



International Civil Aviation Organization

The Second Meeting of the ICAO Asia/Pacific Search and Rescue Task Force (APSAR/TF/2)

Singapore, 27 – 30 January 2014

Agenda Item 5: Asia/Pacific Regional SAR Plan

ASIA/PACIFIC REGIONAL SAR PLAN

(Presented by the Secretariat)

SUMMARY

This paper presents information on the development of an Asia/Pacific Search and Rescue (SAR) Plan, as required by the APSAR/TF Terms of Reference.

This paper relates to –

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

Global Plan Initiatives:

Not Applicable

1. INTRODUCTION

1.1 According to the Terms of Reference, 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 neighboring States. This will require the submission of a plan outline to APANPIRG/25 (2014) to indicate progress, and the completed plan to APANPIRG/26 (2015).

1.2 In order to make recommendations for the improvement of SAR systems, the APSAR/TF is expected to:

- review the current status of SAR preparedness of Asia and Pacific Region States and State SAR arrangements;
- monitor outcomes from relevant forums for issues that may affect the Asia/Pacific Region;
- analyse SAR contingency procedures from other ICAO Regions; and
- identify areas where SAR planning and preparedness requires improvement in terms of compliance with Annex 12, the International Aeronautical and Maritime Search and Rescue Manual (IAMSAR) and accepted best practice.

2. DISCUSSION

Asia/Pacific Regional SAR Plan Process

2.1 APSAR/TF/2 is expected to discuss the ‘strawman’ – an outline of the basic document with headings and some starting text. Participants at the meeting are expected to discuss the structure and in particular, any missing components of the draft plan. APSAR/TF/2 should take into account relevant material from the Regional Air Navigation Plan and ICAO Assembly meetings. The early draft plan that is developed by APSAR/TF/2 will be presented to the ATM Sub-Group and thence to APANPIRG/25.

2.2 APSAR/TF/3 is expected to deliberate on the plan with all its draft material in place, and take into account the trans-regional aspects such as with the African (AFI) areas that adjoin the Asia/Pacific.

2.3 APSAR/TF/4 is expected to complete discussions on the draft plan in preparation for presentation to the ATM Sub-Group and thence to APANPIRG/26.

Asia/Pacific Regional Air Navigation Plan

2.4 Planning material germane to regional SAR services is contained in Part VII, Volume 1 of the Asia and Pacific Regions Air Navigation Plan (Basic Air Navigation Plan, Doc 9673, **Appendix A**). Much of this material appears to be superfluous, considering the Standards and Recommended Practices (SARPs) contained within Annex 12, and the three volumes of the IAMSAR.

2.5 In addition, Table SAR 1 in the Facilities and Services Implementation Document (FASID, Volume II of Doc 9673) theoretically provides planning information such as required rescue facilities. However this material does not appear to be up-to-date as the Regional Office has had no updates except one from Pakistan in three years. In any case the value of the material appears to be very limited as the FASID cover page contains the statement that the material is ‘*Not to be used for operational purposes*’.

2.6 In this regard, it is noted that Annex 15 Appendix 1, page APP 1-8) requires that State Aeronautical Information Publications (AIP) provide information in:

- GEN 3.6.1 on the agency responsible for providing SAR services;
- GEN 3.6.2 on the area of SAR responsibility where SAR services are provided;
- GEN 3.6.3 on the type of SAR services and facilities provided including indications where SAR aerial coverage is dependent upon significant deployment of aircraft;
- GEN 3.6.4 on SAR agreements;
- GEN 3.6.5 on the conditions of SAR facility and service availability; and
- GEN 3.6.6 on SAR procedures and signals used.

2.7 Thus it should be determined what the relevance is of SAR material contained within the Regional Air Navigation Plan, and update this as required.

2.8 The status of the SAR material within Doc 9673 and whether it can be contained within the Asia/Pacific Regional SAR Plan should be discussed, as any regional-specific planning material that fits between the SARPs/IAMSAR and the State AIP information should be a single, accessible and relevant resource.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) agree on a review mechanism to ensure that material from Annex 12 and the IAMSAR are not duplicated by Doc 9673;
- c) discuss mechanisms for the development of the Asia/Pacific Regional SAR Plan; and
- d) discuss any relevant matters as appropriate.

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Appendix A: BANP
Part VII
SEARCH AND RESCUE
(SAR) SERVICES

INTRODUCTION

1. This part of the Asia and Pacific (ASIA/PAC) Basic Air Navigation Plan contains elements of the existing planning system and introduces the basic planning principles, operational requirements and planning criteria related to search and rescue (SAR) services as developed for the ASIA/PAC regions.
2. As a complement to the Statement of Basic Operational Requirements and Planning Criteria (BORPC) set out in Part I, Part VII constitutes the stable guidance material considered to be the minimum necessary for effective planning of SAR facilities and services in the ASIA/PAC regions. A detailed description/list of the facilities and/or services to be provided by States in order to fulfil the requirements of the plan is contained in the ASIA/PAC Facilities and Services Implementation Document (FASID). During the transition and pending full implementation of the future communications, navigation and surveillance/air traffic management (CNS/ATM) system, it is expected that the existing requirements will gradually be replaced by new CNS/ATM-related requirements.
3. The Standards, Recommended Practices and Procedures to be applied and related guidance material are contained in:
 - a) Annex 12 — *Search and Rescue*;
 - b) *Regional Supplementary Procedures* (Doc 7030); and
 - c) *International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual* (Doc 9731).
4. Background information of importance in the understanding and effective application of this part of the plan is contained in the *Report of the Third Asia/Pacific Regional Air Navigation Meeting* (Doc 9614, ASIA/PAC/3 (1993)) on Agenda Item 7.

5. A regional air navigation (RAN) meeting recommendation shown in brackets below a heading indicates the origin of all paragraphs following that heading. A RAN meeting recommendation shown in brackets below a paragraph indicates the origin of that particular paragraph.

PLAN FOR SEARCH AND RESCUE REGIONS (SRRs)

[ASIA/PAC/3, Rec. 7/21]

6. The plan for search and rescue regions (SRRs) is shown on Chart SAR 1. (eANP)

SEARCH AND RESCUE SERVICES

Organization and facilities

7. The list of SAR facilities shown in Table SAR 1 of the FASID constitutes the plan for SAR facilities in the ASIA/PAC regions. (7.16)

[ASIA/PAC/3, Rec. 7/22]

Note 1.— Rescue sub-centres (RSCs) are not shown except when located in a State different from that in which the relevant rescue coordination centre (RCC) is located.

Note 2.— Facilities listed are the minimum required for SAR purposes and it is recognized that many States have facilities available in addition to those listed.

Note 3.— Facilities listed need not be used exclusively for SAR operations but may be suitably equipped aircraft or ships also used for other missions that can be made available for SAR operations at short notice.

Note 4.— The type of facility listed must be readily available for SAR within its intended area of operation either directly or on a “redeployment” basis.

8. States within the region should establish and/or maintain RCCs or RSCs on a 24-hour basis and ensure continual availability of SAR facilities listed in Table SAR 1 of the FASID.

[ASIA/PAC/3, Rec. 7/23]

Coordination with maritime SAR authorities and the International Maritime Organization

9. To ensure compatibility between aeronautical and maritime SRRs, aeronautical SAR authorities in States should maintain close liaison with their maritime counterparts and the International Maritime Organization. (draft SAR Plan reference 7.5)

[ASIA/PAC/3, Rec. 7/3]

Continuous provision of SAR facilities

10. States, when necessary, should take urgent action to ensure the continuous provision of SAR facilities in accordance with the regional air navigation plans. (7.8)

[ASIA/PAC/3, Rec. 7/6]

Capacity of rescue units and associated facilities

[ASIA/PAC/3, Rec. 7/5]

11. States should:

- a) take due account of the large size and passenger-carrying capacity of commercial aircraft operating within their area of responsibility, and of the possibility of aircraft ditching in water near airports, in planning for SAR and emergency care facilities; and (7.2 b)
- b) be encouraged to provide and use for SAR, wherever practicable, helicopters equipped with suitable winching equipment. (7.12 d)

Satellite-aided SAR

[ASIA/PAC/3, Rec. 7/7]

12. States should:

- a) take appropriate action to reduce the number of false alarms on 121.5/243 MHz caused by inadvertent activation of emergency transmitters and eliminate unauthorized use of those frequencies; (Out of date?)
- b) encourage the early introduction of emergency locator transmitters (ELTs) transmitting on 406 MHz and establish a register of such ELTs; (7.18 b)

c) make available information on how ELT registration information can be obtained rapidly by RCCs of other States; and (7.19 b)

d) provide to ICAO a SAR point of contact (SPOC) for inclusion in Table SAR 1 of the FASID (7.1 d, 7.14 a).

SAR escort service

[ASIA/PAC/3, Rec. 7/24]

13. States should provide SAR escort service to aircraft in difficulties. (7.4 f)

Assistance in establishing SAR services

[ASIA/PAC/3, Rec. 7/11]

14. States requesting assistance in establishing or improving SAR services should first endeavour to satisfy the following basic requirements: (7.1 and 7.2)

- a) a RCC/RSC location (which could be an air traffic control (ATC) unit);
- b) a designated RCC chief, knowledgeable in ATC and trained in the planning of searches and the coordination of SAR missions; (7.1 b)
- c) personnel to be trained to serve as SAR mission coordinators;
- d) adequate staff for 24-hour operation of the RCC; and
- e) appropriate RCC material and equipment.

Communications between aircraft and ships

[ASIA/PAC/3, Rec. 7/12 a)]

15. States should develop procedures to be included in the detailed SAR plans which enable civil aircraft and SAR aircraft to enter rapidly into communications with ships when necessary. (7.12 a)

SEARCH AND RESCUE OPERATIONS

Communications for survivors

[ASIA/PAC/3, Rec. 7/13]

16. States should encourage operators to carry means for survivors to communicate with aircraft on 121.5 MHz. (out of date?)

Ship reporting systems

17. States should: (7.5)

- a) through their maritime authorities, encourage ships to participate in an appropriate ship reporting system for SAR; and
- b) record information on the position of ships at sea and disseminate such information to SAR authorities of other States requesting it, to facilitate response to cases of distress. (7.5)

[ASIA/PAC/3, Rec. 7/16 a) and b)]

18. RCC and RSC plans of operation should provide guidance on how information from available ship reporting systems can be obtained. (7.5)

[ASIA/PAC/3, Rec. 7/16 c)]

Note.— The Automatic Mutual-assistance Vessel Rescue (AMVER) system is a worldwide ship reporting system for SAR, operated by the United States Coast Guard. Any RCC can obtain information about ships in the vicinity of a distress by contacting any RCC of the United States Coast Guard.

SAR exercises

[ASIA/PAC/3, Rec. 7/17]

19. States which introduce a SAR organization, handle relatively few actual SAR cases or need to coordinate SAR operations with neighbouring States, should use SAR exercises to improve proficiency and procedures. (7.17)

Note.— Exercises may be conducted on three levels: communications exercises; coordination exercises (without involving SAR units); and field exercises (involving actual SAR unit deployment).

SAR training

[ASIA/PAC/3, Rec. 7/18]

20. States should be encouraged to: (7.2 h)

- a) arrange for regular high-quality SAR training for its RCC personnel, nationally or regionally, as part of its aeronautical training or maritime SAR schools;
- b) grant scholarships to SAR personnel as necessary to enable them to attend a SAR training course; and
- c) make use of the ICAO TRAINAIR course development methodology to assist in the production of standardized training packages in the field of SAR.

Note.— The ICAO TRAINAIR programme provides for an effective means of analysing and determining skills required, creates training objectives by setting standards for job performance and produces material-dependent courseware.

COOPERATION BETWEEN STATES

[ASIA/PAC/3, Rec. 7/9] (7.2 c)

21. To promote greater efficiency and economy in the provision and use of available SAR facilities, States providing SAR services in adjacent SRRs should enter into formal arrangements for mutual assistance in order to:

- a) help meet and exceed the minimum requirements specified in Table SAR 1 of the FASID at minimal cost;
- b) ensure full SRR coverage;
- c) provide for technical and operational SAR cooperation and coordination;
- d) establish common SAR procedures, where practicable;
- e) conduct joint training and exercises, as appropriate, to maximize proficiency; and
- f) promote effective liaison between air traffic services and RCC personnel within and between the States involved.

Note.— SAR agreements are particularly important for border areas where concerns for sovereignty and saving lives must be balanced, high seas areas, and inhospitable areas where rapid response is essential to successful SAR operations.

STATE PROCESSES

TO IMPROVE THE SAR SYSTEM

[ASIA/PAC/3, Rec. 7/15]

22. States, when undertaking the continued improvement in the provision of SAR services, should consider the following:

a) the establishment of a national SAR coordinating committee to improve inter-agency cooperation, information exchange and development of national SAR policies and procedures; (7.1 c)

b) nationally or in cooperation with neighbouring States, development of:

1) SAR manuals; (7.1 g v)

2) SAR plans and agreements for cooperation, coordination and the effective use of all available SAR resources; (7.2 c and d)

3) RCC/RSC plans of operation and other operational documents; (7.1 g x, 7.2 a)

4) SAR training capability, especially for search planners, SAR mission coordinators and on-scene commanders; and (7.1 g xi, 7.2 h)

5) organizational and operational working relationships; (7.1 b)

and

c) effective use of relevant international documents. (7.2 d and e)

INTERNATIONAL CIVIL AVIATION ORGANIZATION

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ASIA/PACIFIC SAR PLAN

DRAFT Version 0.4, January 2014

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

Approved by APANPIRG/XX and published by the
ICAO Asia and Pacific Office, Bangkok

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SCOPE OF THE PLAN

Plan Structure

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 Maritime and Aeronautical SAR manual (IAMSAR). Beneath this is regional planning primarily provided by this Plan and other regional guidance material, in order to define the goals and means of meeting objectives for State planning, such as Regional Air Navigation Plan (RANP, ICAO Doc 9673) objectives.

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

1.3 The scope of the Plan is the identification of:

- the current status of SAR preparedness of Asia and Pacific Region States and State SAR arrangements;
- relevant SAR contingency procedures from other ICAO regions, particularly those from States with Flight Information Regions (FIRs) or Search and Rescue Regions (SRRs) that adjoin Asia/Pacific FIRs/SRRs; and
- recommendations for SAR planning and preparedness enhancements, in terms of compliance with Annex 12, 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.

Plan Review

1.5 As an iterative process, the Plan requires regular updating to keep current with changes in technology, political considerations and human performance. It is intended that APANPIRG and its contributory bodies conduct a complete review every three years (or a shorter period determined by APANPIRG) of the Plan to align with the review cycle of the GANP.

OBJECTIVES

Plan Objective

2.1 The objective of the SAR Plan is to provide a framework to assist Asia/Pacific States in meeting their SAR needs and obligations accepted under the Convention on 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, when practicable.

2.2 The Plan is to be consistent with the Standards and Recommended Practices (SARPs) of ICAO Annex 12 Search and Rescue, and aligned where appropriate with the SAR technical and operational measures and recommendations of the International Maritime Organization (IMO).

2.3 The Plan recognizes that ICAO serves as the forum for the implementation of practical and achievable measures to improve SAR services for the civil air transportation system. The Plan also recognizes that the IMO provides a similar forum for SAR services to the maritime transportation system.

2.4 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 complimentary 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

2.5 SAR plans describe how SAR services will be provided, organized and supported. SCs oversee and implement these documents. SAR plans should be signed by all Government agencies which can provide or support SAR services. These agencies should all be represented on the SCC which oversees these plans.

Plan Development

2.6 The Regional Search and Rescue Plan was developed by the ICAO Asia/Pacific SAR Task Force consistent with the APANPIRG Terms of Reference which are:

- a) to ensure continuous and coherent development of the Asia/Pacific Regional Air Navigation Plan and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs and Global Air Navigation Plan for CNS/ATM Systems (Doc 9750) and reflecting global requirements;
- b) to facilitate the implementation of air navigation systems and services as identified in the Asia/Pacific Regional Air Navigation Plan with due observance to the primacy of air safety, regularity and efficiency; and
- c) to identify and address specific deficiencies in the air navigation field.

2.7 The Regional Search and Rescue Plan was developed as part of a suite of Asia/Pacific air navigation plans, including the Regional ATM Contingency Plan, and the Seamless ATM Plan, so the Plan should not be considered in isolation.

2.8 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:

- Compliance with Annex 12 SARPs;
- Identification and addressing of deficiencies in SAR capability;

- Continuous and coherent development of SAR capability;
- Harmonisation of aeronautical and maritime SAR services;
- Remote oceanic SAR response capability;
- Establishment and review of arrangements between neighbouring States to expeditiously facilitate SAR coordination, operations and cooperation across regional boundaries including contingency procedures;
- Facilitation of the implementation of SAR systems and services including the establishment of JRCCs where suitable and practicable;
- Supporting the sharing of SAR information, data and expertise;
- Monitoring of outcomes from APANPIRG Sub-Groups, other ICAO Region SAR groups, ICAO/IMO SAR Joint Working Group and related forums for issues that may affect the APAC Region;
- Facilitation of a continuous reporting mechanism of State SAR capability, Annex 12 compliance and SAR performance data to the APAC Regional Office and the APANPIRG ATM/SG
- Implementation of a Quality Assurance program for SAR
- Coordinating the introduction of new technology affecting the regional SAR system,
- Sharing future research and development concepts
- 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
- Conducting efficient SAREX that identify improvements and latent problems.

2.9 The elements should be periodically reviewed by APANPIRG to ensure they remain relevant to the SAR system, particularly for new technology developments.

2.10 The Plan should be available in either hard copy or online formats as appropriate, to each RCC and SAR Authority. This publication may then supersede the requirement for SAR facilities information contained within Table SAR 1 in the Facilities and Services Implementation Document (FASID, Volume II of the Asia and Pacific Region Air Navigation Plan (Basic Air Navigation Plan, Doc 9673), subject to the endorsement of Asia/Pacific States.

2.11 x

EXECUTIVE SUMMARY

3.1 ICAO reported in December 2012 that 2.9 billion people used scheduled air transport services in 2012, with the annualized passenger figure up 5 per cent since 2011, and is expected to reach over 6 billion by 2030 according to current projections. The number of flights should also double, from 30 million to 60 million a year.

3.2 The Asia/Pacific region was the world's largest air transport market in 2012 with a 30 per cent share in terms of world Revenue Passenger Kilometres (RPKs).

3.3 Maritime traffic in the Asia/Pacific region is also increasing and whilst IMO sponsors 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.

3.4 Asia/Pacific States who are signatories to the Chicago Convention accept the responsibility for the provision of SAR services per the requirements of 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.

3.5 Considering that many of the Asia/Pacific States have the challenging responsibility for providing a SAR service over vast and remote oceanic 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 RCCs is essential.

3.6 In 2012 APANPIRG established the Asia/Pacific SAR Task Force (APSARTF) to assist with increasing discussion on SAR matters within APANPIRG and to develop a plan to address deficiencies in regional SAR capability. This Asia/Pacific SAR Plan was developed in accordance with Terms of Reference approved by APANPIRG.

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

- Association of Southeast Asian Nations (ASEAN);
- Asia Pacific Economic Cooperation (APEC);
- South Asian Association for Regional Cooperation (SAARC); and
- Secretariat of the Pacific Community (SPC).

3.8 x.

Stakeholder Summary

3.9 This Plan addresses the full range of SAR stakeholders, including civil and military SAR authorities. The Plan has been developed in consultation with Asia/Pacific States, SAR administrations and relevant International Organizations (IO).

3.10 States should consult with stakeholders nationally, regionally and internationally as appropriate and determine actions in order to commit to achieving the objectives of this SAR Plan in order to meet the minimum SAR service requirements of ICAO Annex 12. Where States are unable to meet the minimum SAR service requirements of ICAO Annex 12, these should be notified to ICAO as differences to the Annex 12 SARPs.

3.11 x

ABBREVIATIONS AND ACRONYMS

APANPIRG	
ARCC	Aeronautical Rescue Coordination Centre
ATM	Air Traffic Management
JRCC	Joint Rescue Coordination Centre
MRCC	Maritime Rescue Coordination Centre
RCC	Rescue Coordination Centre
SAR	Search and Rescue
SARPs	Standards and Recommended Practices
SRR	Search and Rescue Region

4.1 XXX

TO BE COMPLETED ON FINAL EDIT

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BACKGROUND INFORMATION

APSAR/TF

5.1 APANPIRG/23 (Bangkok, Thailand, 10-14 September 2012) 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

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

Improvement Drivers

5.3 The next generation of 406MHz distress 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.

5.4 [Include material from the SG Meeting 2012, APSARTF1, HLSC, others?]

CURRENT SITUATION

Asia/Pacific SAR Capability Analysis

6.1 The following **Figure X** depicts Asia/Pacific and adjoining FIRs and SRRs.

Figure X: Asia/Pacific and adjoining FIRs/SRRs

6.2 In this Section there should be a statement of SAR capability etc. This can largely come from the SAR/TF/3 report. However all known issues should be detailed here if already clear.

Asia/Pacific SAR Coordination Forums

6.3 The Asia/Pacific Region will benefit from the cooperation and coordination of States and International Organizations involved in the APSAR/TF. After the APSAR/TF completes its tasks, 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 is considered imperative, such as:

- a) Pacific Ocean SAR Forum – including Pacific States of the Asia/Pacific, North American and South American regions; and
- b) Indian Ocean SAR Forum – including Indian Ocean States of the Asia/Pacific, East African and Middle East regions.

6.4 One of the key objectives of permanent joint ICAO/IMO Regional SAR Forums would be the establishment of a joint ICAO/IMO Regional SAR Training Team, which would provide direct assistance to States using SAR experts and the development of regional SAR training modules resources. The Regional SAR Training Team concept is similar to the Performance-based Navigation (PBN) ‘Go Teams’ which support States to implement PBN and improve PBN capability.

Barriers

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

- c) establishment of an appropriate legal framework designating, recognizing and giving authority to national SAR authorities;
- d) funding and equipping SAR authorities and in particular, resourcing the RCC;
- e) setting of appropriate SAR organizational framework;
- f) establishment of a National SAR Committee;
- g) clarity of responsibilities for each component of the SAR system, and empowerment of the RCC;
- h) establishment of SAR Agreements; and
- i) lack of recognition of the importance of SAR.

- 6.6 The provision of sufficient resources was critical in a number of areas, including:
- a) financial-
 - i. funding for 24 hour RCC facility and staff;
 - ii. funding for use/hire of search and rescue units; and
 - iii. 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;
 - c) RCC facilities-
 - i. appropriate RCC facility space (Australia to add recommended metre space and RCC minimum equipment list – this could be an Appendix);
 - ii. minimum RCC tools (such as current charts, plotting equipment, documentation, etc.);
 - iii. reliable and rapid H24 communications, and a suitable means to-
 - 1. receive and communicate distress alerts
 - 2. communicate with ATS units, other RCCs/RSCs, Coast Radio Stations, COSPAS-SARSAT Mission Control Centres (MCCs), military units, medical services, meteorological offices, etc.; and
 - 3. identify and task available SRUs.
 - iv. information technology-
 - 1. RCC workstation computers;
 - 2. Software including basic databases, drift modelling, incident management, etc.; and
 - 3. Aircraft and vessel tracking information including ADS-B, AIS, etc.
 - d) Search and Rescue Units (SRUs)-
 - i. available and suitable SAR aircraft and crews;
 - ii. funding arrangements/agreements for hiring/payment/sharing of SRUs to permit rapid deployment; and
 - iii. Available and suitable SAR survival equipment for delivery by aircraft to survivors and to assist SAR coordination efforts (eg SAR Datum Buoys);
 - e) Training support-
 - i. RCC staff – basic and ongoing; and
 - ii. SRU crews – pilots, air crew and air observers.

PERFORMANCE IMPROVEMENT PLAN

Preferred SAR Capability Specifications (PSCS)

PSCS Phase I (expected implementation by 12 November 2015)

Organisation

7.1 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 to:

- a) ensure that it is party to the following Conventions, as applicable –
 - i) Convention on International Civil Aviation 1944;
 - ii) International Convention on Maritime Search and Rescue, 1979;
 - iii) International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended;
 - iv) Convention on the High Seas, 1958; and
 - iv) United Nations Convention on the Law of the Sea (UNCLOS), 1982;
- b) unless delegated by written agreement, establish an entity that-
 - i) provides, on a 24-hour basis, SAR services within its territories and designated area of responsibility with organizational and operational working relationships; and
 - ii) has a designated RCC chief, knowledgeable in ATC and trained in the planning of searches and the coordination of SAR missions;
- c) establish a National SAR Committee consisting of civil and where applicable, military members;
- d) establish a single State SAR point of contact for non-urgent, administrative matters, such details to be submitted to the ICAO Regional Office;
- e) conduct studies to integrate aviation and maritime SAR activities, and as far as practicable, civil and military activities, including joint training of staff and review of documentation to ensure harmonisation of procedures, and joint exercises;
- f) conduct studies to align, as far as practicable, aeronautical and maritime Search and Rescue Regions (SRRs); and SRRs and Flight Information Regions (FIRs); and
- g) establish a single State SAR Plan that –
 - i) describes the relevant SRRs, including the limits for any SRSs;
 - ii) details the National SAR Committee;
 - iii) details the governmental and non-governmental agencies with authority and responsibility for SAR coordination within its territories and designated area of responsibility;
 - iv) details required and available SAR facilities, personnel, and equipment;
 - v) details the SAR manuals, plans and procedures for national and regional cooperative SAR response arrangements;
 - vi) details the SAR personnel training and competency programme, qualification standards, SAR certification if applicable and SAR cooperation training;
 - vii) details a single SAR point of contact for non-urgent, administrative matters;

- viii) details the SAR agreements required;
- ix) is electronic and accessible on the Internet, such details to be submitted to the ICAO Asia/Pacific Regional Office; and
- x) is controlled by quality assurance processes.

Procedures and Training

7.2

States should:

- a) ensure robust SAR Alerting procedures are in place, tested and fully integrated with RCC procedures so that RCCs are rapidly notified of any SAR event 24 hours a day;
- b) establish aerodrome emergency plans to provide for co-operation and co-ordination with RCCs and which take due account of the -
 - i) large size and passenger-carrying capacity of commercial aircraft operating within their area of responsibility; and
 - ii) possibility of aircraft ditching in water near airports;
- c) establish SAR Agreements with States having adjoining SRRS or FIRs, including trans-regional neighbours that-
 - i) ensures full SRR coverage;
 - ii) provides for technical and operational SAR cooperation and coordination;
 - iii) establishes common SAR procedures, where practicable;
 - iv) conducts joint training and exercises, as appropriate, to maximize proficiency; and
 - v) promotes effective liaison between air traffic services and RCC personnel within and between the States involved;
- d) provide cross-border information on SAR capability. (This should be included in bilateral SAR agreements per Annex 12.);
- e) pre-arrange procedures for effective cross-border SAR responses in the minimum possible time. (This should be included in bilateral SAR agreements per Annex 12);
- f) establish contingency procedures for delegation of SAR responsibility where such service is not able to be provided, or in contingency (temporary) circumstances;
- g) establish a program for an annual SAREX in each sub-region (South Asia, Southeast Asia, East Asia and the Pacific). Every second year should be a desktop communications exercise, alternate years being a full exercise;
- h) establish SAR training for RCC SAR Mission Coordinators (SMCs) and other SAR operational personnel;
 - i) as part of its aeronautical training or maritime SAR schools; or
 - ii) through scholarships to SAR personnel as necessary to enable them to attend a SAR training course; or
 - iii) through use of the ICAO TRAINAIR course development methodology to assist in the production of standardized training packages for SAR.
- i) develop individual competency assessments for SMC during operational duty and SAREX; and
- j) study the feasibility of establishing a joint ICAO/IMO Regional SAR Training Team to assist States unable to provide their own SAR training.

Note 1: SAR agreements are particularly important for border areas where concerns for sovereignty and saving lives must be balanced, high seas areas, and inhospitable areas where rapid response is essential to successful SAR operations.

Note 2: The ICAO TRAINAIR programme provides for an effective means of analysing and determining skills required, creates training objectives by setting standards for job performance and produces material-dependent courseware.

Note 3: it was recognised by the APSAR/TF that there was a large demand for SAR training regionally however States had difficulty providing it to their own RCCs – with funding and availability of in-country SAR training expertise being the main issues. Therefore, support from leading States and ICAO/IMO would be needed.

7.3 State SAR coordination plans should include procedures for joint aeronautical and maritime distress alert notification, support and response to both aircraft and shipping SAR incidents, including protocols for civil and military support and sharing of resources.

7.4 States should establish procedures enabling:

- a) availability and deployment of suitably crewed and equipped SRUs, 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;
- c) protocols to request assistance of military assets and similarly military SAR authorities allowed to request civil assets;
- d) cooperative use and/or sharing of SAR assets with protocols incorporated within National SAR Plans and bilateral SAR Agreements;
- e) pre-arranged funding of costs associated with hiring of SRUs to avoid any delays in response availability;
- f) where practicable, a SAR escort service to aircraft in difficulties;
- g) States should establish RCC plans for response to Mass Rescue Operations (MROs) integrated with national disaster plans; and
- h) close liaison with their maritime counterparts and the International Maritime Organization.

7.5 Through their maritime authorities, States should encourage ships to participate in an appropriate ship reporting system for SAR record information on the position of ships at sea and disseminate such information to SAR authorities of other States requesting it, to facilitate response to cases of distress. RCC and RSC plans of operation should provide guidance on how information from available ship reporting systems can be obtained.

Note.— The Automatic Mutual-assistance Vessel Rescue (AMVER) system is a worldwide ship reporting system for SAR, operated by the United States Coast Guard. Any RCC can obtain information about ships in the vicinity of a distress by contacting any RCC of the United States Coast Guard.

Facilities

- 7.6 States should establish RCCs of sufficient size and facilities commensurate with the guidance in **Appendix XX**.
- 7.7 States should plan for the continuous provision of SAR facilities in accordance with regional air navigation planning.
- 7.8 States should evaluate the possibility and feasibility of establishing Joint RCCs (JRCCs) to incorporate the aeronautical and maritime SAR activities and/or facilities of ARCCs and MRCCs. Where not practicable, development of facilities and procedures which provide and/or enhance effective SAR coordination and collaboration between the ARCCs and MRCCs in support of each other.
- 7.9 Where practicable, the evaluation may consider consolidation of two or more different State RCCs into single sub-regional JRCCs.
- 7.10 For RCCs with responsibility for oceanic areas, States should establish additional oceanic SAR capability to ensure a timely and adequate SAR response is available to all oceanic areas of their SRRs.
- 7.11 States should provide tools that assist RCCs to provide an improved service such as:
- a) joint aeronautical and maritime electronic mapping;
 - b) maritime broadcast facilities;
 - c) shipping/vessel communications – Coast Radio Stations, RCC radio and satellite communications, marine radio networks;
 - d) aircraft communications – via ATS units, aircraft operators, satellite communications;
 - e) access to live aircraft and ship tracking data, e.g. ADS-B (aviation), AIS (maritime) allowing rapid identification of potential aircraft and vessels that may divert to assist;
 - f) drift modelling software;
 - g) ocean data including sea temperature, currents, winds, tides, etc;
 - h) SAR Datum Buoys, preferably with satellite tracking capability; and
 - i) RCC recording and plotting of search object sightings and debris.
- 7.12 States should ensure that SRU aircraft have:
- a) marine VHF radio to enable communication with vessels if used over marine areas;
 - b) direction-finding capability for locating distress beacons;
 - c) the capability of delivering/dropping SAR supplies to survivors and other SAR equipment (e.g. SAR Datum Buoys);
 - d) wherever practicable for helicopters, suitable winching equipment;
 - e) trained air search observers; and
 - f) night search capability including night-vision devices where appropriate.

7.13 States should establish a regional publication which depicts both aeronautical and maritime SRRs geographically in chart format. This publication should be available for all aeronautical and maritime RCCs, ATS units, aircraft operators and (others?) in hard copy and/or online format to enable rapid determination of the responsible RCC for any distress alert.

7.14 States should establish a centralised information source publishing all Asia/Pacific State Aeronautical Information Publication (AIP) information as required by ICAO Annex 15 Appendix 1, page APP 1-8 including:

- a) the agency responsible for providing SAR services (include a SAR point of contact (SPOC));
- b) the area of SAR responsibility where SAR services are provided;
- c) the type of SAR services and facilities provided including indications where SAR aerial coverage is dependent upon significant deployment of aircraft;
- d) SAR agreements;
- e) the conditions of SAR facility and service availability; and
- f) SAR procedures and signals used.

7.15 States should establish a web-based SAR Library, or cooperate by contributing to an Internet-based Asia/Pacific resource.

7.16 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, and provide the Internet link to that list to the ICAO Asia/Pacific Regional Office.

SAREX

7.17 States should conduct regular SAREXs (at least once every two years) to test and evaluate:

- a) oceanic SAR response procedures including both aeronautical and maritime SAR authorities, civil and military;
- b) where appropriate, cross-SRR boundary coordination (SAREX should routinely involve SAR authorities of adjacent SRRs, especially if the area concerned is within 50NM of the SRR boundary);
- c) SAREX effectiveness through a post-SAREX review and written report, completed to ensure that deficient areas or latent problems were identified and remedied. Note: a SAREX template is provided at [Appendix X](#).

COSPAS-SARSAT Distress Beacon System

- 7.18 States should :
- a) have a reliable distress beacon registration system in place which includes up to date registration details for all national civil and military ELTs, EPIRBs and PLBs;
 - b) maintain a distress beacon register with details available and accessible to RCCs 24 hours a day;
 - c) establish a plan for the introduction of new generation 406MHz distress beacons receiver capability; and
 - d) where separate ARCCs and MRCCs exist with responsibility for coincident aviation and maritime SRRs, States should coordinate distress beacon alert procedures to ensure both RCCs are aware of any distress beacon activations within their areas to avoid duplication of response. MRCCs should ensure the procedures alert ARCCs and ATS units to any EPIRB activations.

System Improvement

- 7.19 States should establish quality assurance procedures that –
- a) provides 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 corrective and preventive actions that prevent or minimise the possibility of substandard SAR performance;
 - c) establishes an internal quality assurance programme, which includes regular internal audits of the 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 to the Chief Executive of the entity responsible for SAR services on matters of quality assurance.
- 7.20 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 Annex 12 and the guidelines of the IAMSAR Manual to:
- a) enable the ICAO Asia/Pacific SAR Capability Matrix to be updated to accurately reflect the State's capability;
 - b) analyse the level of consistency of SAR services in neighbouring States;
 - c) identify SAR research and development programmes, 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. time from first alert to arrival on scene of first SRU; and
 - iv. time from first alert to rescue;
 - e) plan for any necessary improvements and compliance to gradually build and improve capability over time, which would be detailed in the State SAR Plan; and
 - f) update SAR agreements as appropriate.

- 7.21 States should conduct SAR promotion programs to:
- a) assist media understand SAR operations to minimise the need to explain during SAR responses;
 - b) ensure support of SAR facilities and improvements by decision-makers;
 - c) encourage higher SAR preparedness by persons that may require SAR services;
 - d) enhance cooperation between SAR services and –
 - i. military and police agencies;
 - ii. air traffic control facilities;
 - iii. aerodrome and port operators;
 - iv. aircraft and shipping operators;
 - v. meteorological agencies;
 - vi. government and non-government agencies affected by SAR operations; and
 - vii. other States.
 - e) recognise improvement in State SAR systems.
- 7.22 x

PSCS Phase II (expected implementation by 09 November 2018)

Procedures and Training

7.23 States should ensure there are established contingency procedures in place for delegation of SAR responsibility where such service is not able to be provided, or in contingency (temporary) circumstances.

7.24 **THE INTENTION IS TO MOVE ANY LONGER TERM PSCS ELEMENTS CURRENTLY SHOWING IN PHASE I TO PHASE II**

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RESEARCH AND FUTURE DEVELOPMENT

Research and Development

8.1 To develop the tools and systems required to meet foreseeable long-term requirements, there is a need for States to undertake and co-operate on SAR. 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 Seamless ATM Principle 36 (*Inter-regional cooperation ('clustering') for the research, development and implementation of ATM projects*).

8.2 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. The following are possible areas that should be considered for future SAR research and development, in order to promote the maximum possible harmonisation and interoperability of SAR systems:

- a) real time 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);
- b) regional Unmanned Aerial Systems (UAS) SAR capability;
- c) location accuracy requirement for accident site for certain categories of aircraft;
- d) ELT activation while in-flight by the new generation of satellites and ground stations in the Cospas-Sarsat System;
- e) new generation beacon which uses 406MHZ for homing capability; and
- f) enhanced technology oriented systems to improve SAR system effectiveness.

MILESTONES, TIMELINES, PRIORITIES AND ACTIONS

Milestones

9.1 Section 7 (Performance Improvement Plan) provides milestones and timelines for a number of elements in the PSCS Phase I and II, being effective **12 November 2015** and **09 November 2018** respectively.

9.2 It should be noted that States should commence planning for the various PSCS elements. This should be planned from the approval of this Plan, to ensure a smooth transition by the onset of Phase I, and should include consideration of issues such as:

- safety/operational analysis and assessment;
- cost-effectiveness;
- budgetary issues;
- development of operational procedures; and
- training.

9.3 Section 8 (Research and Future Development) provides, subject to future agreement by concerned parties, possible SAR improvements beyond **2018 until 2028**.

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 necessitated a number of implementation actions. It is expected that each Asia/Pacific State report progress on each applicable element to APANPIRG.

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

SAREX

9.7 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 Exercise outcomes and lessons learned should be reported to APANPIRG through the ATS Sub-Group.

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

Appendix 1: List of documents which should be available to a Maritime RCC**REFERENCE DATE TITLE****1 Publications**

All following publications are available (to be purchased) on:

<http://www.imo.org/Publications/Documents/Attachments/Welcome.pdf>

IE-110 A/C/E/F/R/S	2009	International Convention for the Safety of Life at Sea (SOLAS) (Consolidated Edition, 2009)
I-175 A/C/E/F/R/S	2009	SOLAS Amendments 2008 and 2009
I-176 A/C/E/F/S	2011	SOLAS Amendments 2010 and 2011 (2011 edition)
IB-955 A/C/E/F/R/S	2006	SAR Convention (2006 edition)
IH-960 E/F/S	2013	International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual Volume I (2010 edition) – Organization and Management
IE-961 E/F/S	2013	International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual Volume II (2010 edition) – Mission Coordination
IH-962 E/F/S	2013	International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual Volume III (2010 edition) – Mobile Facilities
IE-970 E	2011	GMDSS Manual (2011 edition)
I-969 E	1992	GMDSS Operating Guidance Card (1992 edition)
IA-987 E/F/S	2005	IMO Standard Marine Communication Phrases (SMCP) – (including CD-ROM: pronunciation guide) (2005 edition)
IB 908 E/F/S	2011	*International SafetyNET Manual (2011 edition)
ID 951 E/F/S	2012	**NAVTEX Manual (2012 edition)
I-910 M	2010	Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI) (2010 edition)
IA-994 E/F/S	2005	International Code of Signals (2005 edition)
II-200 E/F/S	2012	International Maritime Dangerous Goods Code (IMDG Code) (2012 edition) (incorporating amendment 36-10)
IH-210 E/F/S	2010	IMDG Code Supplement (2010 edition)

2 Unpublished documents

Following Assembly resolutions and MSC Circulars are available for free at:

<http://www.imo.org/KnowledgeCentre/IndexofIMOResolutions/Pages/Default.aspx>

COMSAR Circulars are available for free at (IMODOCS):

<http://docs.imo.org/Category.aspx?cid=376>

Res. A.705(17), as amended (MSC.1/Circ.1287.Rev.1)	06/11/91	Promulgation of Maritime Safety Information (MSI)
Res. A.706(17), as amended (MSC.1/Circ.1288.Rev.1)	06/11/91	World-Wide Navigational Warning Service
Res. A.814(19)	23/11/95	Guidelines for the Avoidance of False Distress Alerts
Res. A.855(20)	27/11/97	Standards for onboard helicopter facilities
Res. A.856(20)	27/11/97	Guidance to Administrations on development of a shore-based SAR telecommunication infrastructure
Res. A.887(21)	25/11/99	Establishment, updating and retrieval of the information contained in the registration databases for the Global Maritime Distress and Safety System (GMDSS)
Res. A.894(21)	25/11/99	International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual
Res. A.919(22)	29/11/01	Acceptance and implementation of the International

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		Convention on Maritime Search and Rescue, 1979, as amended
Res. A.920(22)	29/11/01	Review of safety measures and procedures for the treatment of persons rescued at sea
Res. A.949(23)	05/12/03	Guidelines on places of refuge for ships in need of assistance
Res. A.950(23)	05/12/03	Maritime Assistance Services (MAS)
Res. A.954(23)	05/12/03	Proper use of VHF channels at sea
Res. A.999(25)	29/11/07	Guidelines on voyage planning for passenger ships operating in remote areas
Res. A.1001(25)	29/11/07	Criteria for the provision of mobile-satellite communication systems in the Global Maritime Distress and Safety System (GMDSS)
Res. A.1044(27)	30/11/11	Piracy and armed robbery against ships in waters off the coast of Somalia
Res. A.1051(27)	20/12/11	IMO/WMO Worldwide Met-Ocean Information and warning Service – Guidance Document
Res. MSC.131(75)	21/05/02	Maintenance of a continuous listening watch on VHF channel 16 by SOLAS ships whilst at sea after 1 February 1999 and installation of VHF DSC facilities on non-SOLAS ships
Res. MSC.167(78)	20/05/04	Guidelines on the treatment of persons rescued at sea
Res. MSC.199(80)	16/05/05	Adoption of amendments to provision of radio services for the Global Maritime Distress and Safety system (GMDSS) – (resolution A.801(19))
Res. MSC.239(83)	12/10/07	Adoption of amendments to the International Convention for the Safety of Life at Sea, 1974, as amended (relating to GMDSS satellite providers)
Res. MSC.305(87)	17/05/10	Guidelines on Operational Procedures for the promulgation of Maritime Safety Information concerning acts of Piracy and Piracy counter-measure operations
COMSAR/Circ.3	19/04/96	Relations between NAVAREA Coordinators and Rescue Coordination Centres
COMSAR/Circ.13	06/03/98	Shore-to-ship communications during a distress
COMSAR/Circ.22	20/06/00	Guidance on data fields for SAR databases
COMSAR/Circ.23	20/06/00	Guidance for central alerting posts (CAPs)
COMSAR/Circ.25	15/03/01	Procedure for responding to DSC distress alerts by ships
COMSAR/Circ.29	27/05/02	Guidance for the voluntary use of the standardized questionnaires and formats for reporting false alerts in collecting data on false alerts
COMSAR/Circ.31	06/02/03	Guidance for Mass Rescue Operations (MROs)
COMSAR/Circ.35	21/05/04	Recommendations on medium frequency/high frequency (MF/HF) digital selective calling (DSC) test calls to coast stations
COMSAR/Circ.37	28/02/05	Guidance on minimum communication needs of Maritime Rescue Coordination Centres (MRCCs)
COMSAR.1/Circ.41	16/10/07	Analysis of Maritime Safety Information Promulgated via the EGC SafetyNET system and recommendations on improving its quality
COMSAR.1/Circ.45	04/02/09	Guidance on distress alerts
COMSAR.1/Circ.53/Rev.1	27/06/11	List of Land Earth Station (LES) Operation Coordinators in the Inmarsat System

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COMSAR.1/Circ.50/Rev.3	13/01/12	*Distress priority communications for RCC from shore to ship via Inmarsat
COMSAR.1/Circ.51/Rev.3	18/01/12	List of NAVAREA Coordinators
COMSAR.1/Circ.55	30/11/12	Guidance for entering and updating information on search and rescue services into GISIS and on how to get access to the information for operational use
COMSAR.1/Circ.56	30/11/12	Guidance on smartphone and other computer device SAR applications
MSC/Circ.805	06/06/97	Guidance for the use of radio signals by ships under attack or threat of attack from pirates or armed robbers
MSC/Circ.895	04/02/99	Recommendation on helicopter landing areas on ro-ro passenger ships
MSC/Circ.896/Rev.1	12/06/01	Interim measures for combating unsafe practices associated with the trafficking or transport of migrants by sea
MSC/Circ.960	20/06/00	Medical assistance at sea
MSC/Circ.1042	28/05/02	List of contents of the "Emergency Medical Kit/Bag" and medical consideration for its use on ro-ro passenger ships not normally carrying a medical doctor
MSC/Circ.1043	31/05/02	Guidance on ships' daily reporting of their positions to their companies
MSC/Circ.1073	10/06/03	Measures to enhance maritime security – Directives for maritime rescue coordination centres (MRCCs) on acts of violence against ships
MSC/Circ.1078	06/06/03	Guidelines to Administrations on reporting false alerts
MSC/Circ.1079	10/07/03	Guidelines for preparing plans for cooperation between search and rescue services and passenger ships (in accordance with SOLAS regulation V/7.3)
MSC/Circ.1105	25/02/04	Guidance on responsibility and liability issues related to the use of the emergency medical kit/bag and evaluation of its use in emergency incidents
MSC/Circ.1172	23/05/05	Identification of passenger ships, other than ro-ro passenger ships, which should benefit from being equipped with the Emergency Medical Kit/Bag (EMK)
MSC.1/Circ.1182	31/05/06	Guide to recovery techniques
MSC.1/Circ.1183	31/05/06	Guidelines on the provision of external support as an aid to incident containment for SAR Authorities and others concerned
MSC.1/Circ.1184	31/05/06	Enhanced contingency planning guidance for passenger ships operating in areas remote from SAR facilities
MSC.1/Circ.1185/Rev.1	23/05/12	Guide for cold water survival
MSC.1/Circ.1186	01/06/06	Guidelines on the training of SAR service personnel working in major incidents
MSC.1/Circ.1208	22/05/06	Promoting and verifying continued familiarization of GMDSS operators on board ships
MSC.1/Circ.1210	11/07/06	Cospas-Sarsat International 406 MHz Beacon Registration Database
MSC.1/Circ.1218	15/12/06	Guidance on exchange of medical information between telemedical assistance services (TMAS) involved in international SAR operations
MSC.1/Circ.1248	16/10/07	Minimizing delays in search and rescue response to distress alerts
MSC.1/Circ.1287/Rev.1	June 2013	Amendments to resolution A.705(17) – Promulgation of

		Maritime Safety Information
MSC.1/Circ.1288/Rev.1	June 2013	Amendments to resolution A.706(17) – World-Wide Navigational Warning Service
MSC.1/Circ.1333	26/06/09	Recommendations to Governments for preventing and suppressing piracy and armed robbery against ships
MSC.1/Circ.1334	23/06/09	Guidance to shipowners and ship operators, shipmasters and crews on preventing and suppressing acts of piracy and armed robbery against ships
MSC.1/Circ.1338	01/03/11	Guidance to search and rescue services in relation to requesting and receiving LRIT information
MSC.1/Circ.1364	24/05/10	Revised International SafetyNET Manual
MSC.1/Circ.1365	24/05/10	Commercially available locating, tracking and emergency notification devices
MSC.1/Circ.1367	24/05/10	Amendments to the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual
MSC.1/Circ.1382	03/12/10	Questionnaire on the availability of shore-based facilities in the GMDSS
MSC.1/Circ.1403	23/05/11	Revised NAVTEX Manual
MSC.1/Circ.1412	28/05/12	Principles and Guidelines relating to the review and audit of the performance of LRIT Data Centres and the International LRIT Data Exchange (Principles and Guidelines)
MSC.1/Circ.1413	25/05/12	Basic safety guidance for yacht races or oceanic voyages by non-regulated craft
MSC.1/Circ.1415	25/05/12	Amendments to the IAMSAR Manual
GMDSS.1/Circ.14	18/12/12	Master Plan of shore-based facilities for the GMDSS (GMDSS Master Plan)
SAR.8/Circ.4	01/12/12	Global SAR Plan containing information on the current availability of SAR services
SAR.7/Circ.11	2013	List of IMO documents which should be held by an MRCC
Non-IMO documents		
ITU List IV E/F/S	11/ 2011	List of Coast Stations and Special Service Stations (List IV) [on CD-ROM] can be purchased at: http://www.itu.int/pub/R-SP-LM/en
ITU List V E/F/S	04/2012	List of Ship Stations and Maritime Mobile Service Identity Assignments (List V) [on CD-ROM] free of charge access using: brtpr@itu.int , http://www.itu.int/ITU-R/go/mars/en
ITU MARS E/F/S	Daily	Maritime online access and retrieval system (MARS) containing the same information as in List IV and List V above http://www.itu.int/ITU-R/index.asp?category=terrestrial&rlink=mars&lang=en
Cospas-Sarsat – C/S G.007	October 2012	Handbook on Distress Alert Messages for RCCs, S and IMO Ship Security Competent Authorities (issue 1/Rev.3) Available for free at: http://www.cospas-sarsat.org/images/stories/SystemDocs/Current/cs_g007_oct_2012.pdf
ARNP		Air Regional Navigation Plans (ARNP) http://www.icao.int/safety/ANP/Pages/Air-Navigation-Plans.aspx

List of Radio Signals	
Non-IMO document	National documents related to national requirement

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