



International Civil Aviation Organization

**The First Meeting of the APANPIRG ATM Sub-Group
(ATM /SG/1)**

Bangkok, Thailand, 20 – 24 May 2013

Agenda Item 6: AOP, MET, AIM, SAR

APSAR/TF OUTCOMES

(Presented by the Secretariat)

SUMMARY

This paper presents the outcomes from the First Meeting of the Asia/Pacific Regional Search and Rescue Task Force (APSAR/TF/1, Bangkok, Thailand, 5 - 7 February 2013).

This paper relates to –

Strategic Objectives:

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

- GPI-1 Flexible use of airspace
- GPI-2 Reduced vertical separation minima
- GPI-3 Harmonization of level systems
- GPI-4 Alignment of upper airspace classifications
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-6 Air traffic flow management
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management
- GPI-9 Situational awareness
- GPI-10 Terminal area design and management
- GPI-11 RNP and RNAV SIDs and STARs
- GPI-12 Functional integration of ground systems with airborne systems
- GPI-13 Aerodrome design and management
- GPI-14 Runway operations
- GPI-15 Match IMC and VMC operating capacity
- GPI-16 Decision support systems and alerting systems
- GPI-17 Data link applications
- GPI-18 Aeronautical information
- GPI-19 Meteorological Systems
- GPI-20 WGS-84
- GPI-21 Navigation systems
- GPI-22 Communication infrastructure
- GPI-23 Aeronautical radio spectrum

1. INTRODUCTION

1.1 APANPIRG/23 agreed to the following Decision:

Decision ATM/AIS/SAR/SG/22-12 – Establishment of APSAR Task Force

That, an Asia/Pacific Regional SAR Task Force (APSAR/TF) be established, reporting to the ATM Sub-Group of APANPIRG, in accordance with the Terms of Reference as shown in Appendix I to the Report on Agenda Item 3.2

1.2 The First Meeting of the Asia/Pacific Regional Search and Rescue Task Force (APSAR/TF/1) was held in Bangkok, Thailand from 5 to 7 February 2013.

1.3 The meeting was attended by 38 participants from Australia, Bangladesh, Cambodia, Hong Kong China, French Polynesia, New Caledonia, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, New Zealand, Philippines, Singapore, Thailand, United States, Viet Nam, International Maritime Organization (IMO), and ICAO. 10 Working Papers (WP) and four Information Papers (IP) were considered by the meeting.

2. DISCUSSION

Election of Chairperson

2.1 Singapore nominated Mr. Scott Constable, Rescue Coordination Centre Chief, Emergency Response Division, Australian Maritime Safety Authority (AMSA) to chair the Asia/Pacific Search and Rescue (SAR) Task Force. Bangladesh seconded the nomination. No other nominations were made, and the meeting duly elected Mr. Scott Constable to the chair.

2.2 The IMO expressed their thanks to the Asia/Pacific Region for taking the initiative of the Task Force, and desired to harmonise the effort from ICAO/IMO to ensure there was at least a minimum of SAR services. The IMO suggested that the global emergency beacon communications organisation Космическая Система Поиска Аварийных Судов (Space System for the Search of Vessels in Distress) SAR Satellite-Aided Tracking (Cospas-Sarsat) should be invited to the Task Force.

Discussion on the ICAO/IMO Joint Working Group

2.3 The ICAO/IMO Joint Working Group (JWG, Hong Kong, China, 10 to 14 September 2012) recalled that ICAO and IMO had agreed that a new edition of the International Aeronautical and Maritime SAR (IAMSAR) Manual would be published only every three years. In this regard, it was noted that following the upcoming publication of an updated edition in 2013, the next edition would be published in 2016. It was further recalled that, in principle, no amendments would be published in between, and that all newly developed material would be included in the next edition.

2.4 The JWG noted that common guidance should be developed on the promulgation of airspace to facilitate SAR aviation operations as early as possible. It was further noted that different names or categories were given to this kind of airspace, such as danger areas and restricted airspace.

2.5 The JWG agreed that guidance on the use of social media site information for SAR response purposes had to form part of the IAMSAR Manual and that it already had its influence on coordination of SAR at present. The JWG further agreed that guidance should be developed on the use of social media to promulgate/distribute/broadcast information out to the public.

2.6 It was noted that one of the main problems related to the AF447 crash had been that the position of the aircraft was not known at the time of the accident. Many recommendations in the report were aimed to improve the monitoring of the position of aircraft over oceanic and remote airspace by an expedited introduction of new communication technologies as well as the improvement of procedures related to existing technology.

2.7 The JWG further noted views that the additional functionalities under development to be added to new generation Cospas-Sarsat distress beacons might enable Cospas-Sarsat to stay relevant in the long term. In this regard the use of 406 MHz type of beacons would be desirable for years to come.

2.8 The JWG concluded with regard to two-way messaging that gathering of additional information following beacon activation was desirable for SAR services. However, the two-way messaging system currently being considered for second generation 406 MHz distress beacons would not provide the appropriate means to gather this additional information.

2.9 The JWG noted the desire for SAR services to be provided with accurate and frequently updated position information. It was noted that the current generation of beacons, when the beacon had the capability to provide updated position data, was only able to provide position information every five minutes. Accordingly, the JWG expressed the need for a Global Navigation Satellite System (GNSS) update rate of the fastest practical rate to track Emergency Locator Transmitter (ELT) when activated in-flight.

2.10 The JWG noted that for the second generation beacons, a single beacon unique identification scheme was proposed, consisting exclusively of the country code, the TAC number and a serialized identifier. The TAC number would allow for looking up beacon characteristics, and the serial number would allow for looking up owner information such as vessel/aircraft identification and emergency contacts. The JWG further noted that about 30% of beacons were currently not registered, so vessel/aircraft identification and emergency contacts could not be identified.

2.11 The USA stated that the next generation of ELT beacons represented a dramatic step forward, with accuracies of 100m or less, and constant alerting, so it was important to start planning for this implementation starting in 2015, with full coverage in 2018.

2.12 The United States noted that the Asia/Pacific Region had a key role in the global SAR system established by ICAO, stating that an active linkage between the APSAR/TF and the ICAO/IMO JWG would be a very positive step forward for SAR matters in Asia/Pacific and globally. The exchange of SAR issues and solutions between a regional and a global forum was recognised as being mutually beneficial and should be encouraged.

2.13 As detailed in the JWG TOR, the JWG met subject to the approval of IMO and ICAO. The JWG had no power to make recommendations to States, nor to any other organization other than IMO and ICAO. As an example of the relationship, the Asia/Pacific recommendation on ‘Search Planning for 121.5 MHz Distress Beacon Alerts’ was adopted internationally.

2.14 The United States emphasised that the Asia/Pacific Region had a major role in the global SAR system, and the ATM/SG had a long record of addressing SAR issues through JWG meetings. In turn, the United States remarked that its follow-on work should greatly assist in identifying solutions for the Asia/Pacific Region, while the JWG could support ICAO Asia/Pacific Regional forums and also, as appropriate, advocate Asia/Pacific regional solutions for consideration as global solutions.

2.15 The JWG recognised that it was a priority to harmonise the aeronautical and maritime SAR effort.

2.16 The Chairperson emphasised the importance of drawing up a list of documents and publications and assisting smaller States, who may have the documents but not the correct up-to-date version. The USA had proposals to help a country develop such a library. The Chairperson also mentioned the need to consider how we share information, preferably electronically.

2.17 The APSAR/TF meeting discussed the possibility of sequential ICAO/IMO JWG and APSAR/TF meetings. The meeting agreed that there could also be efficiencies gained by holding APSAR/TF meetings with regional IMO meetings on SAR. The United States expressed support for this, especially if there were two meetings to justify travel costs, and the meeting location allowed some States to attend which may not have been previously possible. The meeting endorsed this direction to improve efficiency outcomes and attendance.

Global SAR Update

2.18 ICAO HQ stated that there was a desire to complete a full review of Annex 12, and present an amendment proposal in the near future.

2.19 ICAO had been tasked with a review of Standards and Recommended Practices (SARPs) and guidance material after the fatal flight of a large airliner from Brazil to France to improve surveillance, flight monitoring and communications of aircraft, including the provision of timely and adequate search and rescue services. The Operational Data Link Panel (OPLINKP) had been tasked to review data-link related procedures to address this. A proposed PANS-ATM amendment regarding ATM procedures was presented to the Air Navigation Commission (ANC), with a proposed applicability of November 2014.

2.20 ICAO had already initiated actions to address recommendations for an extended life for batteries of underwater locator beacon for flight data recorder, and the possibility of automatic ELT activation under certain circumstances.

2.21 The Flight Recorder Panel had been considering options to address related issues, mainly regarding airborne equipment. New ELTs, automatically triggered in-flight when necessary, improved flight data recorders and other options were being considered, with the objective of ensuring that the location of an aircraft following an accident would be determined within a 6NM radius.

Overview of SPC Maritime SAR Activity

2.22 New Caledonia, on behalf of the Secretariat of the Pacific Community (SPC) presented an overview of the work undertaken to support SAR efforts in the Pacific. The work mainly focused on improving maritime SAR coordination, communication, cooperation and planning. These efforts, primarily funded by the IMO, had been consistently supported by the SAR authorities from Australia, French Polynesia, New Caledonia, New Zealand, and the United States.

2.23 Since 2001, SPC had conducted a total of seven seminars and workshops to assist the Pacific Island countries and territories to improve SAR response within the region. This effort had fully involved the Rescue Coordination Centres in Australia, French Polynesia, New Caledonia and New Zealand and the US Coast Guard.

2.24 The next SAR Workshop was planned for 3-7 June 2013 in Suva, Fiji. It was expected that aeronautical SAR matters could be introduced at this forum. The meeting noted the value of close cooperation between aeronautical and maritime SAR services, the need to support this initiative, and requested New Caledonia to report the results to the Task Force.

2.25 The meeting discussed the importance of establishing a web site as a single resource for Asia/Pacific SAR. The United States volunteered to develop this resource.

Asia/Pacific SAR Status

2.26 The meeting reviewed and updated the:

- current List of SAR Agreements at **Attachment A**;
- SAR Agreement Matrix at **Attachment B**;
- SAR Capability Matrix Table at **Attachment C**; and
- Regional SAR Compliance Overview (**Figure 1**).

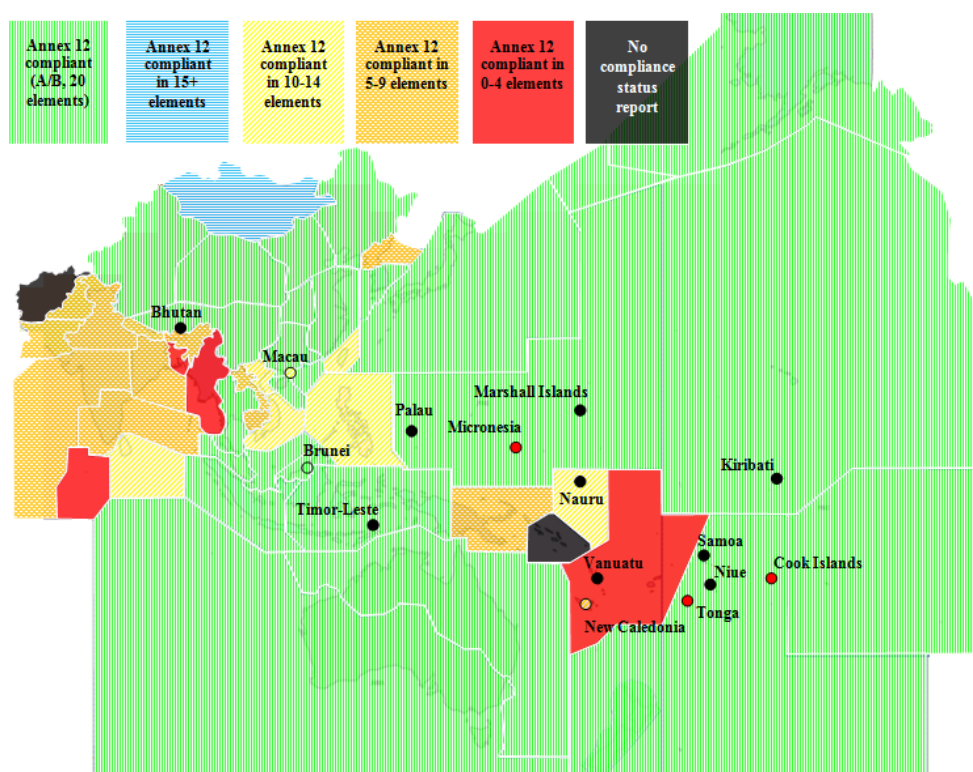


Figure 1: Regional SAR Overview

2.27 The SAR Status data indicated that only three Asia/Pacific administrations had Annex 12 compliance in all elements. The Regional SAR Compliance Overview indicated particular weaknesses in South Asia and the Southwest Pacific areas (note: Mongolia provided an update on 17 April 2013, indicating significant improvements in Mongolian SAR capability, which has been reflected in Figure 1). The Chairperson and the United States acknowledged the excellent tool that the overview provided in portraying weak areas of the region.

2.28 Indonesia informed the meeting that there would be an ASEAN Transport SAR Forum meeting in Bali from 05-07 March 2013, which would discuss SAR related matters, including a review of the 1972 SAR Agreement in order to further strengthen the commitment between member States. Indonesia also informed the meeting that an ASEAN SAREX was planned to be held in 2015 consisting of a table top exercise in 2014, and a field exercise in 2015, as mandated by the ASEAN Transport Action Plan 2011-2015.

2.29 Thailand asked if the SAR Agreements in the list were of an aeronautical or maritime nature. The Secretariat replied that they were a mixture of both, while some countries had a combined service, so would always contain both aeronautical and maritime elements.

2.30 The meeting discussed the difficulties of enacting agreements between States, which often involved waiting for long periods for political agreement. The Philippines asked if the Secretariat could assist to facilitate new SAR Agreements. The meeting noted that ICAO/IMO may be able to facilitate some agreements involving high-level decision-makers. The Task Force agreed to the following Draft Conclusion for consideration by the ATM Sub-Group and APANPIRG:

Draft Conclusion APSAR/TF-1: Search and Rescue Agreements

Recognising the difficulties of enacting Search and Rescue (SAR) Agreements, States should be urged to make arrangements for senior civil and military decision-makers to facilitate the implementation and maintenance of SAR Agreements as early as possible.

2.31 New Caledonia also noted the difficulties that can occur where aeronautical and maritime Search and Rescue Regions (SRRs) were not coincident.

2.32 The meeting discussed the issue of 406 MHz distress beacon registration. Malaysia suggested it may be necessary to have Annex 12 amended to ensure States register 406 MHz distress beacons, with the register available to both aeronautical and maritime RCCs. The IMO informed the meeting that there were other documents that needed to be considered before suggesting amendments regarding the registration of distress beacons.

2.33 Singapore commented that the SAR Capability Matrix provided guidance in assessing gaps, noting that it was not a grading but a means of supporting improvement, and there was work to be done by the Task Force in identifying the correct assistance required. The United States concurred with this view. The Chair emphasised the need to review the elements, and in particular suggested looking at including first SAR aircraft on scene dropping SAR datum buoys. IMO stated that they already had recommendations regarding registration of SAR beacons. Australia also mentioned that civil and military cooperation was required for registration.

2.34 Australia presented elements for consideration by the APSAR/TF with respect to improving and enhancing oceanic SAR capability. Australia highlighted the recent steady increase in air traffic over oceanic areas in the Asia/Pacific Region, which was forecast to grow significantly by 2030. Importantly, maritime traffic was also increasing, adding further urgency for States with oceanic SAR responsibilities to meet ICAO and IMO requirements for the provision of aviation and maritime SAR services.

2.35 The meeting noted that many States did not have the responsibility for SRRs containing oceanic areas. However their citizens that may fly over or sail through such areas would expect a timely and adequate SAR response to be provided, should it be required. While recognising the SAR Capability Matrix provided an indicator of individual State SAR system readiness, Australia stated that when oceanic SAR capability was combined with response distances in remote oceanic areas, transit times for scarce SAR units presented a significant challenge.

2.36 Australia submitted that the Air France 447 accident contained some valuable SAR lessons for consideration in the development of oceanic SAR material:

- importance of normal ATS SAR alerting procedures;
- need for SAR Agreements between regional SAR neighbours to improve coordination and awareness of SAR asset availability;
- desirability of Joint RCCs (JRCCs) to incorporate aviation and maritime activities;
- need to publish a geographical depiction of SRRs;
- importance of SAR Datum Buoys for them to be deployed; and
- requirement for a State SAR point of contact.

2.37 The meeting noted the Australian experience that combining a Maritime RCC (MRCC) and an Aviation RCC (ARCC) can provide improved efficiencies such as:

- providing a single 24 hour point of contact instead of two;
- more exposure and practice for RCC staff in both aviation and maritime SAR;
- sharing of SAR expertise and workload;
- consolidation of facilities; and
- reduction in costs and improved coordination and communication.

2.38 Australia submitted that the following additional issues should be considered as part of the Regional SAR planning:

- improvement and enhancement of oceanic SAR capability as a priority task;
- inclusion of material regarding Air Traffic Services (ATS) SAR alerting with RCCs;
- establishment of reliable and published 24 hour national SAR point of contact;
- encouragement of SAR coordination plan, agreement, arrangement and/or regional protocol implementation covering all maritime areas;
- adding another category to the SAR Capability Matrix ‘Droppable Datum Buoys’ for States with oceanic SAR area responsibility; and
- incorporation of material contained in the IAMSAR Manual, Volume I, Chapter 6, Section 6.4.6.

Search and Rescue Exercises (SAREX)

2.39 Mongolia successfully organized joint aviation SAR exercises between Mongolia and the Russian Federation from 5 to 8 September 2012 near their common border. Joint SAREX 2012 was a Full-Scale Exercise or a Field Exercise, where actual SAR facilities were deployed. This increased the scope of SAR system-testing and added realistic constraints due to times involved in launching, transit and activities of the SAR Units (SRUs). Chinese SAR experts were also invited to observe SAREX 2012. The first joint SAREX had been held in the territory of the Altai Republic of the Russian Federation from 22 to 25 June 2010.

2.40 Viet Nam presented information regarding their SAR exercise 2012 (SAREX 2012), near Hoa Lac airport (40km West of Ha Noi), Viet Nam as part of annual activities. The total number of participants was 325, including observers from the ICAO Regional Office, Lao PDR and Cambodia.

Asia Pacific Regional SAR Plan

2.41 The Secretariat presented information on possible methods that an Asia/Pacific SAR Plan could be developed, as required by the TOR. The APSAR/TF was expected to deliver a plan within two years of establishment for enhancement of SAR capability within the Asia/Pacific Region, including enhancement of SAR services with neighbouring States, which required references to:

- the current status of SAR preparedness of Asia and Pacific Region States and State SAR arrangements;
- SAR contingency procedures from other ICAO Regions; and
- recommendations for SAR planning and preparedness in terms of compliance with Annex 12, the International Aeronautical and Maritime Search and Rescue Manual (IAMSAR) and accepted best practice.

2.42 The analysis of information and subsequent recommendations was expected to be incorporated into a Regional SAR Plan for submission to APANPIRG/26, due to be held in 2015.

2.43 Planning material germane to regional SAR services was contained in Part VII, Volume 1 of the Asia and Pacific Regions Air Navigation Plan (Basic Air Navigation Plan, Doc 9673). The meeting noted that much of this material appeared to be superfluous, considering the SARPs contained within Annex 12, and the three volumes of the IAMSAR.

2.44 In addition, Table SAR 1 in the Facilities and Services Implementation Document (FASID, Volume II of Doc 9673) theoretically provided planning information such as required rescue facilities. However this material did not appear to be up-to-date and the value of the material appeared to be very limited, with the FASID cover page containing the statement that the material was ‘Not to be used for operational purposes’.

2.45 The meeting noted that Annex 15 (Appendix 1, page APP 1-8) required that State Aeronautical Information Publications (AIP) provide information on the provision of SAR services.

2.46 The meeting discussed the need for the status of Doc 9673 SAR material to be reviewed, to determine whether some could be contained within the Asia/Pacific Regional SAR Plan, or deleted due to duplication by SARPs or State AIPs. The meeting noted that it was not intended to remove regional-specific planning material. It was agreed that the Chairperson and the IMO would make a preliminary review of the material before circulation to the other APSAR/TF members.

SAR Contact List

2.47 Australia suggested the establishment of an Asia/Pacific Aeronautical SAR Contact List, with a focal point for each administration and relevant International Organization. Australia stated that the nominated contact(s) should preferably be a SAR manager or senior SAR qualified person who could respond in a timely and effective manner to coordinate aeronautical non-emergency and administrative SAR matters.

2.48 Australia emphasised that the Contact List should not be confused with any listings of SPOCs used for 24 hour SAR emergency communications associated with RCCs and the COSPAS-SARSAT distress beacon system. The Task Force agreed to the following Draft Conclusion for consideration by the ATM Sub-Group and APANPIRG:

Draft Conclusion APSAR/TF-2: Asia/Pacific SAR Contact List

That, States should be urged to provide contact details of SAR managers or senior SAR staff who may respond in a timely manner to aeronautical non-emergency and administrative SAR matters to the Asia/Pacific Regional Office, for incorporation into an Asia/Pacific SAR Contact List.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss and endorse Draft Conclusion APSAR/TF-1: Search and Rescue Agreements (paragraph 2.30);
- c) discuss and endorse Draft Conclusion APSAR/TF-2: Asia/Pacific SAR Contact List (paragraph 2.48); and
- d) discuss any relevant matters as appropriate.

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