.

4.31   A key highlight is the introduction of these 406 MHz test beacons into the AMSA SRU training program in early 2025, which had proven valuable in addressing SRU crew knowledge gaps regarding 406 MHz distress beacon properties and maximizing the use of their DF equipment. The training covered various aspects, including comparisons between 406 MHz and 121.5 MHz transmissions, accessing beacon HEX IDs and GNSS positions, and understanding propagation characteristics. Demonstrations with parked SRU helicopters were conducted to highlight features of their DF equipment.

4.32   Australia encouraged other States to share information about their own SRU DF training programs, including the use of 406 MHz test protocol beacons, and aimed to initiate discussions on the need for a coordinated global approach to the activation of test beacons to avoid exceeding Cospas-Sarsat system capacity constraints, which Australia intends to share at the next ICAO/IMO JWG meeting.

4.33   In response to a query, Australia confirmed that the test protocol beacon used by JRCC Australia was custom-made.

Reciprocal SAR Services Benchmarking Arrangement between Australia and New Zealand (IP/03)

4.34   The paper provided information on the new reciprocal SAR services benchmarking programme between Maritime New Zealand (Maritime NZ) and AMSA. Agreed upon in 2023, the programme aimed to provide a formal mechanism for benchmarking SAR services, enhance operational connections, support ICAO USOAP CMA requirements, and assess alignment with global SAR harmonization goals. The first activity involved Maritime NZ benchmarking AMSA in August 2023, followed by AMSA benchmarking Maritime NZ in November 2024.

4.35   The benchmarking programme includes annual rotational assessments, with options for SAR exercises (SAREXs) to demonstrate procedures and practices. The assessments utilized a tool based on the *National self-assessment on search and rescue system* questionnaire from the *IAMSAR Manual Volume I Appendix H*.

4.36   The Chairperson commended Australia and New Zealand for their efforts in conducting reciprocal SAR services benchmarking activities.

Civil Aviation Authority of the Philippines Activities Conducted Related to Search and Rescue (IP/04)

4.37   The Meeting was provided with an overview of the Civil Aviation Authority of the Philippines (CAAP)'s activities related to SAR. These activities encompass promotional efforts for GADSS, LADR, and ELT, as well as collaborative initiatives with the Civil Aviation Authority of Malaysia (CAAM). CAAP had also issued a Memorandum Circular 008-2024 regarding new frequency channels for ELT and conducts yearly SAR promotional awareness programs.

4.38   The Meeting was informed that the implementation of the ELT test application via the online platform available on the CAAP website had contributed to the reduction in the number of false alerts.

4.39   The Chairperson commended the collaborative efforts and initiatives undertaken by CAAP and CAAM to strengthen coordination, foster collaboration and enhance operational procedures between the respective RCCs.

International Seminar on Implementing the Global Aeronautical Distress and Safety System (GADSS) in Indonesia (IP/05)

4.40   This paper shared the outcome of the international seminar hosted jointly by the Indonesian National Search and Rescue Agency (BASARNAS) and the Indonesian Aviation Polytechnic (PPI Curug) on 7 August 2024. The seminar facilitated critical discussions on challenges faced by Indonesia and other States in preparing for GADSS implementation by 2025. The seminar outcomes included a shared understanding of the urgency and complexity of GADSS integration and generated momentum for inter-agency coordination. A key takeaway was the need to formulate a national roadmap for GADSS readiness, integrating regulatory, technical, and operational elements, to serve as a reference for policy formulation, operational planning, and future capacity-building programs.

<u>Search and Rescue Operation in the Crash of Smart Aviation PK-SNE in North Kalimantan (IP/06)</u>

4.41   Indonesia shared the experience related to the SAR operation that was conducted following the crash of a Smart Aviation Pilatus PC-6 aircraft (PK-SNE) in North Kalimantan, Indonesia, in March 2024. The SAR operation provided valuable lessons regarding remote area responses. The timely activation of the ELT and the pilot's use of smoke were crucial for locating the crash site, highlighting the importance of both technology and basic survival skills. The pilot's endurance underscored the need for survival training for flight crews in remote areas. The operation also emphasized the difficulties of conducting SAR in challenging terrains and the importance of effective multi-agency coordination, leveraging pre-established communication protocols, rapid mobilization, and virtual briefings for real-time information sharing and decision-making.

<u>State Secretariat of Civil Aviation (SSCA) SAR Services Provision (IP/07)</u>

4.42   Cambodia provided information about the roles of State Secretariat of Civil Aviation (SSCA) in providing SAR services within Cambodia. The SSCA oversees SAR operations, coordinating with the National Committee for Disaster Management (NCDM) and various agencies to ensure 24/7 SAR services. This paper also emphasized the SSCA's commitment to regional cooperation through SAR Letters of Agreement (LOA) and the Cospas-Sarsat's MCC-SPOC Agreements.

4.43   The Meeting noted Cambodia's updates concerning the development of a new SAR LOA between Cambodia and Lao PDR, as well as a revised SAR LOA between Cambodia and Viet Nam. Both agreements were pending communication with the respective Ministries of Foreign Affairs before they could be finalized and signed.

4.44   Thailand expressed its intention to sign SAR LOAs with neighbouring States, including Cambodia, however, due to internal procedural requirements, the realization of these agreements would take some time.

<u>Cambodia's Civil-Military Cooperation in SAR Services (IP/08)</u>

4.45   Cambodia presented information about the civil-military cooperation in SAR services, including the development of a civil-military cooperation framework, emphasizing compliance with national legislation and international standards. The Meeting noted that Cambodia would be hosting the ASEAN Regional Disaster Emergency Response Exercise 2025 (ARDEX-25) in July 2025, to strengthen regional disaster response coordination. The paper also detailed Cambodia's national exercise program, including recent major exercises conducted at international airports to improve coordination and response capabilities.

<u>Search and Rescue System of Pakistan (Flimsy/01)</u>

4.46   The Meeting was informed of Pakistan's aeronautical SAR system, including ongoing improvements, training programmes and exercises to enhance SAR capabilities. The Meeting noted the ongoing efforts by Pakistan to establish SAR LOAs with neighbouring States, as well as the development of a Memorandum of Understanding (MOU) between the National Disaster Management Authority of Pakistan and Pakistan Airports Authority to address Mass Rescue Operations.

Cambodia Aeronautical Search and Rescue Update (Flimsy/03)

4.47   This paper highlighted Cambodia's efforts to align with regional SAR planning and coordination, including the formal establishment of the Phnom Penh FIR and Phnom Penh SRR, which required further coordination with neighbouring States. The Meeting noted that the SSCA was working with airport authorities and operators to enhance SAR readiness through airport emergency planning and response capabilities, including firefighting.

4.48   The Meeting noted the challenges faced by Cambodia in formalizing a process to exempt aircraft without ADT equipage to operate in their airspace. Consequently, the Meeting participants were requested to share their respective experiences and procedures for permitting aircraft operations without ADT equipage.

4.49   Regarding the training of SAR personnel, the Chairperson indicated that States/Administrations could consider the standardized training package for SAR under the ICAO TRAINAIR PLUS programme. This course was currently being offered by the Singapore Aviation Academy (SAA). Another consideration was the SAR Mission Coordinators Course conducted by the United States Coast Guard which a request for such training by a State could be facilitated through their embassy.

4.50   Cambodia reported to the Meeting regarding the collaborative arrangement with Indonesia for Aviation SAR technical assistant. The formal official letter would be sent to National Search Rescue Agency (BASARNAS) of Indonesia for further cooperation.

Agenda Item 5: Asia/Pacific Regional SAR Plan

Update of the Asia/Pacific Search and Rescue (SAR) Plan (WP/08)

5.1   Australia presented the outcomes of work conducted by a small intersessional group tasked by APSAR/WG/9 to review the *Asia/Pacific SAR Plan* and develop proposed amendments for the update of this Plan.

5.2   **WP/08 Attachments A and B** contained numerous proposed amendments for the Meeting's consideration, including suggested updates to accommodate developments and changes related to the global SAR system relevant to the Asia/Pacific Region, as well as several minor editorial modifications aimed at improving the quality and clarity of the *Asia/Pacific SAR Plan's* content. A summary of the main proposed amendments was also provided in WP/08.

5.3   The Meeting agreed to the following Draft Conclusion, to be considered by ATM/SG.

Draft Conclusion APSAR/WG/10-1: Revised Asia/Pacific SAR Plan

That,

1.   the revised Asia/Pacific SAR Plan at **Appendix E to the Report** be adopted, and uploaded to the ICAO Asia/Pacific Regional Office eDocuments webpage to replace the existing version; and

2.   States are urged to update their national SAR Plans to align with the revised Asia/Pacific SAR Plan.

Regional Search and Rescue Unit (SRU) Capability (WP/09)

5.4   Australia presented a proposal to review and amend the term "SAR capability" within the *Asia/Pacific SAR Plan* to a more defined "SAR unit (SRU) capability" in the *Preferred SAR Capability Specifications* (PSCS 7.2 c) and corresponding SAR Performance Indicator (SPI 11) of the *Regional SAR Plan Monitoring and Reporting Form*.

5.5   Australia also proposed that States/Administrations report their SRU capability for the amended PSCS to the APSAR/WG as an alternative to States needing to exchange their SRU information annually with each of their neighbouring States.

5.6   While RCCs could benefit from sharing a wide range of SAR capabilities, Australia emphasized that the sharing of up-to-date SRU capabilities (air and maritime) and locations for those SRUs that could be deployed into other SRRs on request, was information that could assist with more effective SAR operations. The *Asia/Pacific ANP Volume II* included SRU information, but the information was limited.

5.7   SRUs from neighbouring States could provide:

   a)   a faster SAR response, for example where an SRU within the SRR of another State was based closer or had a faster transit speed to a distress location;

   b)   a specific SAR capability, for example where an SRU within the SRR of another State was equipped with a 406 MHz homer, search radar, night vision imaging system, SAR survival equipment or drift measuring devices that could be dropped from an aircraft, etc; or

   c)   supplementation of a State's own SRUs, particularly during a large-scale SAR operation where multiple SRUs were needed, for example a Mass Rescue Operation to a large passenger aircraft ditching or passenger ship.

5.8   The Meeting recognized that readily available SRU capability information enables RCCs to make more informed decisions during SAR incidents. By knowing SRU capabilities in advance, RCCs could more effectively request assistance from neighbouring units, saving valuable time and reducing the amount of information that needed to be communicated. Without this information, RCCs risk missing the opportunity to achieve the best possible SAR response, potentially resulting in preventable loss of life. Only dynamic changes to SRU capabilities would need to be communicated during an actual SAR response.

5.9   Australia also proposed a draft new SRU Capability template to record State SRU information. The proposed template includes SRU capability information aligned with ICAO Annex 12, the IAMSAR Manual, and the *Asia/Pacific ANP Volume II*. It expands on the limited SRU information currently within the *Asia/Pacific ANP Volume II Part VI Search and Rescue (SAR)*, Table SAR II-1 to include SRU capability information.

5.10   After much deliberation, the Meeting discussed that the submission of SRU capabilities would pose challenges for some States due to the involvement of military assets, which could be sensitive for public disclosure. Consequently, the Meeting agreed to the new template in the form of an annual survey with the addition of the term "optional" in columns 4 and 5 of the template. This template would be provided as Appendix 2 to the revised *Asia/Pacific SAR Plan*. Additionally, the Meeting reaffirmed that the submission of such information was not mandatory and does not constitute a commitment to provide such capabilities in the event of a SAR operation. The Meeting also agreed that States/Administrations only need to provide information on SRUs that had the capability and necessary approvals to operate in neighbouring SRRs.

5.11   Therefore, the Meeting concurred to the following Draft Conclusion, to be considered by ATM/SG.

Draft Conclusion APSAR/WG/10-2: Proposal Annual Submission of Asia/Pacific Search and Rescue Unit (SRU) Capability

1.   States and Administrations to submit update of their SRU capability information (template to be included in the revised Asia/Pacific SAR Plan Appendix 2) to the ICAO Asia/Pacific Regional Office annually, no later than 28 February. The ICAO Secretariat will compile the data and present it as a working paper at the APSAR/WG meeting, include it as an appendix to the meeting report, and subsequently publish it on the ICAO APAC eDocuments webpage; and

2.   the Asia/Pacific SAR Plan and the corresponding SAR Performance Indicator in the Regional SAR Plan Monitoring and Reporting Form be amended (**Appendix F to the Report**) to support the States/Administrations' submission of Asia/Pacific SRU Capability information and be uploaded to the ICAO Asia/Pacific Regional Office website to replace the existing version.

5.12   The revised *Regional SAR Plan Monitoring and Reporting Form* was provided in **Appendix F to this report**.

Use of Digital Form for Status and Implementation Progress Report (WP/10)

5.13   ICAO Secretariat informed the Meeting that the current process for collecting and submitting annual *Regional SAR Plan Monitoring and Reporting Form* using Microsoft Excel sheets sent via email by the 28 February deadline posed a significant burden on the ICAO Secretariat for data consolidation. This method was also prone to human errors such as duplicate entries, inconsistent formatting, and data entry mistakes, which could compromise the accuracy of subsequent analyses.

5.14   To streamline data collection, improve accuracy, and reduce the ICAO Secretariat's workload, the use of a digital form on the Microsoft Forms platform was proposed to replace the traditional paper-based or Microsoft Excel sheets submissions.

5.15   In response to an inquiry, ICAO Secretariat clarified that, should any Administration be unable to access and submit the annual *Reporting SAR Plan Monitoring and Reporting Form* data via Microsoft Forms as the primary means of submission, they could submit the data using Microsoft Excel sheets in accordance with current practices.

5.16   The Meeting agreed to the following Draft Conclusion, to be considered by ATM/SG.

Draft Conclusion APSAR/WG/10-3: The Use of Digital Form to Collect Annual Regional SAR Plan Monitoring and Reporting Data

That, the digital form (Microsoft Forms) be used as the primary means to collect annual Regional SAR Plan Monitoring and Reporting data.

Agenda Item 6: Any Other Business

APANPIRG ATM and Airspace Safety Deficiencies in the SAR Field (WP/11)

6.1   The Meeting reviewed and updated SAR-related APANPIRG ATM and Airspace Safety Deficiencies.

6.2   30 Administrations had ATM and Airspace Safety Deficiencies in the SAR Field recorded in 2024 (APANPIRG/35). Deficiencies were recorded for Administrations that had not reported implementation of 90% or more of the 42 elements of the Asia/Pacific SAR Plan.

6.3   Deficiencies remain listed for the following Asia/Pacific Administrations:

Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Macao China, Cook Islands, Democratic People's Republic of 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, Tuvalu and Vanuatu.

6.4   The updated list of Deficiencies in the SAR Field was provided in **Appendix G to this report**.

Aeronautical SAR Contact List (WP/12)

6.5   The consolidated Air Traffic Management Points of Contact (POC) List, including SAR POCs, was circulated to all APSAR/WG/10 meeting participants for review and update of SAR POC details. All Administrations were reminded to inform the ICAO Asia/Pacific Regional Office if at any time there was a change to their SAR POC(s).

6.6   The list was not to be confused with any listings of SAR Points of Contact (SPOCs) which were used for 24-hour SAR emergency contact purposes associated with RCCs and the Cospas-Sarsat distress beacon system.

Agenda Item 7: APSAR/WG Task List

APSAR/WG Terms of Reference and Task List (WP/13)

7.1   The APSAR/WG Terms of Reference and Task List were presented for review by the Meeting.

7.2   The Task List as updated by the Meeting was provided in **Appendix H to this report**.

Agenda Item 8: Date and Venue of Next Meeting

8.1   APSAR/WG/11 would be tentatively held in May 2026 in Bangkok, Thailand.

8.2   The Meeting agreed that ICAO to organize a workshop in conjunction with the APSAR/WG/11, featuring the following presentations:

        a)   SWIM/TF Co-Chairs – overview of SWIM and its relationship with SAR services;

        b)   Cospas-Sarsat Secretariat – addressing ELT(DT) and SIT 185 Distress Messages;

        c)   EUROCONTROL – overview of LADR, OPS Control and Demo; and

        d)   aircraft manufacturers – ADT equipage and flight crew perspectives.

Closing of the Meeting

9.1   In closing the Meeting, the Chairperson thanked and congratulated the efforts made by the participants for their contributions to the Meeting.

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List of Participants

		STATE/NAME	TITLE/ORGANIZATION
1.		**AUSTRALIA (1)**	
	1.	Mr. Scott Constable	Principal Advisor Aviation Policy Australian Maritime Safety Authority **AUSTRALIA**
2.		**BANGLADESH (2)**	
	2.	Mr. Abul Kalam Md Saiduzzaman	Deputy Director (ATM) ATM Division Civil Aviation Authority of Bangladesh **BANGLADESH**
	3.	Mr. Reazul Islam Masoud	Assistant Director (ATM) Air Traffic Control Center Hazrat Shahjalal International Airport, Dhaka **BANGLADESH**
3.		**BRUNEI DARUSSALAM (2)**	
	4.	Mr. Mohamad Fauzi bin Mohamad Sidek	Deputy Director of Civil Aviation Department of Civil Aviation Brunei Darussalam **BRUNEI DARUSSALAM**
	5.	Mr. Hafizul Hamid	Head of Air Navigation Services Department of Civil Aviation Brunei Darussalam **BRUNEI DARUSSALAM**

		STATE/NAME	TITLE/ORGANIZATION
4.		**CAMBODIA (85)**	
	6.	H.E. Mr. Chhun Sivorn	Under Secretary of State State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	7.	H.E. Mr. Sao Wathana	Director General of Directorate General of Operations and Services State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	8.	H.E. Mr. Khim Bunna	Advisor and as Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	9.	H.E. Mr. Seng Ravuth	Advisor and as Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	10.	Mr. Khiev Sarath	Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	11.	Ms. Pay Danee	Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

	STATE/NAME	TITLE/ORGANIZATION
12.	Ms. Meas Sorphea	Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
13.	Mr. Em Yuthea	Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
14.	H.E Eng Ra	Director of Phnom Penh International Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
15.	H.E Bun Ratha	Director of Siem Reap Angkor International Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
16.	H.E Van Norak	Director of Preah Sihanouk International Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
17.	Mr. Mao Keopichchanmony	Director of Dara Sakor International Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
18.	Mr. Sieng Seloske	Director of ASAR Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

	STATE/NAME	TITLE/ORGANIZATION
19.	Mr. Sam Bunna	Deputy Director of Minister's Cabinet State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
20.	Mr. Lorn Thyrith	Director of Air Accident Investigation Unit State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
21.	Mr. Sok Piseth	Director of Aeronautical Services Management Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
22.	Mr. Moeung Sathya	Director of Strategic Planning Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
23.	Mr. Since Sithi	Director of Digital Transformation Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
24.	Mr. Long Haykampoul	Director of International Relations Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
25.	Mr. Long Virak	Deputy Director of ASAR Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

		STATE/NAME	TITLE/ORGANIZATION
	26.	Mr. Chin Phearum	Deputy Director of ASAR Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	27.	Mr. Oung Soksan	Deputy Director of ASAR Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	28.	Mr. Sin Sothea	Deputy Director of HR Management Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	29.	Mr. Nan Chantha	Deputy Director of Digital Innovation Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	30.	Mr. Mann Sokun	Deputy Director of ANS Standard &Safety Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	31.	Mr. Chhim Myseyla	Deputy Director of International Relations Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	32.	Mr. Klen Vuthy	Deputy Director of Aeronautical Services Mgt Dept. State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

	STATE/NAME	TITLE/ORGANIZATION
33.	H.E Mao Sopheap	Deputy Director of Siem Reap Angkor Int'l Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
34.	Mr. Kong Panha	Deputy Director of Siem Reap Angkor Int'l Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
35.	Mr. Hin Tithoudom	Bureau Chief of ASAR Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
36.	Mr. Rith Seiha	Bureau Chief of ASAR Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
37.	Mr. Taing Sokhom	Bureau Chief of ASAR Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
38.	Mr. Som Yansamet	Bureau Chief of ASAR Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
39.	Ms. Ry Soky	Bureau Chief of ASAR Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

		STATE/NAME	TITLE/ORGANIZATION
	40.	Mr. Khun Chantheara	Bureau Chief of ANS Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	41.	Mr. Bou Phon	Director of Domestic Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	42.	Mr. Chan Sros	Director of Domestic Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	43.	Mr. Ouk Mony	Deputy Director of Domestic Airport State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	44.	Mr. Sophon Rattanak	Technical Official of Operations and Services State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	45.	Mr. Chamroeun Phalpanha	Technical Official of Operations and Services State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	46.	Mr. Choun Chariya	Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

	STATE/NAME	TITLE/ORGANIZATION
47.	Mr. Moung Rithy	Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
48.	Mr. Long Chheng	Deputy Director General State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
49.	Mr. Chhit Savorn	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
50.	Mr. Phok Sakouen	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
51.	Mr. Sun Chheunnaroth	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
52.	Mr. Souk Sophea	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
53.	Mr. Chhin Pav Ming	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

		STATE/NAME	TITLE/ORGANIZATION
	54.	Mr. Tha Sovann	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	55.	Mr. Khim Sethirady	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	56.	Mr. Thong Nich	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	57.	Mr. Puthy Oudom	Deputy Director State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	58.	Mrs. Tith Phoumith	Director of ANS Department State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	59.	Mr. Sot Tola	Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	60.	Mr. Thoeun Kimheng	Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

	STATE/NAME	TITLE/ORGANIZATION
61.	Mr. Chhay Vannak	Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
62.	Mr. Soy Sokheng	Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
63.	Mr. Sim Heng	Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
64.	Mr. Oun Vanna	Deputy Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
65.	Mr. Vanny Sangradin	Deputy Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
66.	Mr. Teth Chanthary	Deputy Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
67.	Mrs.Vanny Florida	Deputy Bureau Chief State Secretariat of Civil Aviation (SSCA) **CAMBODIA**

		STATE/NAME	TITLE/ORGANIZATION
	68.	Mrs. Heng Chantey	Officer State Secretariat of Civil Aviation (SSCA) **CAMBODIA**
	69.	Mr. Ham Menghout	Information officer **CAMBODIA**
	70.	Mr. Keo Sovanny	Deputy Director National Committee of Disaster Management (NCDM) **CAMBODIA**
	71.	Mr. Kann Phearak	Department Training Officer National Committee of Disaster Management (NCDM) **CAMBODIA**
	72.	Mr. Seng Samnang	Officer National Committee of Disaster Management (NCDM) **CAMBODIA**
	73.	Mr. Sao Chandara	Officer National Committee of Disaster Management (NCDM) **CAMBODIA**
	74.	Mr. Lon Trong	Officer National Committee of Disaster Management (NCDM) **CAMBODIA**

	STATE/NAME	TITLE/ORGANIZATION
75.	H.E Lim Sam Ol	Under Secretary of State Ministry of Public Works and Transportations (MPWT) **CAMBODIA**
76.	Mr. Yoo Thach	Deputy Director Ministry of Public Works and Transportations (MPWT) **CAMBODIA**
77.	Mr. Leng Chisen	Officer Siem Reap Provincial Administration **CAMBODIA**
78.	Mr. Somkul Sochetra	Officer Siem Reap Provincial Administration **CAMBODIA**
79.	Mr. Sor Sothayuth	Deputy Director Cambodia Air Traffic Service (CATS) **CAMBODIA**
80.	Mr. Aun Sam Ath	Deputy Director Cambodia Air Traffic Service (CATS) **CAMBODIA**
81.	Mr. Ka Sokhem	Bureau Chief Cambodia Airport (CAMS) **CAMBODIA**

	STATE/NAME	TITLE/ORGANIZATION
82.	Mr. Tol Sinan	Assistant Manager Cambodia Airport (CAMS) **CAMBODIA**
83.	Mr. Ek Nara	Deputy Dirctor Siem Reap Angkor International Airport **CAMBODIA**
84.	Mr. Zhang Jim	Deputy Director Yunnan Air Investment Cambodia Airport Management (YACA) **CAMBODIA**
85.	Mr. Ziu Zhixiang	ARFF Manager Yunnan Air Investment Cambodia Airport Management (YACA) **CAMBODIA**
86.	Mr. Yang Nea Yaun	AOC Officer Yunnan Air Investment Cambodia Airport Management (YACA) **CAMBODIA**
87.	Mr. Lim Sreng Sethamony	Officer Air Asia **CAMBODIA**

		STATE/NAME	TITLE/ORGANIZATION
	88.	Mr. Phoeng Sovithyea	Deputy Director Air Cambodia **CAMBODIA**
	89.	Mr. Niwat Neonan	Officer Bangkok Airway **CAMBODIA**
	90.	Mr. Thanh	Officer Vietnam airlines **CAMBODIA**
5.		**CHINA (5)**	
	91.	Mr. Yong Huang	Director Civil Aviation Administration of China (CAAC) **CHINA**
	92.	Mr. Zhe Li	Director of Emergency Management Division Civil Aviation Administration of China (CAAC) **CHINA**
	93.	Mr. Yuan Gao	Senior Engineer of Operation Monitoring Division Civil Aviation Administration of China (CAAC) **CHINA**
	94.	Mr. Yinfei Zheng	Senior Engineer Civil Aviation Administration of China (CAAC) **CHINA**

		STATE/NAME	TITLE/ORGANIZATION
	95.	Mr. Xinbo Ban	Researcher of Research and Development Centre Civil Aviation Administration of China (CAAC) The Second Research Institute **CHINA**
6.		**FIJI (2)**	
	96.	Mr. Anthony Finau Gonerogo	Air Navigation Service Inspector - ATM/SAR Civil Aviation Authority of Fiji **FIJI**
	97.	Mr. Joseva Vatubuli Tinibua	Search and Rescue Officer Fiji Airports Limited **FIJI**
7.		**LAO PDR (5)**	
	98.	Mr. Sohnsacksit KHAMKEO	Director of Air Navigation Standards Division Department of Civil Aviation of Lao PDR **LAO PDR**
	99.	Mr. Khonekham SOUVONGSA	Deputy General Director of Airport of Lao PDR Department of Civil Aviation of Lao PDR **LAO PDR**
	100.	Mr. Amphone THANASIN	Chief of Rescue Coordination Center Lao Air Navigation Services **LAO PDR**

		STATE/NAME	TITLE/ORGANIZATION
	101.	Mr. Kham An SIRISONGKHAM	Supervisor of Area Control Center Lao Air Navigation Services **LAO PDR**
	102.	Mr. Vixay VORLACHIT	Officer of Air Navigation Standards Division Department of Civil Aviation of Lao PDR **LAO PDR**
8.		**MALAYSIA (5)**	
	103.	Mr. Mohammad Khairul Bin Abu Yamin	Principal Assistant Director Air Navigation Services Operations Division Civil Aviation Authority of Malaysia **MALAYSIA**
	104.	Mr. Kurupparan A/L S Puvanesvaran	Senior Assistant Director Air Navigation Services Operations Division Civil Aviation Authority of Malaysia **MALAYSIA**
	105.	Mr. Muhammad Faiz Bin Noor Izhar	CNS ATM Engineer Advance Air Traffic Systems (M) Sdn Bhd **MALAYSIA**
	106.	Ms. Fadilah Binti Yusof	Manager Solution Consultant TM Technology Services Sdn. Bhd. **MALAYSIA**

		STATE/NAME	TITLE/ORGANIZATION
	107.	Ms. Kartini Binti Rashid	Project Manager TM Technology Services Sdn. Bhd. **MALAYSIA**
9.		**MALDIVES (2)**	
	108.	Mr. Moosa Shahid Hussain	General Manager, ATS Maldives National Air Traffic Service **MALDIVES**
	109.	Mr. Ahmed Mohamed	Manager Search and Rescue (aeronautical) Maldives Airports Company Ltd **MALDIVES**
10.		**MONGOLIA (2)**	
	110.	Mr. Puntsag Ganbaatar	Head of Air Navigation Services Oversight Division Civil Aviation Authority of Mongolia **MONGOLIA**
	111.	Mr. Demchigjav Delgersaikhan	Inspector of ATC Civil Aviation Authority of Mongolia **MONGOLIA**
11.		**NEPAL (2)**	
	112.	Mr. Summat Prasad Chaudhary	Dy. Director Civil Aviation Authority of Nepal, TIACAO **NEPAL**

		STATE/NAME	TITLE/ORGANIZATION
	113.	Mr. Mausam Shrestha	Manager Civil Aviation Authority of Nepal (CAAN) **NEPAL**
12.		**NEW ZEALAND (1)**	
	114.	Mr. Neville Blakemore	Manager Safety Systems & Infrastructure Maritime New Zealand **NEW ZEALAND**
13.		**PAKISTAN (3)**	
	115.	Mr. Muhammad Iftikhar Ahmed	Senior Joint Director AANS Pakistan Civil Aviation Authority **PAKISTAN**
	116.	Mr. Altaf Hussain	Additional Director Search and Rescue Pakistan Airports Authority - Ops. Directorate **PAKISTAN**
	117.	Ms. Aisha Khan	Joint Director Search and Rescue Pakistan Airports Authority - Ops. Directorate **PAKISTAN**
14.		**PHILIPPINES (2)**	
	118.	Mr. Reonel F. Cordova	Senior ASSI Aerodrome and Air Navigation Safety Oversight Office Civil Aviation Authority of the Philippines **PHILIPPINES**

		STATE/NAME	TITLE/ORGANIZATION
	119.	Ms. Maria Jazel S. Collada	Air Traffic Management Officer IV, PARCC Air Traffic Service Civil Aviation Authority of the Philippines **PHILIPPINES**
15.		**REPUBLIC OF KOREA (4)**	
	120.	Ms. JuYoung Lim	Assistant Director Air Traffic Division, Korea Office of Civil Aviation (KOCA), Ministry of Land, Infrastructure and Transport (MOLIT) **REPUBLIC OF KOREA**
	121.	Mr. Sangwoo Han	Aeronautical SAR Assintance Center officer ATMO, Ministry of Land, Infrastructure and Transport (MOLIT) **REPUBLIC OF KOREA**
	122.	Mr. Lee Wooseop	Inspector Korea Coast Guard **REPUBLIC OF KOREA**
	123.	Mr. Yoon sang Ro	Inspector Korea Coast Guard **REPUBLIC OF KOREA**

		STATE/NAME	TITLE/ORGANIZATION
16.		**SINGAPORE (1)**	
	124.	Mr. Tai Kit	Head ATC Specialist (Search and Rescue/Contingency Planning) Air Traffic Services Division Civil Aviation Authority of Singapore **SINGAPORE**
17.		**SRI LANKA (2)**	
	125.	Mr. Cecil Kirieldeniya	Senior Manager ATC-SAR Airport and Aviation Services (Sri Lanka) (Private) Limited **SRI LANKA**
	126.	Mr. M R Ranjikumara	Manager (Air Traffic Control) Airport and Aviation Services (Sri Lanka) (Private) Limited **SRI LANKA**
18.		**THAILAND (6)**	
	127.	Ms. Chalinthra Thanakankorn	Head of Aeronautical Search and Rescue Standards Division The Civil Aviation Authority of Thailand **THAILAND**
	128.	Ms. Chaninan Ninpech	Air Navigation Services Standards Officer The Civil Aviation Authority of Thailand **THAILAND**

		STATE/NAME	TITLE/ORGANIZATION
	129.	Mr. Sopon Piyapanee	Assistant Permanent Secretary of the Ministry of Transport and Acting Director of Office of the Search and Rescue Commission Office of the Search and Rescue Commission **THAILAND**
	130.	Ms. Natkritta Srithaweepan	Chief of SAR Coordination and Operation Division Office of the Search and Rescue Commission Ministry of Transport **THAILAND**
	131.	Ms. Napawan Toumpuemsub	Transport Technical Officer, Practitioner Level Office of the Search and Rescue Commission Ministry of Transport **THAILAND**
	132.	Ms. Kanjana Jitkra	Transport Technical Officer, Practitioner Level Office of the Search and Rescue Commission Ministry of Transport **THAILAND**
19.		**UNITED STATES OF AMERICA (1)**	
	133.	Mr. David Edwards	U.S. Coast Guard – Search and Rescue United States Coast Guard **UNITED STATES OF AMERICA**

		STATE/NAME	TITLE/ORGANIZATION
20.		**VIET NAM (6)**	
	134.	Mr. Vu Ngoc Tuan	Official of the Air Navigation Department Civil Aviation Authority of Viet Nam (CAAV) **VIET NAM**
	135.	Mr. Do Quang Huy	Official Air Navigation Department Civil Aviation Authority of Viet Nam (CAAV) **VIET NAM**
	136.	Mr. Dung Nguyen Van	Director of the Aviation Search and Rescue Coordination Center – Team Leader Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	137.	Mr. Nguyen Nang Khanh	Head of the Northern Search and Rescue Coordination Center, Aviation Search and Rescue Coordination Center Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	138.	Mr. Pham Van Hoi	Head of the Technical Assurance Center, Air Traffic Flow Management Center Viet Nam Air Traffic Management Corporation (VATM) **VIET NAM**
	139.	Mr. Nguyen Minh Quang	Professional Department Officer Aviation Search and Rescue Coordination Center Vietnam air traffic management Corporation (VATM) **VIET NAM**

		STATE/NAME	TITLE/ORGANIZATION
21.		**ICAO (4)**	
	140.	Mr. Mior Adli Bin Mior Sallehhuddin	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**
	141.	Mr. Hiroyuki Takata	Regional Officer, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**
	142.	Mr. Weng Kit Ying	Air Traffic Management Officer ICAO Asia and Pacific Regional Office **THAILAND**
	143.	Dr. Trish Prakayphet Chalayonnawin	Programme Analysis Associate, Air Traffic Management ICAO Asia and Pacific Regional Office **THAILAND**

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LIST OF WORKING PAPERS AND INFORMATION PAPERS

WORKING PAPERS

NUMBER	AGENDA	TITLE	PRESENTED BY
WP/01	1	Provisional Agenda	Secretariat
WP/02	2	Relevant Meetings Outcomes	Secretariat
WP/03	2	Outcomes of the ICAO/IMO Joint Working Group on SAR Meeting	USA
WP/04	2	Outcomes of the APAC Common SWIM Aeronautical Information Services Ad Hoc Group	APAC Common SWIM Aeronautical Information Services Ad Hoc Group
WP/05	4	Regional Air Navigation Plan Update	Secretariat
WP/06	4	Regional SAR Status	Secretariat
WP/07	4	Asia/Pacific Regional Implementation for Autonomous Distress Tracking	Secretariat
WP/08	5	Update of the Asia/Pacific Search and Rescue (SAR) Plan	Australia
WP/09	5	Regional Search and Rescue Unit (SRU) Capability	Australia
WP/10	5	Use of Digital Form for Status and Implementation Progress Report	Secretariat
WP/11	6	APANPIRG ATM and Airspace Safety Deficiencies in the SAR Field	Secretariat
WP/12	6	Aeronautical SAR Contact List	Secretariat
WP/13	7	APSAR/WG Terms of Reference and Task List	Secretariat
WP/14	3	Status of the Cospas-Sarsat Programme	Cospas-Sarsat Secretariat
WP/15	4	Proliferation of Technology and Services for Emergency Satellite Communications and Automatic Crash Detection (Non-ICAO Applications)	USA
WP/16	4	Enhanced 406 MHz Direction Finding Training for Search and Rescue Units	Australia

INFORMATION PAPERS

NUMBER	AGENDA	TITLE	PRESENTED BY
IP/01	-	Provisional List of Working Papers and Information Papers	Secretariat
IP/02	2	ICAO EUR/APAC SAR Workshop 2024	Chairperson of APSAR/WG
IP/03	4	Reciprocal SAR Services Benchmarking Arrangement between Australia and New Zealand	Australia and New Zealand
IP/04	4	Civil Aviation Authority of the Philippines Activities Conducted Related to Search and Rescue	Philippines
IP/05	4	International Seminar on Implementing the Global Aeronautical Distress and Safety System (GADSS) in Indonesia	Indonesia
IP/06	4	Search and Rescue Operation in the Crash of Smart Aviation PK-SNE in North Kalimantan	Indonesia
IP/07	4	State Secretariat of Civil Aviation (SSCA) SAR Services Provision	Cambodia
IP/08	4	Cambodia's Civil-Military Cooperation in SAR Services	Cambodia

PRESENTATIONS

NUMBER	AGENDA	TITLE	PRESENTED BY
SP/01	3	Status of the Cospas-Sarsat Programme (WP/14)	Cospas-Sarsat Secretariat
SP/02	3	Autonomous Distress Tracking (ADT) Implementation Status	USA

FLIMSIES

NUMBER	AGENDA	TITLE	PRESENTED BY
Flimsy/01	4	Search and Rescue System of Pakistan	Pakistan
Flimsy/02	2	Outcomes of the SWIM/TF/10 Related to the APAC Common Swim Aeronautical Information Services	Secretariat
Flimsy/03	4	Cambodia Aeronautical Search and Rescue Update	Cambodia

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SAR AGREEMENTS LIST

Updated: 14 December 2022

DATE	STATES	REMARKS
14 April 1972	ASEAN States – Indonesia, Malaysia, Philippines, Singapore and Thailand	Multilateral agreement
March 1997	ASEAN – Viet Nam	Viet Nam accession to 1972 ASEAN Agreement (as above)
August/Sept. 2004	Australia/Fiji	
November 1990	Australia / Indonesia	Updated 5 April 2004
April 2006	Australia / Maldives	Letter of Arrangement
2 April 2009	Australia / New Zealand	Notified 2013
February 2001	Australia / Papua New Guinea	
29 July 1999	Australia / New Caledonia	Maritime Arrangement for SAR Cooperation
8 October 1998	Australia / Solomon Islands	SAR Arrangement
29 April 2014	Australia/Sri Lanka	SAR Arrangement
16 December 1998	Brunei Darussalam / Malaysia	
22 December 2009	Bhutan / India	SAR Arrangement
February 1999	Cambodia / Viet Nam	Updated in 2009
~~04 May 2016~~	~~China/Hong Kong (Macao) China~~	~~SAR and Salvage Agreement~~
11 September 2019	China/Kazakhstan	
1 June 2009	Chile / New Zealand	SAR services coordination
16 May 2007	China / Republic of Korea	
notified 2003	China / United States	
Signed 25 Oct 2013	China/Mongolia	
20 July 2017	Cook Islands / New Zealand	Notified 3 August 2017
20 May 2021	Fiji / New Caledonia	LoA with Fiji RCC has been signed (Annex D of General LoA between France (New Caledonia) DAC-NC and Fiji Airports) in March 1st 2019, revised on May 20th 2021, version 2.5
~~09 November 2021~~ 12 December 2022	Fiji / New Zealand	Updated 12 December 2022 to align the New Zealand SRR boundary with the Auckland Oceanic FIR boundary.
June 1982	Indonesia / Singapore	
1990	Indonesia / Papua New Guinea	JBC MOU signed
25 August 1986	Indonesia / Philippines	
24 January 2018	Indonesia/Sri Lanka	MOU
1988, July 2006	Indonesia / United States	SAR Services Agreement
17 March 2010	Japan/Philippines	SAR Agreement
30 April 2008	Japan / Republic of Korea	
1986	Japan / United States	
1998	Lao PDR / Vietnam	Updated in 2009
05 March 2013	Lao PDR/Myanmar	
13 July 2019	Lao PDR/Thailand	
29 August 1985	Malaysia / Indonesia	
9 December 1985	Malaysia / Philippines	

DATE	STATES	REMARKS
11 August 1984	Malaysia / Singapore	
9 September 1985	Malaysia / Thailand	
25 June 2014	Maldives/Sri Lanka	
notified 2003	Marshall Islands / United States	
notified 2003	Micronesia / United States	
11 April 2008	Mongolia/Russian Federation	
22 May 2002	New Caledonia / New Zealand	
notified July 2007	New Zealand/Niue	Government aid agreement
20 August 2003	New Zealand / Samoa	Notified 2005
Notified July 2007	New Zealand/Tokelau	Government aid agreement
17 June 2005	New Zealand / Tonga	
16 April 2003	New Zealand / United States	
26 November 2002	Palau / United States	
July 1996	Philippines / Singapore	
20 September 1996	Philippines / Viet Nam	Updated 2015
30 July 2021	Philippines / United States	
September 1985	Singapore / Thailand	Updated July 1996
July 1996	Singapore / Viet Nam	

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SAR LOA Matrix Date Last Amended: 14 December 2022   (✓ = SAR Agreement notified; blank cell = SAR Agreement not notified)

Administration	Afghanistan	Australia	Bangladesh	Bhutan	Brunei	Cambodia	China	Hong Kong China	Macao China	Cook Islands	DPR Korea	Fiji	French Polynesia	India	Indonesia	Japan	Kiribati	Lao PDR	Malaysia	Maldives	Marshall Is	Micronesia	Mongolia	Myanmar	Nauru	Nepal	New Caledonia	New Zealand	Niue (NZ)	Pakistan	Palau	PNG	Philippines	ROK	Samoa	Singapore	Solomon Is	Sri Lanka	Thailand	Timor-Leste	Tonga	Tuvalu	USA	Vanuatu	Viet Nam
Afghanistan 0%																																													
Australia 88%												✓			✓					✓								✓				✓					✓	✓							
Bangladesh 0%																																													
Bhutan 50%														✓																															
Brunei 100%																			✓																										
Cambodia 33%																																													✓
China[1] 38%								✓	✓														✓											✓									✓		
Hong Kong, Ch 50%							✓																																						
Macao, China 100%							✓																																						
Cook Islands 25%																												✓																	
DPR Korea 0%																																													
Fiji 30%		✓																									✓	✓																	
Fr. Polynesia 0%																																													
India 11%				✓																																									
Indonesia 91%		✓																	✓														✓	✓		✓			✓	✓			✓		✓
Japan 60%																																	✓	✓									✓		
Kiribati 0%																																													
Lao PDR 60%																								✓															✓						✓
Malaysia 63%					✓										✓																		✓			✓			✓						
Maldives 67%		✓																																				✓							
Marshall Is. 100%																																											✓		
Micronesia 100%																																											✓		
Mongolia 100%							✓																																						
Myanmar 17%																		✓																											
Nauru 0%																																													
Nepal 0%																																													
New Caledonia 67%												✓																✓																	
New Zealand[2] 89%		✓								✓																	✓		✓						✓						✓	✓			
Niue 25%																												✓																	
Pakistan 0%																																													
Palau 100%																																											✓		
PNG 50%		✓													✓																														
Philippines 78%															✓	✓			✓																	✓							✓	✓	✓
ROK 67%							✓												✓																										
Samoa 17%																												✓																	
Singapore 100%															✓				✓														✓												✓
Solomon Is. 33%		✓																																											
Sri Lanka 75%		✓													✓					✓																									
Thailand 75%															✓			✓	✓														✓			✓									✓
Timor-Leste 50%															✓																														
Tonga 25%																												✓																	
Tuvalu 0%																																													
USA[3] 57%							✓								✓	✓					✓	✓						✓			✓		✓												
Vanuatu 0%																																													
Viet Nam 75%						✓									✓			✓															✓			✓			✓						

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[1] Also has an agreement with Kazakhstan

[2] Also has an agreement with the Tokelau Islands and a SAR agreement with SAM State Chile

[3] Includes American Samoa, Guam, Johnston, Kingman, Midway, Mariana, Palmyra, Wake

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA/PACIFIC SEARCH AND RESCUE (SAR) PLAN

Version 5.0, May 2025

This Plan was developed by the Asia/Pacific Search and Rescue Task Force (APSAR/TF) and updated by Asia/Pacific Search and Rescue Work Group (APSAR/WG)

Approved by ATM/SG/13 and published by the
ICAO Asia and Pacific Office, Bangkok

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SCOPE OF THE PLAN

<u>Plan Structure</u>

1.1   The Asia/Pacific Search and Rescue (SAR) Plan (hereinafter referred to as the 'Plan') references different levels. At the higher level are global requirements established by the ICAO Annex 12 to the ICAO Convention on International Civil Aviation (ICAO Doc 7300). Global guidance material is provided by the International Maritime Organization (IMO) and ICAO's joint publication, the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual. Beneath this is regional planning guidance primarily provided by this Plan and other regional guidance material, in order to enable States to define the goals and means of meeting objectives for State planning towards improving State SAR System capability, such as the performance objectives of *Asia/Pacific Regional Air Navigation Plan* (ANP) and *Asia/Pacific Seamless Air Navigation Services (ANS) Plan*.

1.2   The global air navigation perspective is guided mainly by the *Global Air Navigation Plan* (GANP, ICAO Doc 9750), the *Global ATM Operational Concept* (ICAO Doc 9854) and the *Global Aviation Safety Plan* (GASP).

1.3   The scope of the Plan is the identification of:

a)   the current status of SAR preparedness of Asia/Pacific States and State SAR arrangements; and

b)   recommendations for SAR planning and preparedness enhancements, in terms of compliance with Annex 12 of the ICAO Convention, IAMSAR Manual guidance, and accepted best international practice.

1.4   References in the Plan to 'States' are intended to include Special Administrative Regions and territories.

<u>Plan Review</u>

1.5   As an iterative process, the Plan requires regular updating to keep current with changes in ICAO Annexes and guidance material, outcomes from the ICAO/IMO Joint Working Group on the Harmonisation of Aeronautical and Maritime Search and Rescue (JWG-SAR), the IAMSAR Manual, regional aviation activity, developments in the Air Traffic Management (ATM) system, new technology, political considerations, human performance and lessons learned from actual SAR responses. Plan updates should also focus on the SAR system being an important component of an integrated regional and global air navigation system. It is intended that Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG), and its contributory bodies conduct a complete review every three years from 2019 (or a shorter period determined by APANPIRG) of the Plan to align with the review cycle of the GANP and the IAMSAR Manual. The review should be guided by a consultative process involving States and relevant International Organizations and technical bodies.

OBJECTIVES

Introduction

2.1 Asia/Pacific States that are signatories to the Chicago Convention accept the responsibility for the provision of SAR services per the requirements of ICAO Annex 12 – *Search and Rescue*. Increases in both aviation and maritime traffic throughout the Asia/Pacific Region places additional importance on the ability for States to be adequately prepared for potentially increased demand for aeronautical and maritime SAR services.

2.2 The world's citizens, who frequently fly over or sail through the Asia/Pacific, expect a timely and adequate SAR response to be provided should it be required. States in the region need to be adequately prepared for the provision of efficient and effective SAR services. To assist in achieving this, it is essential for States to cooperate, collaborate and in some cases assist with resources to neighbouring and sub-regional RCCs.

2.3 ICAO Regional Office maintains a record, as reported to ICAO by the States themselves, of the status of individual State SAR compliance against ICAO Annex 12 requirements. There are significant variations in the level of State SAR capability across the region with significant gaps requiring urgent action, especially in oceanic areas. The ICAO Universal Safety Oversight Audit Programme – Continuous Monitoring Approach (USOAP-CMA) also provides a useful tool to States to self-assess their individual SAR system status. Since the establishment of this Plan, there had already been commendable improvements to the SAR systems of some States which have contributed to building better regional SAR capability. However, there was still considerable work required to address capability gaps.

2.4 There is a high risk of negative consequences to a State which does not provide an adequate SAR response to an aircraft or vessel in distress. The primary concern is the higher probability for loss of lives which may have been saved. The ability for news to spread rapidly in today's technologically connected world also provides the opportunity for a poor or ineffective SAR response to quickly reach a global audience resulting in damage to that State's reputation internationally and potential economic loss to sensitive State industries such as tourism and transport. However, the benefits of an effective and reliable SAR service to States offers many advantages. Besides reduction of loss of life and human suffering, other advantages include the following aspects:

a) safer and more secure environment for aviation and maritime related industries, commerce, recreation and travel. Increased safety may promote use and enjoyment of aviation and maritime environments, tourism and economic development. This is especially true when the SAR system utilised programmes aimed at preventing or reducing the effects of mishaps, sometimes referred to as 'Preventative SAR';

b) availability of SAR resources often provides the initial response and relief capabilities critical to saving lives in the early stages of natural and man-made disasters. SAR services offer an integral part of local, national and regional emergency management systems;

c) well performed SAR operations can provide positive publicity about situations which may otherwise be viewed negatively. This can lead to improved public confidence in that State's reputation and commitment to providing a safe environment, leading to increased confidence to conduct activities beneficial to that State's economy; and

    d)   as SAR is a relatively non-controversial and humanitarian mission, it provides an excellent opportunity to enhance cooperation and communication in general between States and organisations, not only for SAR. It can also foster better working relationships between States and organisations at the local, national and international levels, including civil/military cooperation.

2.5   In 2014 Malaysia Airlines flight MH370, a Boeing 777 with 239 persons on board, disappeared when flying from Kuala Lumpur, Malaysia to Beijing, China, and AirAsia QZ8501 was lost on a flight from Surabaya, Indonesia to Singapore. The MH370 event resulted in probably the largest and most expensive search response for a missing aircraft in human history. Together with Air France flight AF447, which crashed into the Atlantic Ocean in 2009, these tragedies highlighted vulnerabilities in the air navigation system including the SAR system, which have hampered timely identification and localization of aircraft in distress, hindering effective response efforts. ICAO is addressing these vulnerabilities through implementation of functions of the Global Aeronautical Distress and Safety System (GADSS) concept of operations; however, this new system is also dependent on improvements in global SAR capability, especially for remote and oceanic SAR response.

2.6   The Plan is designed to address both civil and military SAR authorities and has been developed in consultation with Asia/Pacific States, SAR administrations and relevant International Organizations. States should consult with stakeholders nationally, regionally and internationally as appropriate and determine actions in order to commit to achieving the objectives of this Plan in order to meet at least the minimum SAR service requirements in accordance with ICAO Annex 12. It is noted that where a State is unable to meet minimum SAR Standards and Recommended Practices (SARPs) of ICAO Annex 12, Article 38 to the ICAO Convention requires notification to ICAO of the differences between its own practice and that established by the international standards.

2.7   It is a common practice for the military to conduct or have a major role in SAR operations to fulfil or assist in fulfilling the State's obligation to provide SAR services. From the perspective of providing SAR services, civil-military coordination takes on many forms. This includes coordination during an actual SAR response, national coordination with other agencies to determine the military role, part of an international agreement or set of procedures with a neighbouring State to assist in SAR response, or other types of coordination. The *Manual on Civil-Military Cooperation in Air Traffic Management* (ICAO Doc 10088) is focused on airspace management and includes SAR matters relevant to civil-military coordination in airspace management.

2.8   The IAMSAR Manual Volume II has guidance on multiple aircraft operations and establishing areas of SAR action to assist with the safe coordination and management of aircraft operations during SAR operations. SAR authorities should have procedures in place to rapidly notify airspace users of SAR operations and the establishment of any temporary airspace operation such as danger areas or restricted areas through appropriate State authorities. The combination of guidance in the IAMSAR Manual and ICAO Doc 10088 should enable a State to have an appropriate plan in place for civil-military coordination and cooperation in readiness for efficient and effective SAR response.

2.9   States should aim to meet their obligations progressively in a strategically structured and planned manner with improvement goals set for short-, medium- and long-term implementation. It may be more productive to make gains in small steps commencing with measures that are more easily achievable in the short term and have a minimal cost, progressing to measures which will take longer to implement over the medium to long term. Short term measures that may be implemented relatively easily include the establishment of a national SAR Committee and ensuring SAR agreements are in place with neighbouring States allowing for seamless cross-border transit of search assets engaged in SAR activity. A SAR agreement can be in the form of 'Letter of Agreement' (LOA) or a Memorandum of Understanding (MOU) or other acceptable term indicating a lower form of arrangement for operational matters between SAR service providers [such as Rescue Coordination Centres (RCCs) and/or Rescue Sub-Centres (RSCs)] or a more formal agreement for arrangements between governments concerned.

2.10   All States are encouraged to use the guidance provided within this Plan as a way forward, thus ensuring a timely, well-coordinated response to any SAR incident within their area of responsibility, or during cooperative responses involving more than one Search and Rescue Region (SRR) including overlapping aeronautical and maritime SRRs which may be the responsibility of different RCCs.

Plan Objective

2.11   The objective of this Plan is to provide a framework to assist Asia/Pacific States to meet their SAR needs and obligations accepted under the Convention on International Civil Aviation and for the harmonised and interoperable delivery of both aeronautical and maritime SAR services within the region, and across other ICAO regional boundaries, where practicable.

2.12   The Plan is to be consistent with the SARPs of ICAO Annex 12, and aligned where appropriate with the SAR technical and operational standards and guidance of the IMO.

2.13   The Plan recognizes that ICAO serves as the forum for the implementation of practical and achievable measures to improve SAR services for international civil aviation. The Plan also recognizes that the IMO provides a similar forum for SAR services to maritime shipping.

2.14   Both ICAO and IMO share the same goal of ensuring that SAR services are available globally wherever people sail or fly. The SAR services that ICAO and IMO promote are complementary and offer tangible opportunities to derive mutually beneficial efficiencies for both the aviation and maritime transportation SAR systems globally, regionally and nationally. The objective of this Plan includes encouraging States to take advantage of such efficiencies. States should, where practicable, align their SAR systems with the guidance provided by the IAMSAR Manual, which also provides the benefit for standardised SAR coordination between RCCs and across SRR lines of delineation.

2.15   State SAR plans describe how SAR services will be provided, organized and supported in order for States to meet their obligations under the relevant Conventions. Search and Rescue Coordinators (SC) and SAR managers oversee and implement these plans. National SAR plans should be signed by all Government agencies which can provide or support SAR services. These agencies should all be represented on the State's Search and Rescue Coordinating Committee (SCC), which oversees these plans.

> *Note: the SC should not be confused with the operational nature of the SAR Mission Coordinator (SMC). The primary purpose of the national SC is to enable a whole-of-government approach to make efficient and effective use of a State's capabilities for SAR.*

Plan Development

2.16   The Plan was developed as part of a suite of Asia/Pacific air navigation plans, including the *Asia/Pacific Seamless ANS Plan*, the *Asia/Pacific Plan for Collaborative Aeronautical Information Management* (AIM), the *Asia/Pacific Regional Framework for Collaborative Air Traffic Flow Management* (ATFM), and the *Regional ATM Contingency Plan*, so the Plan should not be considered in isolation.

2.17   The Plan is expected to provide guidelines and recommendations for Asia/Pacific States to consider for the enhancement and improvement of national, sub-regional and regional SAR capability including:

a)   compliance with ICAO Annex 12 SARPs;

b)   identification and addressing of deficiencies in SAR capability;

c)   continuous and coherent development of SAR capability;

d)   harmonisation of aeronautical and maritime SAR services;

e)   civil/military cooperation and coordination (including SAR response, information sharing and use of airspace);

f)   remote oceanic SAR response capability [including provision for Mass Rescue Operations (MRO)];

g)   establishment and review of arrangements between neighbouring States to expeditiously facilitate SAR coordination, operations and cooperation across regional boundaries including sharing SAR resources and contingency procedures;

h)   facilitation of the implementation of SAR systems and services including the establishment of JRCCs where suitable and practicable;

i)   supporting the sharing of SAR information, data and expertise;

j)   integration with ATM systems and future ATS developments, where appropriate;

k)   monitoring of outcomes from APANPIRG Sub-Groups, other ICAO Region SAR groups, ICAO/IMO JWG-SAR and related forums for issues that may affect the Plan;

l)   facilitation of a continuous reporting mechanism of State SAR capability, ICAO Annex 12 compliance and SAR performance data to the ICAO Asia/Pacific Regional Office through the APANPIRG Air Traffic Management Sub-Group (ATM/SG);

m)   implementation of a SAR System Improvement and Assessment measures, including Safety Management System, Quality Assurance programme and risk assessment, and programs to reduce the number of SAR incidents;

n)   coordinating the introduction of new technology affecting the regional SAR system;

o)   sharing future research and development concepts;

p)   seeking efficiencies, through the coordination and facilitation of concurrent regional SAR meetings, seminars, workshops and exercises, including joint ICAO and IMO, and sub-regional forums where practicable; and

q)   conducting efficient SAR Exercises (SAREXs) that identify improvements and latent problems.

2.18   The Plan elements should be periodically reviewed by APANPIRG to ensure that they remain relevant to the SAR system, particularly for new technology developments and alignment with other relevant global and regional SAR plans and the Global Air Navigation Plan.

EXECUTIVE SUMMARY

3.1   Aviation is a significant driver of economic growth and contributes strongly to the economic wellbeing of the diverse cultures and people in the Asia/Pacific Region. According to ICAO data, the global passenger traffic continued to increase in 2023 with around 4.2 billion passengers transported worldwide, up from 3.2 billion passengers in 2022. Although still slightly below pre-pandemic (2019) levels with 4.5 billion passengers having been transported worldwide, passenger traffic in 2023 increased 30 per cent from 2022. The number of flight departures for scheduled commercial operations continued to increase by approximately 13 per cent with over 35 million departures in 2023, compared to around 31 million in 2022.

3.2   For the maritime industry, the United Nations Conference on Trade and Development (UNCTAD) Review of Maritime Transport 2024 reported that a record of almost 250,000 port calls by container ships in the second half of 2023 were driven by growing trade and longer routes with Asia handling 63% of global container trade. In 2019, the region accounted for 41% of goods unloaded, and had strengthened its position as a maritime hub that brings together more than 50% of global maritime trade volumes. Before the COVID-19 pandemic, growth in the cruise ship industry together with the many other forms of maritime transport such as fishing vessels and passenger ferries created added potential demand for regional SAR services. Whilst IMO assists the Parties to the Maritime SAR Convention, particularly their implementation related to the provision of maritime SAR services, the demand for aeronautical SAR services which frequently support responses to maritime SAR incidents is also likely to rise.

3.3   Asia/Pacific States that are signatories to the Chicago Convention accept the responsibility for the provision of SAR services per the requirements of ICAO Annex 12. Increases in both aviation and maritime traffic throughout the Asia/Pacific Region places additional importance on the ability for States to be adequately prepared for potentially increased demand for aeronautical and maritime SAR services.

3.4   Considering that many of the Asia/Pacific States have the challenging responsibility for providing a SAR service over vast and remote areas, including three of the world's five oceans, the importance for States with oceanic SAR responsibility to cooperate, collaborate and share resources with their neighbouring and regional/sub-regional RCCs is essential.

3.5   High-level support might be necessary from regional bodies that can effectively support the Plan's implementation, such as the:

a) Association of Southeast Asian Nations (ASEAN) and ASEAN Regional Forum (ARF);

b) Asia Pacific Economic Cooperation (APEC);

c) South Asian Association for Regional Cooperation (SAARC);

d) Pacific Community (SPC); and

e) Indian Ocean Rim Association (IORA).

SAR System Funding

3.6   The level of funding provided for effective SAR systems is a matter of concern for all senior decision-makers. An effective SAR system helps prevent lives being lost that may have been saved which provides a persuasive argument for proper funding. The resources should be sufficient to develop and/or maintain the required SAR service per their obligations as signatories to the relevant aeronautical and maritime SAR conventions. This may require the development of business cases to governments outlining where additional funding is required.

3.7   Such business cases should include consideration of amendments to existing State SAR arrangements which may provide more efficient delivery of the SAR service by better utilisation of existing resources [for example by establishing Joint RCCs (JRCCs)], or additional funding sources where required (for example charging a levy to aircraft operators for providing the SAR service or seeking company sponsorship for SRUs). The economic value of a life saved when compared against the economic value of a life lost can also be a significant persuasive factor in any business case.

<u>Joint Rescue Coordination Centres (JRCCs)</u>

3.8   Where practicable, States are encouraged to examine the potential benefits that may be derived by the establishment of JRCCs to incorporate the aeronautical and maritime SAR activities and/or facilities of Aeronautical RCCs (ARCCs)/Aeronautical RSCs (ARSCs) and Maritime RCCs (MRCC)/Maritime RSCs (MRSCs). JRCCs have the potential to not only provide a more effective SAR service to both the aeronautical and maritime industries, but also offer potential financial efficiencies by releasing funds for improvements in other SAR areas.

> *Note 1: where JRCCs are not practicable, facilities and procedures should be developed which provide and/or enhance effective SAR coordination and collaboration between the ARCCs and MRCCs in support of each other, to provide an efficient and integrated State SAR system for both aeronautical and maritime SAR incident response.*
>
> *Note 2: a JRCC may be established either physically or by virtual means using the integration of communications, information and computer technology between an ARCC and an MRCC to achieve full search and rescue coordination functionality.*

3.9   Where practicable, the JRCC evaluation may consider consolidation of two or more different State RCCs into single sub-regional JRCCs.

> *Note: a single sub-regional JRCC may be established in partnership with a group of States and serve as a 24-hour nodal JRCC supported by Joint RSCs (JRSCs) of the other partner States which may not necessarily need to be staffed 24 hours but could be activated when required.*

ABBREVIATIONS AND ACRONYMS

AAM	Advanced Air Mobility
ADS-B	Automatic Dependent Surveillance-Broadcast
ADT	Autonomous Distress Tracking
AIS	Automatic Identification System
AIP	Aeronautical Information Publication
ANP	(Regional) Air Navigation Plan
ANSP	Air Navigation Service Provider
APANPIRG	Asia/Pacific Air Navigation Planning and Implementation Regional Group
APEC	Asia Pacific Economic Cooperation
APSAR/TF	Asia/Pacific SAR Task Force
APSAR/WG	Asia/Pacific SAR Workgroup
ARCC	Aeronautical Rescue Coordination Centre
ARF	ASEAN Regional Forum
ARSC	Aeronautical Rescue Sub-Centre
A/SMC	Assistant SMC
ASEAN	Association of Southeast Asian Nations
ASPOCS	Administrative Single Point of Contact for SAR
ATC	Air Traffic Control
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATS	Air Traffic Service
CONOPS	Concept of Operations
COSPAS-SARSAT	Cosmicheskaya Sistema Poiska Avariynyh Sudov-Search and Rescue Satellite-Aided Tracking
EI	Effective Implementation
ELT	Emergency Locator Transmitter
ELT(DT)	Emergency Locator Transmitter (Distress Tracking)
EPIRB	Emergency Position Indicating Radio Beacon
FIR	Flight Information Region
GADSS	Global Aeronautical Distress and Safety System
GANP	Global Air Navigation Plan
GASP	Global Aviation Safety Plan
GLONASS	Global Navigation Satellite System
GPS	Global Positioning System
IAMSAR	International Aeronautical and Maritime SAR (Manual)
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
IORA	Indian Ocean Rim Association
JRCC	Joint (aeronautical and maritime) Rescue Coordination Centre
JRSC	Joint Rescue Sub-Centre
JWG-SAR	ICAO/IMO Joint Working Group on the Harmonisation of Aeronautical and Maritime Search and Rescue
LADR	Location of an Aircraft in Distress Repository
LOA	Letter of Agreement
LRIT	Long Range Identification and Tracking of Ships
MCC	Mission Control Centres
MEOSAR	Medium-altitude Earth Orbit Search and Rescue
MOU	Memorandum of Understanding
MRCC	Maritime Rescue Coordination Centre
MRO	Mass Rescue Operations
MRSC	Maritime Rescue Sub-Centre
PFL	Post Flight Localization

PLB	Personal Locator Beacon
PQs	Protocol Questions
PSCS	Preferred SAR Capability Specifications
RCC	Rescue Coordination Centre
RPAS	Remotely Piloted Aircraft Systems
SAR	Search and Rescue
SARPs	Standards and Recommended Practices
SAARC	South Asian Association for Regional Cooperation
SAREX	SAR Exercises
SC	Search and Rescue Coordinator
SCC	Search and Rescue Coordinating Committee
SMC	Search and Rescue Mission Coordinator
SMS	Safety Management System
SOLAS	International Convention for the Safety of Life at Sea
SPC	Pacific Community
SPOC	SAR Point of Contact
SRR	Search and Rescue Region
SRU	Search and Rescue Unit
SWIM	System Wide Information Management
UAS	Unmanned Aircraft System
UNCLOS	United Nations Convention on the Law of the Sea
USOAP-CMA	Universal Safety Oversight Audit Programme – Continuous Monitoring Approach

BACKGROUND INFORMATION

<u>Improvement Drivers</u>

5.1   The ICAO USOAP-CMA focuses on a State's capability in providing safety oversight by assessing whether the State has effectively and consistently implemented the critical elements of a safety oversight system and determining the State's level of implementation of ICAO's safety-related SARPs, including ICAO Annex 12, and associated procedures and guidance material.

5.2   ICAO Asia/Pacific Regional Office maintains the APANPIRG Air Navigation Deficiencies Lists, including the ATM and Airspace Safety Deficiencies List where SAR-related deficiencies are recorded.   This list is based on the uniform methodology for identification, assessment and reporting of such deficiencies as described in Part V of the APANPIRG Procedural Handbook.   By identifying and addressing specific deficiencies, APANPIRG and its Sub-groups facilitate the development and implementation of action plans by States to resolve identified deficiencies, where necessary.

5.3   The APANPIRG Air Navigation Deficiencies information is accessible through the ICAO Secure Portal.

<u>Asia/Pacific SAR System Monitoring</u>

5.4   Significant ICAO Annex 12 compliance weaknesses had been identified within the Asia/Pacific Region based upon information provided by States to the ICAO Asia/Pacific Regional Office.   This regional status of the SAR capability and SAR agreements as reported by States is recorded in tables made available to APANPIRG.

<u>ICAO Global Aeronautical Distress and Safety System (GADSS)</u>

5.5   In response to the tragedies of Malaysia Airlines flight MH370 in 2014 and Air France flight AF447 in 2009, the GADSS has been developed with the primary objective of addressing vulnerabilities in the air navigation system which had hampered the timely identification and location of aircraft in distress, particularly in remote oceanic areas, and which significantly hindered effective SAR efforts and recovery operations.

5.6   The four main functions of the GADSS are aircraft tracking, location of an aircraft in distress, Post Flight Localization (PFL) and flight recorder data recovery.   These functions are enabled through GADSS information management [such as the ICAO OPS Control Directory and the Location of an Aircraft in Distress Repository (LADR)] which allows for the sharing of information and efficient communication between stakeholders.

5.7   The aircraft tracking function provides an automated position report every 15 minutes or less, which can help reduce the time to resolve the status of an aircraft or, if necessary, help locate an aircraft.

5.8   The location of aircraft in distress function uses an Autonomous Distress Tracking (ADT) system which has the capability to automatically determine and transmit the position of an aircraft with an in-flight distress condition, at least every minute, in a manner which is resilient to failures of the aircraft's electrical power, navigation and communication systems.   This function is expected to significantly improve the ability for SAR services to locate such aircraft in distress and rescue survivors.

5.9   Following an aircraft accident, PFL provides accurate aircraft position information by means of an ELT and/or homing signals. To assist with localization of wreckage, this function specifies a number of requirements for ELTs and Underwater Locating Devices (ULDs). To ensure accident investigation authorities obtain timely access to flight recorder information, new types of large aircraft will be equipped with a means to recover the flight recorder data in a timely manner.

5.10   RCCs need to implement updated SAR practices and procedures for the GADSS. RCCs need to be able to respond to ADT activations, including that the aircraft could remain in flight across multiple SAR regions. RCC staff also need to be provided with training to ensure understanding of the ADT system and processes. The GADSS relies on implementation by SAR services of:

a)   accurate delimitation of SAR regions to ensure proper transfer of the SAR operation to the next responsible RCC;

b)   effective and efficient coordination, and procedures between the ATS unit and responsible RCC; and

c)   harmonized operations between aeronautical and maritime SAR services.

5.11   ICAO has not prescribed a specific technology for ADT. One ADT technology solution now in operational use is a new Cospas-Sarsat 406 MHz beacon type, the Emergency Locator Transmitter for Distress Tracking, or ELT(DT). The Cospas-Sarsat System section below has further information on ELT(DT)s.

5.12   ADT notifications from the ELT(DT) will be delivered to RCCs by both the existing Cospas-Sarsat Data Distribution System and the ICAO LADR. RCCs and ATS units need to implement procedures that take these two delivery methods into account to ensure effective coordination aligned with ICAO Annexes 11 and 12 provisions on alerting and SAR services.

5.13   The IAMSAR Manual provides a comprehensive overview of ADT. The IAMSAR Manual Volume II Appendix V *Autonomous distress tracking of aircraft in flight* includes anticipated *flow of events arising from an ADT device activation* that serves as a flowchart of actions. Per the requirements of ICAO Annex 12, each RCC, and as appropriate, RSC is to:

a)   maintain up-to-date contact details in the OPS Control Directory; and

b)   subscribe and maintain access to the location of an aircraft in distress repository.

5.14   The *Manual on Global Aeronautical Distress and Safety System* (ICAO Doc 10165) provides guidance and information on the implementation and operation of the GADSS and is intended to facilitate the uniform application of SARPs in ICAO Annex 6 – *Operation of Aircraft*, Part I – *International Commercial Air Transport – Aeroplanes* and provisions in the *Procedures for Air Navigation Services - Aircraft Operations* (PANS-OPS, ICAO Doc 8168). Additional practical guidance is provided in the *LADR and OPS Control User Manual* developed by ICAO and EUROCONTROL which is available within the LADR application Help menu.

Cospas-Sarsat System

5.15   The International Cospas-Sarsat System is available to maritime and aviation users and to persons in distress situations who activate a 406 MHz distress beacon. Access is provided to all States on a non-discriminatory basis and is free of charge for the end-user in distress. On average, about 7 persons are rescued every day with the assistance of Cospas-Sarsat alert and location data. The system is composed of:

a)   distress beacons operating at 406 MHz, with a homing signal transmitting on 121.5 MHz and/or 243.0 MHz [except ELT(DT)s which do not transmit a homing signal in-flight];

b) SAR payloads on satellites in low- and mid-altitude Earth orbit, and in geostationary orbit;

c) ground receiving stations (LUTs) spread around the world; and

d) a network of Mission Control Centres (MCCs) to distribute distress alert and location information to SAR authorities, worldwide.

5.16 Cospas-Sarsat has been developing two major enhancements to its distress-alerting System of value to all System users, including the aviation industry. One is the introduction of in 2020, of a new space-segment architecture based primarily on Medium-altitude Earth Orbit Search and Rescue (MEOSAR) payloads aboard the European Commission's Galileo system, the Russian Federation's Global Navigation Satellite System (GLONASS) and the United States' Global Positioning System (GPS) satellites. Another potential satellite system from China, the Beidou Navigation Satellite System, could become part of the Cospas-Sarsat Space Segment.

5.17 This architecture permits determination of distress incident location (independent of any location data transmitted in the beacon message) beginning with the first burst from the distress beacon. This could mean near real-time and very frequent delivery of distress alerts.

5.18 The SAR/Galileo space segment also provides a Return Link Service (RLS) that, among other possible future uses, provides an acknowledgment from the MCC back to the beacon to confirm that the distress message has been received.

5.19 The technical specifications for the second generation 406 MHz distress beacon have been approved, including for ELTs. This new generation of beacons based on wideband spectrum technology improves speed and accuracy in locating an activated distress beacon. The period from beacon activation to first transmission is reduced from 50 seconds to three seconds. The specification considers in-flight activation of ELTs when certain flight parameters are exceeded. Consequently, false alerts will affect real SAR events significantly.

5.20 Cospas-Sarsat has introduced a new beacon type, the ELT(DT) which will activate autonomously when an aircraft exceeds certain predetermined flight parameters which, unless corrected, may result in an imminent crash. ELT(DT)s allows an aircraft in distress to be tracked in-flight, prior to any crash, without human intervention. ELT(DT)s use both the existing beacon transmission method (first-generation) and the second-generation (spread-spectrum) modulation schemes. Distress data from activated ELT(DT)s will be delivered directly to distress authorities as well as the ICAO LADR. A growing number of aeroplanes are now operating globally with ELT(DT)s fitted.

5.21 States also need to ensure the critical requirement to provide for a suitable, clear and simple means for aircraft owners to register and keep updated their 406 MHz distress beacon details.

> *Note: information regarding beacon registration can be found at: https://www.cospas-sarsat.int/en/beacons-pro/beacon-regulations-pro/ibrd-user-information-for-professionals).*

5.22 Entries in the beacon register should be available to both aeronautical and maritime RCCs on a 24-hour basis (ICAO Annex 12 refers, although ICAO Annex 10 establishes the registration requirement).

5.23 Further information for distress authorities can be found in the RCC Handbook, document C/S G.007 (https://www.cospas-sarsat.int/en/documents-pro/system-documents).

ICAO Annexes and Documents

5.24   States should note that ICAO Annex 12 should be read in conjunction with elements of the following ICAO Annexes and Documents:

Annex 6 – *Operation of Aircraft*;

Annex 10 – *Aeronautical Telecommunications*;

Annex 11 – *Air Traffic Services* (particularly Chapter 5 Alerting Service)*;*

Annex 14 – *Aerodromes* (particularly aerodrome emergency planning with the RCC);

Annex 15 – *Aeronautical Information Services* (particularly Section 6.3.2 *NOTAM*);

Annex 19 – *Safety Management*;

Doc 4444 – *PANS-ATM*;

Doc 8168 – *PANS-OPS Volume III* (particularly Section 10 Flight Tracking);

Doc 9731 – *IAMSAR Manual*;

Doc 9734 – *Safety Oversight Manual*;

Doc 10066 – *PANS-AIM* (particularly Appendix 2 GEN 3.6 Search and rescue);

Doc 10088 – *Manual on Civil-Military Cooperation in Air Traffic Management*;

Doc 10165 – *Manual on Global Aeronautical Distress and Safety System*; and

Doc 10205 – *Manual on Hazards at Aircraft Accident Sites.*

CURRENT SITUATION

<u>Asia/Pacific SAR Analysis</u>

Universal Safety Oversight Audit Programme – SAR-Related Protocol Questions

6.1   An analysis of the 16 Universal Safety Oversight Audit Programme (USOAP) SAR-related Protocol Questions (PQs) indicated that the overall Effective Implementation (EI) in the Asia/Pacific Region for SAR had risen from 52% in October 2022 to 55% in April 2025.

6.2   **Figure 1** provides the overall Asia/Pacific Region EI for individual SAR-related PQs in October 2022.
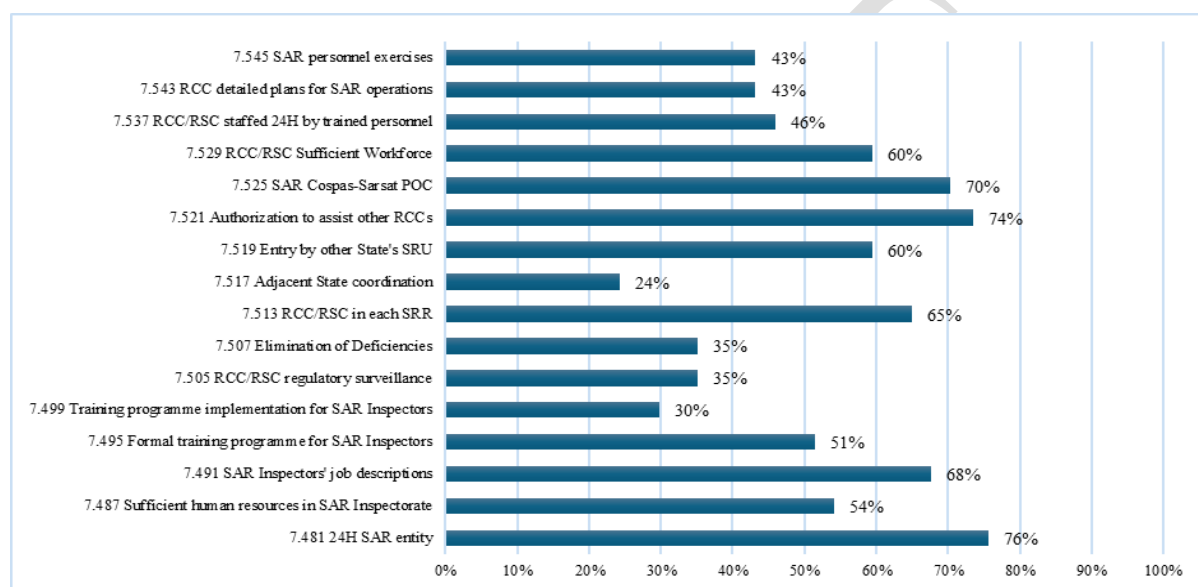
Figure 1: Asia/Pacific USOAP CMA SAR-related PQ Compliance (October 2022)

6.3   **Figure 2** provides the overall Asia/Pacific Region EI for individual SAR-related PQs in April 2025.
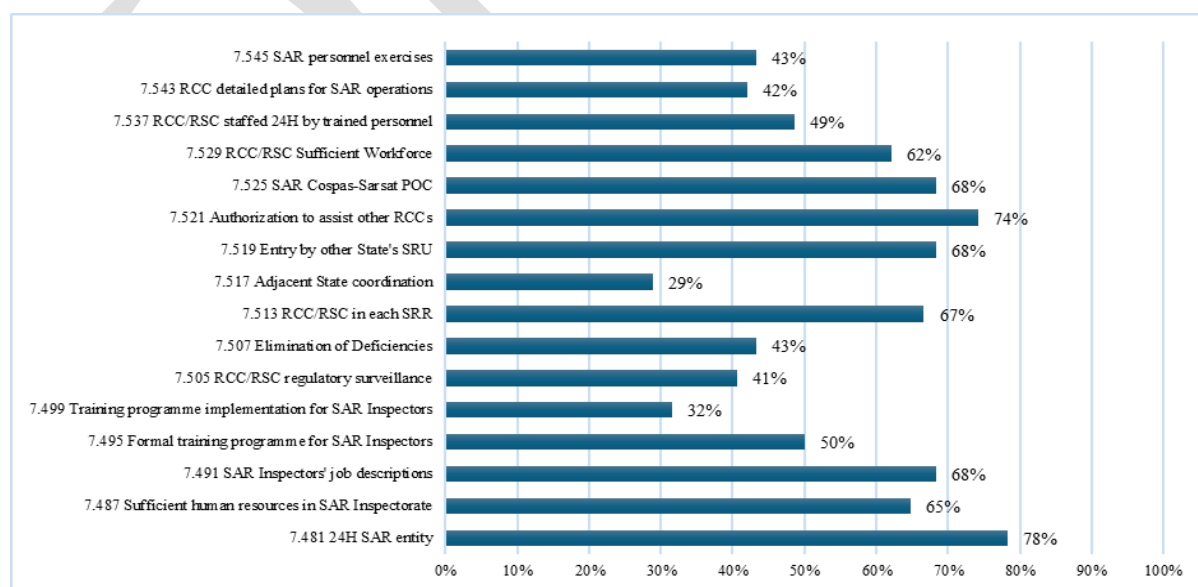
Figure 2: Asia/Pacific USOAP CMA SAR-related PQ Compliance (April 2025)

6.4   From these analyses it appeared that the major areas of weakness were in effective SAR oversight, coordination with adjacent States, elimination of deficiencies. Therefore, a focus on the minimisation of barriers associated with the efficient cross-border coordination of SRU (such as pre-arranged approval) and other coordination mechanisms, including updates of SAR agreements (whatever their form) was vital.

6.5   The analyses also revealed the need for improved systemic approaches to training for both SAR inspectors and personnel responsible for the provision of SAR services, including the regular organisation of effective SAR exercises that test systems and personnel. It should be noted that the training of SAR inspectors does not necessarily require SAR-specific technical training, but was more focused on effective audit and inspection techniques, etc.

Regional SAR Implementation Performance – the Asia/Pacific SAR Plan

6.6   With the advent of the Asia/Pacific SAR Plan and its more comprehensive expectations, an accurate assessment of capability aligned with the Plan was developed. This assessment could be used by States as a means of internal gap analysis, in addition to providing a more accurate metric of the Asia/Pacific SAR Plan implementation. **Figure 3** summarizes the reported implementation of the performance expectations of the Asia/Pacific SAR Plan (see Section 7).
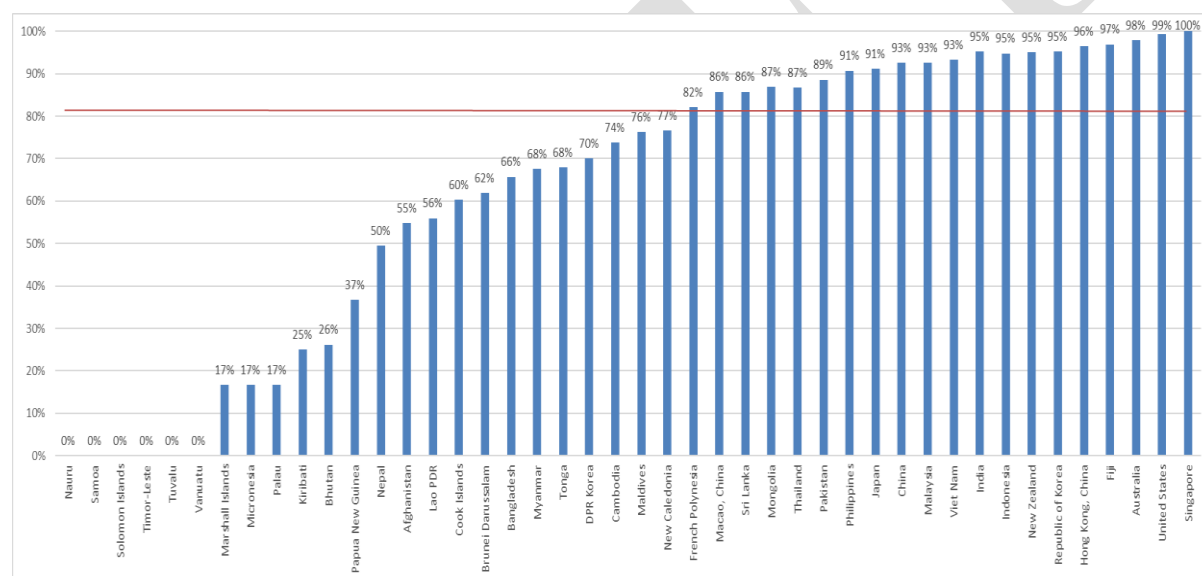
Figure 3: Implementation Status of the Performance Expectations of the Asia/Pacific SAR Plan – April 2025 (Average 63%)

6.7   The Asia/Pacific Region Air Navigation Plan Volume II Section 3 *Specific Regional Requirements* states, in respect of State reporting of implementation regional air navigation planning elements:

> a 'robust status plan that is not subject to consideration as an APANPIRG Deficiency is one that is evaluated as achieving 90% or more implementation of the planning elements.

6.8   Accordingly, and noting that SAR services were a safety of life matter. APANPIRG ATM and Airspace Safety Deficiencies were recorded for 30 Administrations in the Asia/Pacific Region, for failure to reach 90% or more implementation of the performance expectations of the Asia/Pacific SAR Plan (APANPIRG/35, November 2024).

Asia/Pacific SAR Coordination Forums

6.9   The Asia/Pacific Region will benefit from the cooperation and coordination of States and International Organizations involved in the APSAR Workgroup. The establishment of permanent joint ICAO/IMO Regional SAR Forums to enable collaboration and cooperation on oceanic SAR matters across the specific oceanic regions and including adjacent ICAO regions should be considered.

6.10   There were several regional initiatives for cooperative support and development already being undertaken in the Asia/Pacific Region to assist with SAR capability enhancement.

6.11   Such improvement programmes could result from a request by a State needing assistance, ICAO/IMO oversight, the users of the SAR system itself, an audit or following a SAR 'Go-Team' visit that identifies weaknesses in the State's SAR capability (a 'Go Team' normally consists of external SAR experts from ICAO/IMO, more advanced 'champion' States or external agencies such as Cospas-Sarsat). The programs can be conducted by experts from a 'champion' State, or through a cooperative effort by several States or a regional body.

> Note: **Appendix 1** provides a summary of benefits to the SAR System of States assisting other States.

Barriers

6.12   The following potential issues should be considered to ensure they do not become barriers to the achievement of the expected SAR capability:

a) absence of established appropriate legal framework designating, recognizing, supporting and giving authority to national SAR authorities, RCCs and SMCs;

b) inadequate funding and equipping of SAR authorities and in particular, resourcing of RCCs;

c) absence of an appropriate SAR organizational framework;

d) absence of a national SAR committee;

e) lack of clarity of responsibilities for each component of the SAR system;

f) inadequate collaboration and cooperation between aeronautical and maritime SAR agencies;

g) absence of bilateral/multi-lateral/international SAR agreements;

h) inadequate civil/military cooperation; and

i) complacency about, or lack of recognition of, the importance or priority given to SAR.

Global and Regional SAR Issues

6.13   States should monitor outcomes from global and regional ICAO and IMO SAR forums to ensure their State SAR authorities are updated on relevant SAR developments, otherwise State planning may not be synchronized with external international expectations, including users. Such forums may include APANPIRG and its Sub-Groups, other ICAO Region SAR groups, the ICAO/IMO JWG-SAR, ICAO High Level Safety Conferences, etc.

6.14   The provision of sufficient resources is critical in a number of areas, including:

a) Financial –

- funding for 24-hour RCC facility and staff;

- funding arrangements/agreements for hiring/payment/sharing of SRUs to permit rapid deployment;

- provision of a suitable administrative process enabling financial support including the ability for SAR authorities to quickly authorise payments required for emergency response aircraft, vessels and supporting logistics such as fuel.

b) RCC personnel – a suitable number of trained and skilled staff, supplemented by a pool of trained RCC support staff where appropriate;

c) RCC facilities –

- appropriate RCC facility space;

- minimum RCC tools (such as current charts, plotting equipment, documentation, etc.);

- ability to identify and task available SRUs;

- aircraft and vessel tracking information including ATS surveillance, Automatic Identification System (AIS), ADS-B and other satellite tracking systems, etc.;

- reliable and rapid H24 communications, and a suitable means to –

  o receive, communicate and acknowledge distress alerts;

  o communicate with ATS units, other RCCs/RSCs, Coastal Radio Stations, COSPAS-SARSAT Mission Control Centres (MCCs), military units, medical services, meteorological offices, aircraft and vessel operators, etc.;

- information technology –

  o RCC workstation computers;

  o software including basic databases, drift modelling, incident management, etc.;

  o reliable internet access;

d) Contingency – back-up RCC facility, or arrangement with another RCC as a contingency against inability to operate from the primary RCC due to the need to evacuate or loss of systems, etc.;

e) Search and Rescue Units (SRUs) –

- available and suitably equipped SRUs with SAR trained crews and SAR capability –

  o aircraft units;

  o maritime units;

  o land units;

  o specialised units (paramedical, divers, etc.);

- available and suitable SAR survival equipment for delivery by aircraft to survivors and to assist SAR coordination efforts (e.g. SAR Datum Buoys, droppable life rafts and survival supplies, etc.);

f) Training support –

- RCC staff – basic and ongoing;

- SRU crews – pilots, air crew, air observers, vessel crew, land crews;

- RCC support staff – basic and refresher; and

- SAR inspectorate staff – basic and on-going.

PERFORMANCE IMPROVEMENT PLAN

Preferred SAR Capability Specifications (PSCS)

Note 1: PSCS are the non-mandatory expectations on all Asia/Pacific States to enhance SAR systems in order to meet a minimum level of SAR capability, with a high degree of interoperability and harmonisation, and interoperability with other ATM components such as Air Navigation Service Providers (ANSPs) and aerodrome operators, and between aeronautical and maritime SAR services. PSCS were not expected to contravene existing ICAO Annex 12 standards.

Note 2: Asia/Pacific SAR Plan Version 1.0, published in September 2015, included the expectation that all PSCS would be implemented by 07 November 2019. Noting that, at the time of publication of this fifth version of the Plan, the implementation is several years in the past, and also noting that further changes to PSCS are expected to be incremental and relatively minor in scope, dates for future implementation are not included. All States should note that APANPIRG ATM and Airspace Safety Deficiencies for non-implementation of 90% of the elements of this Plan will continue to be raised and maintained by the ICAO Asia/Pacific Regional Office.

7.1   *Legal Framework and Structure Planning*: All States should develop statutes and related provisions that establish or enhance the legal foundation for a State SAR organization and its framework, resources, policies and procedures, where appropriate, to:

a) ensure that it is party to, and/or aligned with the following Conventions, as applicable –

   i.   Convention on International Civil Aviation, 1944;

   ii. International Convention on Maritime Search and Rescue, 1979; and

   iii. International Convention for the Safety of Life at Sea (SOLAS), 1974;

b) unless delegated by written agreement, establish an entity that provides, on a 24-hour basis, SAR services within its territories and designated area of responsibility/SRR;

c) establish a national SAR committee consisting of civil and, where appropriate, military members to enable a whole-of-government approach;

d) empower SMC with the authority to adequately carry out their responsibilities to ensure no delay to timely SAR response actions;

e) conduct studies to check the feasibility for, and develop an implementation plan if practicable, the integration of aviation and maritime SAR services, and as far as practicable, civil and military SAR activities, including joint training, exercises and familiarization of staff and review of documentation to ensure harmonization of procedures;

f) conduct studies to align, as far as practicable, aeronautical and maritime SRRs; and SRRs with Flight Information Regions (FIRs);

g) establish a single State SAR Plan that –

    i. designates the responsible RCC(s), RSC(s) and 24-hour SPOC;

    ii. describes the relevant aeronautical and maritime SRRs, including the coordinates and geographical chart depiction of the aeronautical and maritime SRR and neighbouring aeronautical and maritime SRRs;

    iii. establishes an Administrative Single Point of Contact for SAR (ASPOCS) for non-urgent, administrative matters, such details to be submitted to the ICAO Asia/Pacific Regional Office;

    iv. details the National SAR Committee;

    v. details the governmental and non-governmental agencies with authority and responsibility for SAR coordination and supporting of SAR response operations within its territories and designated area of responsibility;

    vi. details required and available SAR facilities, personnel, and equipment;

    vii. describes the SAR manuals, plans and procedures used for national and regional cooperative SAR response arrangements;

    viii. details the SAR personnel training and competency programme, qualification standards, SAR certification if applicable and SAR cooperation training;

    ix. lists the SAR agreements required;

    x. is electronic and accessible on the Internet, such details to be submitted to the ICAO Asia/Pacific Regional Office, if possible; and

    xi. is monitored by quality assurance processes.

7.2   *SAR Standards and Procedures*: All States should:

a) establish aerodrome emergency plans that provide for cooperation and coordination between the aerodrome operator and RCCs. The plans should include clear responsibilities for response to emergencies in proximity to, but outside, the aerodrome boundaries including adjacent waterways;

b) establish SAR agreements with States having adjoining SRRs or FIRs, including trans-regional neighbours (the agreements should include clear responsibilities for overlapping or non-adjoining aeronautical and maritime SRRs);

c) provide up to date information on State SRU location and capability on those SRUs that may operate into other State SRRs. This should be provided to the ICAO Asia/Pacific Regional Office per the guidance in **Appendix 2** of this Plan;

d) pre-arrange procedures for cross-border SAR responses to allow entry of another State's SRUs into State territory (this should be included in bilateral SAR agreements);

e) establish RCC plans for response to MROs integrated with national disaster plans;

f) establish SAR Operations Plans between the State's SAR authorities and Government, military and commercial operators, including those with a capability to assist with an air, maritime or land SAR capability, or other support capability (e.g. communications, meteorology, logistics, etc), including:

    i. procedures for cooperation and deployment of foreign SRUs;

    ii. provision for translators/liaison Officers/Embassy Officers for the daily tasking of the SRUs at the RCC;

iii. provision of information for logistic and administrative support (hotels, fuel, security passes, food, medicine, etc.);

iv. instructions on communication (ops normal reports, sightings, etc.) for search planning, command and control to foreign SRUs;

v. planning and arrangements that ensure the availability of State and other SRU assets, especially over-water rotary wing capability where applicable, to support a timely and effective SAR response; and

vi. daily end of day report by SRUs to the RCC (via mobile/satellite telephone, email, web-based application, fax, etc.);

vii. provision of meteorology information;

g) establish SAR Alerting procedures which:

i. are tested and fully integrated with RCC procedures so that RCCs are rapidly notified of any SAR event 24 hours a day;

ii. include procedures for joint aeronautical and maritime distress alert notification, including reliable delivery and acknowledgement of Cospas-Sarsat distress alerts, support and response to both aviation and maritime SAR incidents;

iii. where applicable, include protocols for civil and military support and sharing of information; and

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

Note: a sample MOU between the SAR service and the accident investigation authority is provided in the IAMSAR Manual Volume I Appendix P.

SAR Facilities and Resources

7.3 *RCC Facility*: All States should ensure that RCCs are of sufficient size with adequate provision for operational positions designed in accordance with human factors principles (such as human machine interface) for all SAR incidents from small scale to major searches involving civil and military assets where applicable, and facilities such as:

a) workstations, telephones (with international access), plotting tables, wall notice/status boards, computer, and communications equipment and systems, briefing/debriefing areas, room for storage including incident records and recorders, RCC staff break and rest facilities;

b) computer resources which may provide support to RCCs with incident management, plotting, search planning, mapping, contact databases, web-based information, etc.;

c) charts, electronic or paper, which:

i. apply to SAR (aeronautical, nautical, topographic and hydrographic);

ii. depict aeronautical and maritime SRR(s), neighbouring aeronautical and maritime SRRs;

iii. depict SAR resources and SRU locations, including in neighbouring SRRs where available;

      iv.   depict aeronautical navigation information including terrain and obstacles (vertical structures, powerlines, etc with elevation data), FIR(s), ATS units and airspace boundaries including military and Prohibited, Restricted and Danger Areas, Air Defence Identification Zones (ADIZ), and environmentally sensitive areas;

      v.   depict maritime navigation information including hazardous and environmentally sensitive areas;

      vi.   provide a means of plotting;

d) ability to reliably receive, acknowledge and action distress alerts 24 hours in a timely manner;

e) a means of recording, timely retrieval and playback, and archiving of communications and SAR incident data;

f) shipping/vessel communications and maritime broadcast facilities such as Coastal Radio Stations, RCC radio and satellite communications, marine radio networks;

g) aircraft communications – via ATS units, aircraft operators, satellite communications or direct between RCC and aircraft;

h) access to aircraft and ship tracking data, e.g. ATS surveillance data, GADSS ADT and LADR data, commercial satellite tracking data, AIS and Long Range Identification and Tracking of Ships (LRIT) allowing rapid identification of potential aircraft and vessels that may divert to assist;

i) a means of obtaining timely meteorological information – forecast, present and historical data;

j) if applicable, drift modelling software;

k) if applicable, ocean data including sea temperature, currents, winds, tides, etc.;

l) if applicable, SAR Datum Buoys, preferably with satellite tracking capability;

m) RCC documentation and reference material such as plans of operation, procedures manuals, guidance material, ICAO and IMO reference documents, SAR agreements;

n) Cospas-Sarsat equipment and reference material; and

o) when developed and available, System Wide Information Management (SWIM)-enabled systems that can evolve the sharing of flight data, aeronautical information and meteorological data in alignment with contemporary practices being implemented under global and regional planning.

7.4   *Personnel and Training*: All States should, where applicable to maintain a 24-hour service:

a) provide adequate ATS resources (either an ATS supervisor or other staff) that can provide relief within ATS units to allow timely response to SAR alerts and information to RCCs;

b) provide sufficient RCC staffing, including a sufficient number of trained specialist RCC officers including SMCs and Assistant SMCs (A/SMCs);

c) provide availability of a pool of RCC support staff who are familiar with RCC operations, but not trained as coordinators, that can assist with the functioning of the RCC to supplement a SAR incident response;

d) develop SAR personnel position descriptions that detail responsibilities and eligibility criteria for recruitment of operational staff;

e) develop a comprehensive training programme that includes SAR training for:

    i. RCC Coordinators based on a competency-based assessment approach to ensure technical proficiency, cyclical (periodic) instruction that provides continuous training to ensure competency is maintained, and a system for maintaining training records;

    ii. SRU staff, including military personnel;

f) facilitate RCC staff to be proficient in the English language; and

g) facilitate a programme of regular liaison between relevant RCCs, ATS units and airline operating centres in order to understand those organizations, facilities and capabilities (reference ICAO Annex 12).

7.5   *Oceanic Capability*: Where applicable, States should establish additional oceanic SAR capability as far as practicable to ensure a timely and adequate SAR response is available to all oceanic areas of their SRRs. This may be met through cooperative arrangements with neighbouring States or other RCCs.

7.6   *Search and Rescue Units (SRUs)*: All States should establish capabilities enabling:

a) availability and deployment of suitably crewed, trained and equipped SRUs (including, for SAR aircraft a pool of air search observers trained in visual search techniques), public and/or private, civil and military, for rapid SAR response;

b) availability and deployment of SRU craft that may be in use for another primary purpose but made available to RCCs for SAR purposes on an as needed emergency basis (vessels, aircraft and land units);

c) protocols for civil SAR authorities to request the assistance of military assets, and similarly military SAR authorities to request civil assets;

d) a communication means and information protocols between the State's aeronautical and maritime SAR authorities;

e) cooperative use and/or sharing of SAR assets with protocols incorporated within National SAR Plans and bilateral SAR agreements;

f) pre-arranged government authority for funding of costs associated with hiring of SRUs, and payment for critical supporting logistics such as fuel, to avoid any delays in response availability;

g) pre-approval of specified SRU assets that may be utilised in the territory of another State or cross-SRR boundary (which may not require diplomatic approval if operating within international airspace or seas);

Note: IAMSAR Manual Volume I Appendix Q provides a sample expeditious process to allow SAR units from an assisting State to enter into the territory of the State of the RCC.

h) aircraft with the ability and regulatory approval to safely conduct SAR missions, including international operations where applicable.

Note: guidance material on SAR aircraft capability can be found in the IAMSAR Manual Volume II Appendix G Facilities and equipment selection.

7.7   *Distress Beacons*: All States should:

   a)   where separate ARCCs and MRCCs exist with responsibility for coincident aviation and maritime SRRs, coordinate distress beacon alert procedures to ensure both RCCs are aware of any distress beacon activations within their areas to avoid duplication of response. For example, MRCCs should ensure their procedures alert ARCCs and ATS units to any EPIRB activations. For distress beacon alerts near SRR boundaries, coordination should also occur with neighbouring State RCCs;

   b)   have a reliable distress beacon registration system that:

      i.   provides a readily accessible mechanism (preferably one that is available by Internet as well as other conventional means) to enable distress beacon owners to fulfil their obligation to register ELTs [including ELT(DTs)], EPIRBs and PLBs, and update the registration data as information changes (e.g. change in ownership or disposal);

      ii. is available to RCCs 24 hours a day and includes up-to-date registration details for all national civil and military ELTs, ELT(DTs), EPIRBs and PLBs;

   c)   take steps (including education) required to prepare for, and to implement changes related to, the introduction of second generation beacons, the transition to the MEOSAR satellite architecture, ELT(DTs), and the pending Return Link Service provided by the Galileo constellation;

   d)   establish an appropriate nationwide means of disposal for old distress beacons; and

   e)   conduct education programmes promoting correct use, handling, storage, registration and disposal of distress beacons, including, where appropriate, with airworthiness agencies, and civil aviation and maritime authorities, and aviation, maritime and land-based beacon user stakeholder groups. A focus should include awareness to minimize false alerts.

   Note 1: information on beacon registration can be found at: http://www.cospas-sarsat.int/en/beacons-pro/beacon-regulations-pro/ibrd-user-information-for-professionals.)

   Note 2: incorrect disposal of distress beacons often causes the deployment of scarce and often expensive SAR resources only to have the beacon located as a non-distress event in a rubbish dump or similar location. This also creates the risk of SAR resources being diverted away from a real emergency should it arise at the time. Beacon batteries are hazardous items which should be disposed of in an environmentally friendly manner.

   Note 3: education should include matters such as an update on beacon registration systems to be compatible with new beacon hexadecimal identifications, the transition to the MEOSAR satellite architecture (e.g. update local user terminals and mission control centres to properly receive and manage MEOSAR data), in accordance with Cospas-Sarsat specification documents (http://www.cospas-sarsat.int/en/documents-pro/system-documents).

7.8   *Contingency Facilities*: All States should ensure there are established contingency facilities, or for when a SAR service is not able to be provided,. This may include procedures in place for the temporary delegation of the SAR responsibility to another appropriate national body or State. All States should test their contingency arrangements periodically, but not less than once every six months.

SAR Information

7.9   *Provision of Information*: All States should ensure the:

a) establishment of a centralised information source publishing all Asia/Pacific State Aeronautical Information Publication (AIP) information (refer PANS-AIM Appendix 2 GEN 3.6 *Search and rescue*):

i.   The agency responsible for providing SAR services;

ii.   The area of SAR responsibility where SAR services are provided;

iii. The type of SAR services and facilities provided including indications where SAR aerial coverage is dependent upon significant deployment of aircraft;

iv.   SAR agreements;

v.   The conditions of SAR facility and service availability; and

vi.   SAR procedures and signals used;

b) establishment of an Internet-based SAR information sharing system (with security protocols as required and in accordance with the emerging SWIM concept as applicable) to share SAR activity with States and key stakeholders participating in a SAR activity (the information sharing system should include a means of handling media and next of kin enquiries, and recognise the need to avoid premature media statements); and

c) maximum practicable cooperation between State entities in the provision of accurate and timely information when required, including from military sources, except where national security could be adversely affected.

7.10   *SAR Facilities and Equipment Lists*: All States should develop and maintain a current, comprehensive electronic list of State SAR Facilities, SAR Equipment, and SAR Units (SRUs), including joint or shared facilities and equipment.

7.11   *SAR Library*: All States should:

a) establish a web-based SAR Library, or cooperate by contributing to an Internet-based Asia/Pacific resource (such as https://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Response-Policy-CG-5R/Office-of-Incident-Management-Preparedness-CG-5RI/US-Coast-Guard-Office-of-Search-and-Rescue-CG-SAR/SAR-Publications/);

b) ensure that each RCC and SAR authority has ready access to a current copy (either electronic or hard copy) of the following reference documents at a minimum:

i.   ICAO Annex 12;

ii.   IAMSAR Manual Volumes I, II and III;

iii. International Convention on Maritime SAR (SAR Convention);

iv.   *Asia/Pacific Region ANP*;

v.   *Asia/Pacific SAR Plan*; and

vi.   relevant regional, national and agency SAR documents.

Note: the Asia/Pacific SAR Library hosted by the US Coast Guard contains a list of documents that may be held by RCCs and JRCCs as appropriate. In addition, a list of documents (SAR.7/Circ.12) would be available on the IMO website at: (http://www.imo.org/en/OurWork/Safety/RadioCommunicationsAndSearchAndRescue/SearchAndRescue/Pages/Default.aspx).

SAR Improvement

7.12   *Search and Rescue Exercises (SAREX)*: All States should conduct regular SAREX (at least once every two years) to test and evaluate existing coordination procedures, data and information sharing and SAR response arrangements involving:

    a)   both aeronautical and maritime SAR authorities including both civil and military agencies as applicable, and related bodies such as ANSPs and Airline Operations Centres (AOCs);

    b)   where appropriate, cross-aeronautical SRR boundary coordination (SAREX should routinely involve SAR authorities of adjacent SRRs);

    c)   improvement of SAREX effectiveness through a post-SAREX review and written report, completed to ensure that deficient areas or latent problems are identified and remedied;

    d)   SAREX type may be a desktop communications, coordination or full-scale exercise or field exercise;

    e)   a SAREX program should be developed that includes, as appropriate, exercises held:

        i.   within RCCs;

        ii.   depending on the number and type of RCCs within a State, between JRCCs, aeronautical and maritime RCCs and RSCs;

        iii.   with local SAR support agencies;

        iv.   with SRUs; and

        v.   with neighbouring States.

Note 1: a SAREX template is provided in the IAMSAR Manual Volume I Appendix O Sample template for a joint SAREX.

Note 2: SAREX should test the SAR system, including unannounced alerts that allow an actual search (whether it is a desktop or a physical operation) to be conducted which will indicate weaknesses in the system. SAREX should not be confused with, or take the form of, simulated crash fire exercises such as for aerodrome emergency procedures that do not have a search component.

Note 3: real SAR incident responses which include an <u>adequate</u> post-response review and evaluation with lessons learned may replace the need for a SAREX.

Note 4: this expectation may be fulfilled by participating in a sub-regional SAREX that tests the State's SAR system.

7.13   *SAR Quality Assurance*: All States should implement SAR System Improvement and Assessment measures, including Safety Management and Quality Assurance systems, that:

    a)   provide performance and safety indicators, including post-incident/accident lessons learned and management reviews (RCC and SAR System Continuous Improvement process), and feedback from RCC staff, SAR system users or SAR stakeholders;

    b)   identifies risk and corrective and preventive actions that prevent or minimise risk and the possibility of substandard SAR performance;

    c)   establishes an internal quality assurance programme, which includes regular internal audits of the RCC, SAR operations, SAR facilities and procedures that are conducted by trained auditors;

d) ensures the person responsible for internal quality assurance within the entity responsible for SAR services has direct access to report independently to the Head of the entity responsible for SAR services on matters of quality assurance; and

e) where appropriate, provides submissions to the ICAO/IMO JWG-SAR to share lessons learned and experiences with other global States for the continuous improvement of the worldwide SAR system.

Note 1: resourcing of SAR system audit arrangements could be mitigated by States entering cooperative arrangements, including sub-regional regulation, between States for auditing of each other's SAR systems to share expertise and costs.

Note 2: refer to related provisions of ICAO Annex 19 for a Safety Management System (SMS) and ICAO Doc 9734 for a Safety Oversight Manual.

Note 3: Peer review, either external or internal, may provide a useful internal quality assurance tool.

7.14 *SAR Management Review*: All States should conduct an annual or more frequent analysis of their current State SAR system to identify specific gaps in capability against the minimum requirements of ICAO Annex 12 and the guidelines of the IAMSAR Manual to:

a) enable the ICAO Asia/Pacific SAR data to be updated to accurately reflect the State's capability;

b) be informed regarding the availability and capability of SAR services in neighbouring States;

c) identify SAR research and development programmes, especially those which could be conducted if possible in cooperation with other States;

d) establish a common set of basic SAR system statistics, which include:

i. number of SAR incidents per year;

ii. number of lives at risk versus number of lives saved;

iii. records of time from first alert to tasking the SRU;

iv. records of time from first alert to arrival on scene of first SRU; and

v. records of time from first alert to rescue.

vi. records of false alerts or unnecessary activation of SAR services.

e) plan for any necessary improvements to gradually build and improve capability over time, which would be detailed in the State SAR Plan; and

f) regularly review and update SAR agreements as appropriate.

Note 1: the National self-assessment on SAR found in IAMSAR Manual Volume I Appendix H, the ICAO USOAP-CMA Protocol Questions for SAR and ICAO Electronic Filing of Differences for ICAO Annex 12 compliance may assist States with their reviews.

Note 2: for SAR system statistics, the number of incidents should identify the type (e.g. Cospas-Sarsat alert, ATS alerts, etc.) and outcome of SAR incidents.

7.15 *SAR Promotion*: All States should conduct SAR promotional programs (e.g. Seminars, Workshops and public safety campaigns) to:

a) encourage higher SAR preparedness by persons that may require SAR services through education aimed at preventing persons getting into distress situations (i.e. 'preventative SAR');

b) foster a reduction in false alerts to avoid wasting valuable SAR resources and risk to SAR crews responding unnecessarily;

c) ensure the support of government decision-makers for SAR facilities and improvements, in particular adequate funding availability;

d) assist media to understand SAR operations to minimise the need for explanations during SAR responses;

e) recognise improvement in State SAR systems;

f) enhance cooperation between SAR services and supporting bodies including:

    i. civil, military and police agencies;

    ii. ANSPs;

    iii. aerodrome and port operators;

    iv. aircraft and shipping operators;

    v. meteorological agencies;

    vi. accident investigation authorities;

    vii. government and non-government agencies affected by SAR operations, in particular large scale national and international responses involving whole of government agencies;

    viii. aviation and maritime regulators; and

    ix. other States.

Note: social media may be an effective means of SAR promotion, and that may help reduce the workload of SAR staff during major SAR responses.

EMERGING ISSUES AND FUTURE DEVELOPMENTS

Planning for the Future

8.1   States should monitor developments such as improvements to existing and new technologies and other emerging matters which may impact on the SAR system of the future as part of State, regional and global aviation strategic direction and planning. This may include matters such as:

a)   the need to cater for increased growth or changes in air and maritime traffic through SRRs which may increase the demand, or present changed capability requirements, for SAR services. This may include, for example, new air routes using longer range aircraft into more remote areas or increased numbers of, and/or larger, cruise ships;

b)   new technology such as:

   i.   Remotely Piloted Aircraft Systems (RPAS) and Advanced Air Mobility (AAM);

   ii.   autonomous vessels;

   iii. commercial space vehicles carrying people;

   iv.   new distress alerting devices and systems;

   v.   new tracking systems;

   vi.   new electronic search equipment (such as optical radar systems);

   vii. online virtual conferencing platforms;

   viii. smartphone apps;

   ix.   artificial intelligence; and

   x.   data driven decision making tools.

c)   SAR intervention in and around offshore wind turbine farms;

   Note: IAMSAR Manual Volume II provides further guidance on wind farms.

d)   impacts of climate change; and

e)   planning for SAR response to shipping involving alternative fuel hazards and other hazardous cargo types on board.

Research and Development

8.2   To develop the tools and systems required to meet foreseeable long-term requirements, there is a need for States to undertake planning and co-operation on SAR matters. This includes major efforts to define concepts, to extend knowledge and invent new solutions to future SAR challenges so these new concepts are selected and applied in an appropriate timely manner. Such efforts could be forged through collaborative partnerships between, States, ANSPs, International Organizations, institutes of higher learning and specialised technical agencies. This concept is consistent with *Asia/Pacific Seamless ANS Plan* Principle 36 [*Inter-regional cooperation ('clustering') for the research, development and implementation of ATM projects*], and may manifest itself in joint projects such as:

a)   ICAO and/or IMO regional SAR training opportunities, where provided, to assist States that are unable to provide their own SAR training;

b) Joint Sub-regional RCCs (ASEAN States in particular may be candidates for a single centre of excellence that brings together civil and military SAR experts from all ASEAN States and provides a single SAR facility that is cost-effective and has a level of resources and facilities that would be difficult for all States to maintain by themselves); and

c) Regional online eLearning packages.

8.3　　With the end goal of a globally interoperable SAR system in mind, the region will have to consider planning for a long-term supporting concept and infrastructure, including possible integration of the new technologies listed in paragraph 8.1 for SAR application. The following are possible areas that should be considered for future SAR research and development to promote the maximum possible harmonization and interoperability of SAR systems:

a) data sharing such as aircraft and ship tracking information;

b) automated data link communication to RCCs when an aircraft or ship exceeds a Variable Set Parameter (VSP) in terms of its operating envelope, or activation of an emergency status (could be displayed as a symbol, and the data could include certain operating parameters such as acceleration and altitude for an aircraft);

Note: the ICAO GADSS includes this concept.

c) regional UAS and autonomous vessels for use in SAR and their safe operation alongside crewed aircraft and vessels;

d) inclusion of the SAR system and RCC access as a component of the ICAO SWIM concept of operation and implementation;

e) on-going development of standardised SAR training objectives and advanced training systems, including the use of high fidelity simulators;

f) enhanced technology oriented systems to improve SAR system effectiveness such as use of virtual conferencing platforms to enhance real-time SAR incident coordination between RCCs and other stakeholders, and live imagery and video streaming from SAR units to RCCs; and

g) transition to MEOSAR System and second generation beacons.

MILESTONES, TIMELINES, PRIORITIES AND ACTIONS

Milestones

9.1   Section 7 (*Performance Improvement Plan*) provides a scheme for the implementation of a collective set of enhancements for a number of elements in the PSCS.

9.2   States should implement the various PSCS elements of this Plan without delay, and should include consideration of issues such as:

      a)   safety/operational analysis and assessment;

      b)   cost-effectiveness;

      c)   budgetary issues;

      d)   development of operational procedures; and

      e)   training.

9.3   Section 8 (*Emerging Issues and Future Development*) provides, subject to future agreement by concerned parties, possible SAR improvements over the next 10 years.

Priorities

9.4   It is a matter for each State to determine priorities in accordance with its own economic, environmental, safety and administrative drivers.

Actions

9.5   This Plan necessitates a number of implementation actions. It is expected that each Asia/Pacific State report progress on each applicable element to APANPIRG through the ATM Sub-Group. All States should note the importance of SAR status monitoring, and are required to submit their implementation status pertaining to the *Asia/Pacific SAR Plan* to the ICAO Asia/Pacific Regional Office, by February 28 of each year.

9.6   Section 6 (*Current Situation*) provides analysis and major concerns in the region, which should be considered in the formulation of specific State plans.

9.7   SAR Coordination Forums, which are likely to be based on sub-regional development (such as a Pacific Ocean SAR Forum and Indian Ocean SAR Forum) need to be promoted, established and supported to ensure the on-going implementation work and future review of SAR expectations linked to this Plan are conducted.

SAREX

9.8   A program is expected to be established for an annual SAREX in each sub-region (South Asia, Southeast Asia, East Asia and the Pacific), with every second year being a desktop communications exercise, and alternate years being a full exercise. The SAREX outcomes and lessons learned should be reported to APANPIRG through the ATM Sub-Group.

9.9   The ICAO Asia/Pacific Regional Office is responsible for taking actions that assist the implementation of SAR within its accredited States, in cooperation with the IMO. In addition, the ICAO Asia/Pacific Regional Office is responsible for coordinating with adjacent ICAO regional offices on an ad hoc basis or at relevant trans-regional meetings.

APPENDIX 1: BENEFITS TO THE SAR SYSTEM OF STATES ASSISTING OTHER STATES

Asia/Pacific States Face Demanding SAR Responsibilities with Few Resources

1.1.   Many Asia/Pacific States have the challenging responsibility of providing SAR services over vast and remote land and oceanic areas, and several have few resources available to meet ICAO Annex 12 requirements.

Taking a Regional Approach Improves Effectiveness and Efficiency

1.2.   To provide an effective and efficient SAR service in the region, it is important that States focus not only on meeting their own national obligations, but also take the broader view that their State SAR system is only one part of the wider regional SAR system. States therefore need to cooperate, collaborate and share resources and technical expertise with their neighbouring and regional RCCs, with the more developed SAR States in particular looking for opportunities to assist their lesser developed State neighbours.

When Developed SAR States Support Less Developed Neighbours, Everyone Wins

1.3.   Sometimes simple measures can reduce the incidence of SAR operations in a State's Area of Responsibility.

1.4.   An example of this is where New Zealand has been regularly requested to send resources to Kiribati, which is not in New Zealand's SRR, to conduct aerial searches for people missing in small vessels at sea. New Zealand recognised that with the provision of basic aids, the number of people going missing at sea could be reduced. The work was completed through an aid program and the benefit was immediate and twofold. There has been a large reduction in the number of people going missing at sea and New Zealand has reduced costs through less aerial searches being required.

1.5.   Another example is where Australia has recognized that increasing aircraft and vessel traffic in the north and western areas of its SRR in the Indian Ocean region comes with increased likelihood of more frequent SAR responses in that region. As a result, Australia worked in partnership with the Maldives, Mauritius and Sri Lanka to fund and provide technical assistance to improve the SAR capabilities of those countries that will also assist Australia's SAR response obligations in that area of its SRR. Similarly, since 2008 Australia has been providing funding and development assistance to Indonesia to improve SAR capability and cooperation.

1.6.   States that aren't compliant with ICAO Annex 12 SARPs and are unable to meet the minimum SAR service requirements could consult and seek assistance from 'champion' States that are compliant and have well developed SAR systems in place.

1.7.   Examples of assistance that could be provided by States, International Organizations (such as IMO and ICAO) or multi-lateral initiatives include:

        a)   conducting of a SAR gap analysis;

        b)   advice on the establishment of a SAR organisational framework;

        c)   advice for the establishment of a National SAR Committee;

        d)   technical assistance in the development of a National SAR Plan;

        e)   providing copies of relevant SAR documents to be used as templates;

        f)   technical assistance on the establishment of SAR agreements;

        g)   technical assistance in the development of RCC position descriptions;

        h)   training of SAR personnel;

i)   provision of SRU where appropriate and training of SRU crews;

j)   provision/sharing of computerised SAR tools including incident management systems, databases, maritime drift modelling software, etc.;

k)   establishing data and information sharing agreements between RCCs;

l)   provision of operational search plan data;

m)   providing advice on how to conduct a SAREX and post-SAREX analysis; and

n)   set up of SAR system publicity and safety awareness campaigns.

APPENDIX 2: ANNUAL ASIA/PACIFIC SRU CAPABILITY SURVEY

In accordance with the *Asia/Pacific SAR Plan*, this document provides information on regional State SRUs.

Note: this document does not contain information on all State SRUs, only those SRUs which are capable of operating into another State's SRR.

EXPLANATION OF THE TABLE

Column

1. State.

2. SRU category (*Note: refer IAMSAR Manual Volume II Appendix G for SRU category criteria*)

   - Air units – SRG, MRG, LRG, VLR, ELR, HEL-L, HEL-M or HEL-H.

   - Maritime units – RB or RV [*Note: the boat or vessel speed in knots may be inserted, e.g. RB(14) or RV(10)*].

3. SRU location – full name of the location.

4. SRU capability

   - Air units – indicate specialised capability which may include, but not be limited to, visual search, electronic search (e.g. 121.5/ 243.0/ 406 MHz homer), rescue hoist/winch (day, night), aviation VHF/UHF/HF radio, marine VHF/HF radio, ADS-B, AIS, satellite telephone, droppable SAR equipment [e.g. life raft, survival kit, datum marker buoy (DMB), etc], medical crew, etc.

     i. life raft capacity should be inserted, e.g. LR (12).

     ii. survival kits may be indicated by type P (polar), D (desert), M (maritime) or J (jungle) if appropriate.

   - Maritime units – as for air units, indicate specialised capability, for example, electronic search, DMB, deployable fast rescue boat, etc.

5. Remarks – supplementary information such as aircraft type (ICAO designator) or vessel type, etc.

6. Contact – RCC name.

Example

State	SRU Category	SRU Location	SRU Capability (Optional)	Remarks (Optional)	Contact
1	2	3	4	5	6
Australia	ELR	Cairns, Essendon, Perth	Visual search, EO/IR, NVIS, search radar, multi-frequency homer, aviation VHF/HF, marine VHF, ADS-B in/out, AIS, satphone Droppable kits D, M, J, LR(6), LR(36), DMB	CL60	JRCC Australia
	HEL-M	Thursday Island	Visual search, 406 MHz homer, NVIS, aviation VHF, marine VHF, ADS-B out, satphone, winch	AW139	
	RV(27)	Sydney	Range 1,400 NM, carries deployable 6.4 m rescue craft	Offshore patrol vessel	

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REGIONAL SAR PLAN MONITORING AND REPORTING FORM

SAR PERFORMANCE INDICATORS

Following is a bank of indicators based on the Asia/Pacific Plan's performance improvement section (which should be read in conjunction with these questions), that can be used to assess whether an administration is either compliant or not and to internally evaluate their implementation status of the Asia/Pacific SAR Plan. Please indicate implementation status with either 0% (not implemented), or partial implementation may be indicated (e.g. 10%, 20%, 30%, 50%, etc) or 100% (fully implemented).

1. Enacted legislation that incorporates or is aligned to applicable international Conventions	0%
2. Unless delegated, established an entity that provides H24, SAR services within its area of responsibility/SRR	0%
3. Established a national SAR committee	0%
4. Empowered SAR Mission Coordinators with the authority to adequately carry out their responsibilities	0%
5. Established an Administrative Single Point of Contact for SAR (ASPOCS) for non-urgent, administrative matters	0%
6. Conducted studies to integrate aviation and maritime SAR, and as far as practicable, civil and military activities	0%
7. Conducted studies to align, as far as practicable, aeronautical and maritime SRRs, and SRRs and FIRs	0%
8. Established a single State SAR Plan	0%
9. Established aerodrome emergency plans that provide for co-operation and co-ordination with RCCs	0%
10. Established SAR agreements with States having adjoining SRRS or FIRs	0%
11. ~~Provided up to date cross-border information on SAR capability to adjoining States~~	~~0%~~
Provided up to date information on SAR unit (SRU) location and capability to the ICAO Asia/Pacific Regional Office per the guidance in Appendix 2 of the Asia/Pacific SAR Plan.	0%
12. Pre-arranged procedures for cross-border SAR responses	0%
13. Established RCC plans for response to Mass Rescue Operations (MROs) integrated with national disaster plans	0%
14. Established operational plans and procedures for SRUs, provision of support, communication and reporting	0%
15. Established SAR Alerting procedures which are tested, integrated and include civil/military protocols	0%
16. Establishment of arrangements to conduct SAR operations at the same time as the accident investigation authority needs to conduct search & recovery operations (in accordance to Annex 13)	0%
17. Provided a fully equipped RCC of sufficient size with adequate provision for operational positions and human factors	0%
18. Provided adequate supervisory ATC resources to allow timely SAR alerts and information to RCCs	0%
19. Provided sufficient RCC staffing	0%
20. Provided a sufficient number of trained specialist RCC officers including SMCs and A/SMCs	0%
21. Availability of a pool of RCC support staff who are familiar with RCC operations, but not trained as coordinators	0%
22. Developed SAR personnel position descriptions detailing responsibilities and eligibility criteria	0%
23. Developed a comprehensive training programme that includes SAR training for SAR Coordinators and SRU staff	0%
24. Facilitated RCC staff to be proficient in the English language	0%
25. Facilitated a programme of regular liaison visits between relevant RCCs, ATC units and airline operating centres	0%

26. Established additional oceanic SAR capability as far as practicable to ensure a timely and adequate SAR response	0%
27. Established sufficient SRU capabilities (crews, availability, military assets, communications, authority, etc.)	0%
28. Established procedures and necessary infrastructure to coordinate distress beacon alert responses	0%
29. Established a reliable distress beacon registration system	0%
30. Planned and prepared for the implementation of next generation beacons	0%
31. Established an appropriate nationwide means of disposal for old distress beacons	0%
32. Established contingency facilities, or procedures for the temporary delegation of SAR to another body or State	0%
33. Established a centralised information source publishing all AIP information required on SAR	0%
34. Established an Internet-based SAR information sharing system	0%
35. Established systems for the maximum practicable cooperation between State entities for information when required	0%
36. Developed and maintained a current, comprehensive electronic list of State SAR Facilities, SAR Equipment, and SRUs	0%
37. Established an Internet-based SAR Library, or cooperate by contributing to an Internet-based Asia/Pacific resource	0%
38. Provided each RCC and SAR Authority with ready access to a current copy of SAR reference documents	0%
39. Conducted regular SAREX to test and evaluate coordination procedures, data and information sharing and SAR responses	0%
40. Implemented SAR System Improvement and Assessment measures, including Safety Management and QA systems	0%
41. Conducted an annual or more frequent analysis of their current State SAR system to identify specific gaps in capability	0%
42. Conducted SAR promotional programs	0%
Overall implementation Status (of 42)	**0%**

ATM AND AIRSPACE SAFETY DEFICIENCIES LIST (Updated 01 November 2024 + APSAR/WG/10)

States/facilities	Deficiencies			Corrective Action		Priority **
	Description	Date first reported	Remarks	Executing body	Target date	
	WGS-84 Requirements of Paragraph 1.2.1 of Annex 15					
Afghanistan	WGS-84 - Not implemented	24/6/2014		Afghanistan	TBD	A
Brunei Darussalam	WGS-84 - Not implemented	24/6/2014		Brunei Darussalam	31/12/2025	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
	AIP Format Requirements of Chapter 5 of Annex 15					
Kiribati	AIP Format - Not implemented	7/7/99	ATM/AIS/SAR/SG/18 (June 2009) was advised AIP in draft stage	Kiribati		A
	AIS Quality Management System Requirements of Paragraph 3.6.1 of Annex 15 Quality Management System - Not implemented					
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
Bhutan	AIS Quality Management System - Not implemented	24/6/2014		Bhutan	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Brunei Darussalam	AIS Quality Management System - Not implemented	24/6/2014		Brunei Darussalam	31/03/2026	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	30/09/2024	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	31/12/2025	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
Samoa	AIS Quality Management System - Not implemented	24/6/2014		Samoa	TBD	A
Solomon Islands	AIS Quality Management System - Not implemented	24/6/2014		Solomon Islands	TBD	A
Timor-Leste	AIS Quality Management System - Not implemented	24/6/2014		Timor-Leste	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	**Date first reported**	**Remarks**	**Executing body**	**Target date**	**Priority **
Vanuatu	AIS Quality Management System - Not implemented	24/6/2014		Vanuatu	TBD	A
	Aeronautical Data Area of Responsibility - 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
	Designation of Restricted Areas - 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
	Airspace Classification Requirements of Paragraph 2.6 of Annex 11					
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

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Macao, 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
	ATS Message Addressing Requirements of Doc 4444 PANS-ATM Section 11.4 (Message Types and their Application)		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
	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%~~ APSAR/WG/10 55%	Afghanistan	2019	U

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Bangladesh	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/9 65% APSAR/WG/10 66%	Bangladesh	2019	U
Bhutan	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 28% APSAR/WG/10 26%	Bhutan	2019	U
Brunei Darussalam	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/4 63% APSAR/WG/10 62%	Brunei	2019	U
Cambodia	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/9 76% APSAR/WG/10 74%	Cambodia	2019	U
Macao, China	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/9 88% APSAR/WG/10 86%	Macao, China	2019	U
Cook Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 62% APSAR/WG/10 60%	Cook Islands	2019	U
DPR Korea	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 71% APSAR/WG/10 70%	DPR Korea	2019	U
French Polynesia	Asia/Pacific SAR Plan	17/05/2019	APSAR/WG/8 84% APSAR/WG/10 82%	French Polynesia	2019	U
Kiribati	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 26% APSAR/WG/10 25%	Kiribati	2019	U
Lao PDR	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/4 57% APSAR/WG/10 56%	Lao PDR	2019	U
Maldives	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/8 78% APSAR/WG/10 76%	Maldives	2019	U
Marshall Islands	Asia/Pacific SAR Plan	6/07/2015	APSAR/WG/5 17% APSAR/WG/10 17%	Marshall Islands	2019	U

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Micronesia	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/5 17%~~ APSAR/WG/10 17%	Micronesia	2019	U
Mongolia	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/9 89%~~ APSAR/WG/10 87%	Mongolia	2019	U
Myanmar	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/9 69%~~ APSAR/WG/10 68%	Myanmar	2019	U
Nauru	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 0%~~ APSAR/WG/10 0%	Nauru	2019	U
Nepal	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/9 66%~~ APSAR/WG/10 50%	Nepal	2019	U
New Caledonia	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/8 78%~~ APSAR/WG/10 77%	New Caledonia	2019	U
Pakistan	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/9 89%~~ APSAR/WG/10 89%	Pakistan	2019	U
Palau	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/5 17%~~ APSAR/WG/10 17%	Palau	2019	U
Papua New Guinea	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/7 54%~~ APSAR/WG/10 37%	Papua New Guinea	2019	U
Samoa	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 0%~~ APSAR/WG/10 0%	Samoa	2019	U
Solomon Islands	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 0%~~ APSAR/WG/10 0%	Solomon Islands	2019	U
Sri Lanka	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/9 84%~~ APSAR/WG/10 86%	Sri Lanka	2019	U

| States/facilities | Deficiencies | | | Corrective Action | | |
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
Thailand	Asia/Pacific SAR Plan	17/05/2019	~~APSAR/WG/9 85%~~ APSAR/WG/10 87%	Thailand	2025	U
Timor-Leste	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 0%~~ APSAR/WG/10 0%	Timor-Leste	2019	U
Tonga	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 70%~~ APSAR/WG/10 68%	Tonga	2019	U
Tuvalu	Asia/Pacific SAR Plan	28/05/2022	~~APSAR/WG/7 0%~~ APSAR/WG/10 0%	Tuvalu	2024	U
Vanuatu	Asia/Pacific SAR Plan	6/07/2015	~~APSAR/WG/4 0%~~ APSAR/WG/10 0%	Vanuatu	2019	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					
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	TBD	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	RASMAG/23	Remaining monitoring burden of	Afghanistan	TBD	A

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	requirement (remaining monitoring burden more than 30%)		50% (RASMAG/29) 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.			
India	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/29	Remaining monitoring burden of 48% (RASMAG/29)	India	TBD	A
Nepal	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/28	Remaining monitoring burden of 45% (RASMAG/29)	Nepal	TBD	A
Philippines	Non-compliance with LTHM requirement (remaining monitoring burden more than 30%)	RASMAG/29	Remaining monitoring burden of 40% (RASMAG/29)	Philippines	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

** 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.

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APSAR/WG - TASK LIST

(Last amended APSAR/WG/10, 30 May 2025)

ACTION ITEM	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
4/2	ICAO requested that States monitor and report the effectiveness of their false alert education programmes.	Ongoing	All APAC States	Open	Updated to 'ongoing' at APSAR/WG/6
5/1	Cospas-Sarsat requested States to provide feedback on notifications about system developments; a) provide feedback on the Cospas-Sarsat Video Library; b) participate in the development of modifications to distress alert message format; and c) provide details of any existing MCC-SPOC agreements/arrangements, and proposals for improving MCC-SPOC communications during tests and real alerts. d) provide feedback to Cospas-Sarsat on the status of the registration systems that were maintained by individual States (prev task 4/1)	Ongoing	All APAC States	Open	APSAR/WG/4 Task 4/1 APSAR/WG/5/WP03 APSAR/WG/6 WP/05 APSAR/WG/7 WP/04 APSAR/WG/8 WP/5 APSAR/WG/9 WP/4 APSAR/WG/10 WP/14 Cospas-Sarsat has copies of only four agreements between relevant MCCs and APAC RCCs/SPOCs (Tahiti, Nepal, Cambodia, Lao PDR)
8/4	Coordinate with ICAO EUR/NAT Regional Office and ICAO Headquarters on NAT DISTREX planning and outcomes, with a view to potential APAC DISTREX	APSAR/WG/10	ICAO	~~Open~~ Completed	APSAR/WG/8 Report 4.10 APSAR/WG/10 Report 2.8
8/6	1. Explore what ICAO/IMO global response is being considered to respond to proliferation of technology and services for emergency satellite communications and automatic crash detection (non-ICAO applications) 2. Submit WPs on experience to APSAR/WG/9	APSAR/WG/10	ICAO, ICAO/IMO JWG-SAR Chairs. and All APSAR/WG/8 Administrations	~~Open~~ Closed	APSAR/WG/8 Report 4.23 APSAR/WG/10 Report 4.29

ACTION ITEM	DESCRIPTION	TARGET DATE	RESPONSIBLE PARTY	STATUS	REMARKS
8/8	Expedite finalisation of SAR agreements and inform APSAR/WG of barriers to progress	~~APSAR/WG/10~~ APSAR/WG/11	All APAC States	Open	APSAR/WG/8 Report 4.45 APSAR/WG/10 Report 4.43 and 4.46
9/1	Participate in and provide submissions to ICAO/IMO JWG meetings	~~JWG31~~ JWG32	All APAC States	Open	APSAR/WG/9 Report 2.11 APSAR/WG/10 Report 2.10 APSAR/WG/10 agreed this action item to be considered as 'ongoing'
9/2	Provide outcome of APSAR/WG/9 to the next JWG and EUR/SAR TF	JWG31 EUR/SAR TF	ICAO	~~Open~~ Completed	APSAR/WG/9 Report 2.12 Outcomes provided at the ICAO EUR/APAC SAR Workshop 2024
9/3	Report the specific reasons of false alerts during collection of operational data of ELT(DT)	~~APSAR/WG/10~~ APSAR/WG/11	All APAC States	Open	APSAR/WG/9 Report 3.29
9/4	Submit returns for the revised SAR implementation reporting form with 42 elements by 28th February 2025	28 February 2025	All APAC States	~~Open~~ Completed	APSAR/WG/9 Report 4.35 APSAR/WG/10 Report 4.15
9/5	Participate in the ICAO EUR/APAC SAR Workshop 2024 and invite Air operators to share experience of ELT(DT) devices on board the aircraft	2 October 2025	All APAC States, IATA	~~Open~~ Completed	APSAR/WG/9 Report 4.60 APSAR/WG/10 Report 2.7
9/6	Update the Asia/Pacific SAR Plan and prepare a WP for the APSAR/WG/10 in 2025 for further discussion	APSAR/WG/10	Australia, New Zealand, Singapore, United States and ICAO	~~Open~~ Completed	APSAR/WG/9 Report 5.8 APSAR/WG/10 WP/08
10/1	Organize a workshop in conjunction with the APSAR/WG/11	APSAR/WG/11	ICAO	Open	APSAR/WG/10 Report 2.25 and 8.2
10/2	Step up efforts to conduct the various actions required for ADT implementation	Immediate	All APAC States, ICAO	Open	APSAR/WG/10 Report 4.22
10/3	Submit SRU capability information by 28 February 2026	28 February 2026	All APAC States	Open	APSAR/WG/10 Report 5.10, 5.11 and Appendix E
10/4	Submit revised SAR Plan implementation using digital form by 28 February 2026	28 February 2026	All APAC States	Open	APSAR/WG/10 Report 5.11 and Appendix F

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