INTERNATIONAL CIVIL AVIATION ORGANIZATION

D R A F T

ASIA/PACIFIC SAR PLAN

DRAFT Version 0.567, January 2015

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 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 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;

- relevent 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 regional aviation activity, developments in the ATM system, new ~~in~~ technology, political considerations and human performance. 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 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.

ข้อคิดเห็น[SC1]: How do we do this?

ข้อคิดเห็น[WL2]: Maybe we should synchronise IAMSAR so next effective date is 2019

OBJECTIVES

Introduction

2.1   The last decade has seen a steady increase in air traffic in the Asia/Pacific region and this is forecast to grow significantly (the Asia/Pacific region is already the world's largest air transport market with a 30 percent share in terms of Revenue Passenger Kilometres). In addition, maritime traffic is also increasing, adding further urgency to ensuring that States with oceanic SAR responsibilities in the region meet the requirements of both ICAO and IMO for the provision of aviation and maritime SAR services.

2.2   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.

~~2.1~~2.3   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.

2.4   The world's citizens, who frequently fly over or sail through ~~such remote areas~~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 regional RCCs. ~~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 to the ICAO Convention on International Civil Aviation and are responsible for the provision of SAR services over vast oceanic areas.~~

2.5   ICAO Regional Office maintains a record, as reported to ICAO by the States themselves, of the status of individual State SAR compliance against 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. A number of States have not reported their status at all to ICAO.

~~2.2   However, the ICAO Asia/Pacific SAR Capability Matrix Table illustrates there are SAR capability gaps in the region with either the non-implementation or partial implementation of Annex 12 requirements. A number of States have not reported their SAR capability status at all.~~

2.6   ~~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 regional RCCs.~~There is a high risk of damaging 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.

2.7   However, the benefits to States with an effective and reliable SAR service offers many advantages. Besides reduction of loss of life and human suffering, other advantages include:

   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 is associated with 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 states 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

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, at the local, national and international levels. This can foster better working relationships between States and organisations.

2.8   Recognising the deficiencies in capabilities of some States in the Asia/Pacific region to meet their responsibility of compliance under Annex 12, APANPIRG 2012 meeting established an Asia/Pacific Task Force (APSAR T/F) to produce an Asia/Pacific Search and Rescue Plan (APSAR Plan) to address those deficiencies.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.

2.9   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.

2.32.10   The work of the APSAR/TF became even more significant to the Asia/Pacific region's SAR system, and in fact the global SAR system, in 2014 after Malaysia Airlines flight MH370, a Boeing 777 with 239 persons on board was lost during a flight from Kuala Lumpur, Malaysia to Beijing, China, and ADD REFERENCE TO AIR ASIA. This resulted in probably the largest and most expensive search response for a missing aircraft in human history, (which continues as this plan was finalised). The multi-national civil and military search effort involved many Asia/Pacific States. The tragedies of both Malaysia Airlines flight MH370 and Air France flight AF447, which crashed into the Atlantic Ocean in 2009, have highlighted vulnerabilities in the current air navigation system, including the SAR system, which have hampered timely identification and localisation of aircraft in distress, hindering effective response efforts.

2.42.11   ThisThe Asia/Pacific SAR Plan is designed to address both civil and military and civil SAR authorities and has been developed in consultation ofwith Asia/Pacific States, SAR administrations and relevant International Organisations. 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, this should be notified by the State concerned to ICAO so that as differences under Article 38 to the Convention regarding to the Annex 12 Standards and Recommended Practices (SARPs) are recorded.

2.~~5~~2.12   States ~~do not need~~ should aim to meet their obligations progressively in a strategically structured and planned manner with improvement goals set for short term, medium term and long term implementation. ~~all at once and it~~It may be more productive to make gains in small steps commencing with measures ~~actions~~ 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 ~~(e.g.~~ 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.

2.~~6~~2.13   All States are encouraged to ~~adopt~~ 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).

Plan Objective

2.~~7~~2.14   The objective of ~~the~~ this SAR Plan is to provide a framework to assist Asia/Pacific States ~~in~~to meet~~ing~~ 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 ~~R~~region, and across other ICAO ~~R~~regional boundaries, whe~~n~~re practicable.

2.~~8~~2.15   The Plan is to be consistent with the SARPs of ICAO Annex 12 Search and Rescue, and aligned where appropriate with the SAR technical and operational measures and recommendations of the IMO.

2.~~9~~2.16   The Plan recognizes that ICAO serves as the forum for the implementation of practical and achievable measures to improve SAR services for the international civil air transportation system. The Plan also recognizes that the IMO provides a similar forum for SAR services to the maritime transportation system.

2.~~10~~2.17   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. States should, where practicable, align their SAR systems with the guidance provided within the ICAO/IMO International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual which also provides the benefit for standardised SAR coordination between RCCs and across SRR boundaries.

2.~~11~~2.18   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 ~~documents~~plans. 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.

Plan Development

2.~~11~~2.19   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;

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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.

2.132.20   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.

2.142.21   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 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;

d)e)   Civil/military cooperation and coordination;

e)f)   Remote oceanic SAR response capability (including provision for Mass Rescue Operations (MRO);

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

g)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;

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

i)k)   Monitoring of outcomes from APANPIRG Sub-Groups, other ICAO Region SAR groups, ICAO/IMO SAR Joint Working Group on Harmonisation of Aeronautical and Maritime SAR and related forums for issues that may affect the APAC Region;

j)l)   Facilitation of a continuous reporting mechanism of State SAR capability, Annex 12 compliance and SAR performance data to the APAC Regional Office throughand the APANPIRG Air Traffic Management Sub-Group (ATM/SG);

k)m)   Implementation of a SAR System Improvement and Assessment measures, including Safety Management System, Quality Assurance program for SAR and Risk Assessment;

l)n)   Coordinating the introduction of new technology affecting the regional SAR system,;

m)o)   Sharing future research and development concepts;

n)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

o)q)   Conducting efficient SAREXs that identify improvements and latent problems.

~~2.15~~2.22   The Asia/Pacific Regional SAR Plan elements should be periodically reviewed by APANPIRG to ensure they remain relevant to the SAR system, particularly for new technology developments and alignment with other relevant global SAR plans.

~~2.16~~2.23   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.~~

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); and
- Indian Ocean Rim Association (IORA).

Stakeholder Summary

3.8   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).

3.9   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~~ to facilitate meeting 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.

ABBREVIATIONS AND ACRONYMS

APANPIRG	Asia/Pacific Air Navigation Planning and Implementation Regional Group
ARCC	Aeronautical Rescue Coordination Centre
ATM	Air Traffic Management
COSPAS-SARSAT	Cosmicheskaya Sistema Poiska Avariynyh Sudov-Search and Rescue Satellite-Aided Tracking
JRCC	Joint Rescue Coordination Centre
MRCC	Maritime Rescue Coordination Centre
RCC	Rescue Coordination Centre
SAR	Search and Rescue
SARPs	Standards and Recommended Practices
SC	Search and Rescue Coordinator
SCC	Search and Rescue Coordinating Committee
SMC	Search and Rescue Mission Coordinator
SOLAS	International Convention for the Safety of Life at Sea
SPOC	SAR Point of Contact
SRR	Search and Rescue Region

Seamless ATM Resource

ADS-B	Automatic Dependent Surveillance-Broadcast
ADS-C	Automatic Dependent Surveillance-Contract
AIM	Aeronautical Information Management
AIRAC	Aeronautical Information Regulation and Control
AIS	Aeronautical Information Service
AN-Conf	Air Navigation Conference
APAC	Asia/Pacific
APEC	Asia Pacific Economic Cooperation
APSAPG	Asia/Pacific Seamless ATM Planning Group
ASEAN	Association of Southeast Asian Nations
ATC	Air Traffic Control
ATFM	Air Traffic Flow Management
ATS	Air Traffic Services
CANSO	Civil Air Navigation Services Organization
COM	Communication
CONOPS	Concept of Operations
CNS	Communications, Navigation, Surveillance
CPDLC	Controller Pilot Data-link Communications
DGCA	Conference of Directors General of Civil Aviation
FAA	Federal Aviation Administration
FIR	Flight Information Region
FIRB	Flight Information Region Boundary
GANP	Global Air Navigation Plan
GASP	Global Aviation Safety Plan
GBAS	Ground-based Augmentation System
GDP	Gross Domestic Product
HF	High Frequency
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IO	International Organizations
KPA	Key Performance Area
MET	Meteorological
MTF	Major Traffic Flow
PBN	Performance-based Navigation

PKP	Passenger Kilometres Performed
RANP	Regional Air Navigation Plan
RNAV	Area Navigation
RNP	Required Navigation Performance
SAARC	South Asian Association for Regional Cooperation
SATVOICE	Satellite Voice Communications
SBAS	Space Based Augmentation System
SCS	South China Sea
SHEL	Software, Hardware, Environment and Liveware
SUR	Surveillance
SWIM	System-Wide Information Management
UAS	Unmanned Aircraft Systems
USOAP	Universal Safety Oversight Programme
VHF	Very High Frequency
VMC	Visual Meteorological Conditions

4.1   XXX

TO BE COMPLETED ON FINAL EDIT

BACKGROUND INFORMATION

ICAO Asia/Pacific Search and Rescue Task Force (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 followed by three further meetings in 2014 and 2015. States participating at these meetings included;

a)   LIST THE PARTICIPATING STATES

Improvement Drivers

ICAO APAC Region Air Navigation Deficiencies List

~~5.2~~5.3   ICAO APAC Regional Office maintains an Air Navigation Deficiencies List. 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.

~~5.3~~5.4   Under the Terms of Reference of APANPIRG, one of the primary objectives is to identify and address specific deficiencies in the air navigation field. In meeting this objective, APANPIRG facilitates the development and implementation of action plans by States to resolve identified deficiencies, where necessary. Consequently, APANPIRG and its Sub-groups regularly review deficiencies in their respective fields and develop recommendations for remedial actions.

~~5.4~~5.5   The ANS Deficiency information has been populated into the ICAO iSTARS (Integrated Safety Trend Analysis and Reporting System) database and is accessible through the Secure Portal. The intention is to merge this data with the Continuous Monitoring Approach (CMA) Data, and manage the deficiencies using a single web-based process.

~~5.5~~5.6   ~~According to the information presented to Meetings 1 and 2 of the APSAR Task Force in 2013 and 2014, a large number of administrations have serious SAR deficiencies which are not currently recorded on the APANPIRG ANS Deficiency List. The status of States will be discussed during the final two meetings of the APSAR/TF in 2015 and any outstanding deficiencies will be added to the Deficiency List during the next ATM Sub-Group meeting in August 2015 ready for submission to APANPIRG in September 2015.~~

Asia/Pacific SAR System Status

~~5.6~~5.7   Significant Annex 12 compliance weaknesses have been identified within the Asia/Pacific region based upon information provided, and in many cases not provided, by States to the ICAO Regional Office. This regional information status is recorded in:

a)   SAR Capability Matrix Table [add as an Appendix to the plan?]

b)   List of SAR Agreements [add as an Appendix to the plan?]

c) SAR Agreement Matrix [add as an Appendix to the plan?]

ICAO Initiatives Following Recent Airline Disasters

~~5.7~~5.8   The tragedies of Malaysia Airlines flight MH370 in 2014 and Air France flight AF447 in 2009 have highlighted vulnerabilities in the current air navigation system which has hampered timely identification and location of aircraft in distress, particularly remote oceanic areas. This has significantly hindered effective SAR efforts and recovery operations.

Air France Flight 447

~~5.8~~5.9   A number of findings and recommendations from the AF447 accident investigation are relevant to the global SAR system and more appropriate for ICAO to address at the global level, however there are a number which can be generically derived from this investigation which are worthwhile for consideration for inclusion in the Asia/Pacific SAR Plan including:

a) The need for normal ATS SAR Alerting procedures to be carried out correctly to avoid delays in SAR response initiation and assurance that decisive action is taken;

b) Ensuring SAR intelligence information gathering processes are efficient and coordinated in a timely manner across ATS, SAR and airline operations areas, and in particular between those operational areas of several countries where involved;

c) SAR Agreements between regional States are essential to avoid coordination issues across SRR boundaries and to ensure knowledge of the available SAR assets of regional neighbours;

d) Effective training of SAR personnel, in particular for international SAR coordination, is essential;

e) Provision of SAR resources by States to enable appropriate response is essential;

f) There is a need for a worldwide publication of aviation SAR authorities and geographical depiction of aeronautical SRRs like there is available for maritime SAR authorities and SRRs;

g) JRCCs are desirable to consolidate ARCC and MRCC activities;

h) Ensure SAR aircraft first on scene at a distress location at sea are equipped with SAR datum buoys with are dropped as soon as possible to provide drift information;

i) SAR plans need to account for language difficulties, and differing capabilities with the defined ICAO use of standard English language, between SAR personnel of different nationalities during SAR incidents;

j) Avoiding premature public statements regarding SAR information, such as location of debris from a missing aircraft, until the information is confirmed as correct;

k) Ensuring States have a national SAR Point of Contact; and

l) Ensuring States address ICAO USOAP findings.

ข้อคิดเห็น[SC9]: Noting these in generic terms avoids highlighting any negative aspects for the States/agencies that were involved. Needs to be a "no blame" concept as it is more important for the SAR community to improve and learn from the incident.

ข้อคิดเห็น[SC10]: IAMSAR Vol I, 4.2.2 (e) refers.

Malaysia Airlines Flight 370

~~5.9~~5.10   The MH370 incident has presented a scenario not previously experienced by the global SAR community. It presents a highly valuable opportunity for the States involved in the SAR response, most of which were from the Asia/Pacific, to share their experiences and lessons learned for the benefit of the global SAR community and to improve the existing global SAR system.

~~5.10~~5.11   The search for MH370 was still in progress at the time of writing this SAR Plan with the accident investigation pending, however [pre-empting here] the 3rd Meeting of the ICAO Asia/Pacific SAR Task Force received submissions from States involved in the SAR response and noted the following SAR system related issues:

a) [include outcomes from APSAR/TF/3] Likely to include the following *[amend once known and agreed]*

b) Annex 12/Annex 13 disconnect. SARPs need amending to clearly define the division of responsibilities between the search and <u>rescue</u> function of Annex 12 and the air accident investigation search and <u>recovery</u> function of Annex 13.

> ข้อคิดเห็น[WL11]: Chair and ICAO to repopulate

c) Civil/military cooperation:

- sharing of ATS surveillance data and timely coordination of information between neighbouring States for aircraft emergencies.

- lack of familiarity by State government agencies and military organisations with Annex 12 provisions and the SAR coordination responsibilities of their designated RCCs/SMCs for SAR response to a civil airliner.

- need for more streamlined regional civil/military communication/coordination processes during SAR operations. (rather than the present situation where civil RCCs need to work through different military chains of command/hierarchies which can be time consuming and can create delays).

d) Improved guidance material for large, multi-national SAR efforts. Development of IAMSAR guidance through the ICAO/IMO SAR JWG.

e) ATS unit and RCC adherence to SAR Phase declaration and coordination provisions (Annex 11).

f) Review of SAR Phase declaration times applicable to surveillance environments.

g) Multiple SRRs/FIRs. Annex 12 has no reference in paragraph 5.2.4 as to responsibility when more than two SRRs/FIRs were involved, especially if the airspace concerned was not part of the original flight plan.

h) SRR Designation. Aeronautical SRR designation by States (as it is written in Annex 12 at present) instead of the ICAO Council is not the most optimal method, and does not align with the process used to designate FIRs, thus there are areas where there is an overlap of SAR responsibility or no clear responsibility.

i) Media management and use of social media.

j) More????

ICAO Multi-disciplinary Meeting regarding Global Tracking, 12-13 May 2014

~~5.11~~5.12   This meeting was held at ICAO Headquarters, Montreal and discussed a range of issues, most of which will have a significant impact on the SAR system globally. The meeting Conclusions and Recommendations, 8 directly attributable to the SAR system, were:

NEAR-TERM

> ข้อคิดเห็น**[WL12]:** Do we need all this information or is it useful background?

a) global tracking of airline flights will be pursued as a matter of priority to provide early notice of and response to abnormal flight behaviour;

b) a DRAFT concept of operations on flight tracking will be developed that includes a clear definition of the objectives of flight tracking that ensures that information is provided in a timely fashion to the right people to support search and rescue, recovery and accident investigation activities, as well as, the roles and responsibilities of all stakeholders;

c) under the ICAO framework, the contribution by the industry through an Aircraft Tracking Task Force (ATTF) will help address the near-term needs for flight tracking;

d) ICAO will consider establishing a short term joint ICAO/IATA advisory group to support the global tracking initiative;

e) airlines will be encouraged to use existing equipment and procedures to the extent possible to support flight tracking pending the outcome of the AATF;

f) in partnership with the Task Force, ICAO will develop guidance material, based on available flight tracking best practices;

g) a FINAL high level concept of operations should be delivered to the ICAO High Level Safety Conference (HLSC 2015, February, Montreal);

h) ICAO should increase its resources allocated to the Search and Rescue in order to improve the effectiveness across national and regional boundaries;

i) ICAO should, in collaboration with a pool of search and rescue experts, identify and address operational search and rescue challenges with implementation of existing Annex 12 provisions, and provide assistance to States, including aiding in the setting of priorities for the mid and long term;

j) ICAO should facilitate the sharing of experience and lessons learned from States that were recently involved in accidents where flight tracking could have facilitated search and rescue efforts to all other States;

k) ICAO should strongly encourage States to regularly run practice exercises involving airlines operation centres, air navigation service providers (ANSPs) and rescue coordination centres (RCCs) to test and verify their ability to respond and coordinate together in an integrated manner to abnormal flight behaviour scenarios;

MID-TERM

l) ICAO performance based provisions should be developed, using a multidisciplinary approach, on flight tracking to support the location of an accident site in a timely manner for the purpose of search and rescue and accident investigation;

m) ICAO performance based provisions addressing flight tracking requirements should be sufficiently flexible to accommodate regional needs and be commensurate to operational situations;

n) ICAO should encourage States and International Telecommunication Union (ITU) to

take action, at the earliest opportunity, to provide the necessary spectrum allocations as emerging aviation needs are identified. This includes spectrum for satellite and radio services used for safety of life aviation services. ICAO encourages ITU to place this on the Agenda for the upcoming ITU World Radio Conference 2015;

o) COSPAS-SARSAT should be invited to continue to investigate, within its own program and in partnership with the industry, the means of improving the reliability and utility of emergency locator transmitter (ELTs), particularly in the context of flight tracking during a distress event; and

LONG-TERM

p) ICAO should work in coordination with ITU to develop aviation requirements for network communications associated with remote storage of flight information.

Global Aeronautical Distress and Safety System (GADSS)

ข้อคิดเห็น[WL13]: Review to see if all is required as background

~~5.12~~5.13   As part of the response to the Conclusions and Recommendations from the ICAO Multi-disciplinary Meeting on Global Tracking, ICAO developed a Concept of Operations (CONOPS) for a Global Aeronautical Distress and Safety System (GADSS). The implementation of this target concept will have implications for the provision of services such as air traffic control, SAR and accident investigation. It contains a large number of measures targeting improvements in SAR system response integrated within the wider Air Traffic Management and aircraft/airline operations systems. The CONOPs notes that the effectiveness of the current alerting and SAR services should be increased by addressing a number of key improvement areas.

~~5.13~~5.14   The CONOPS was developed by an ad hoc working group (AHWG) established by the President of the ICAO Air Navigation Commission and Director of the ICAO Air Navigation Bureau. The CONOPS is a guiding document for overarching efforts globally to develop an integrated approach to derive information from a flight tracking system and to ensure the dissemination of such information in a timely manner to detect abnormal or distress situations, as well as to support SAR, recovery and accident investigation activities. The AHWG also collaborated with the IATA led Aircraft Tracking Task Force (ATTF) which was established to identify potential solutions for routine flight tracking in the short-term.

~~5.14~~5.15   The table below outlines the improvement areas identified as part of the GADSS concept in the current operating environment that were considered relevant to the Asia/Pacific SAR Plan:

	Improvement Areas	**Analysis**
a)	Improvement by States to ensure Aeronautical Search and Rescue regions are always aligned with the FIRs.	Differences in boundaries increase coordination complexity and response time.
b)	Improvement by States to ensure Aeronautical Search and Rescue regions are always aligned with maritime SRRs.	Differences in boundaries increase coordination complexity and response time.
c)	Improved Compliance by States with ICAO Annex 12 obligations in relation to SAR.	Many States do not meet the requirements of Annex 12 to provide SAR capabilities in their State, and/or between States, often where there is high density overflight traffic. Existing deficiencies may result in:

		• Delayed and/or inadequate SAR response • Higher risk of loss of life. Lack of coordination, cooperation and communication between RCCs, between ASTUs and RCCs, and between civil and military authorities and other stakeholders.
d)	Improved ability for RCCs to quickly determine the actual geographic air traffic picture within its area of responsibility.	RCCs with this facility would benefit from an enhanced situational awareness, not only for aircraft subject to an emergency, but also other aircraft in the area that may be able to assist (diversion, communications relay, etc). Integration of GIS information such as airspace, terrain, etc would enhance this.
e)	Improved understanding of responsibilities and coordination for the transition of Annex 12 to Annex 13.	In the existing SARPS of Annex 12 and Annex 13 transition from rescue to recovery responsibilities is not clearly defined. (i.e.: who is responsible for a rescue operation and when that phase ends, so it became primarily a recovery/investigation operation under Annex 13).
f)	Increased experience in using SAR procedures preventing decreased proficiency when required.	The extremely low frequency of SAR situations in some SRRs necessitates regular drills and exercises to be held to ensure that proficiency with applicable procedures, cooperation between all actors and use of systems is maintained.
g)	Improvement and definition of the co-ordination of In-Flight Emergency Response (IFER).	It is not clear in this situation whether an ATSU or RCC has coordination responsibility of an emergency for an aircraft whilst it is still in flight, or where the coordination responsibility begins/ends. Management of In-Flight Emergency Response (IFER) and the interface between ATS and RCCs is an issue that will be affected by global tracking.
h)	Ensure operators are meeting the 406MHz ELT equipage requirement.	Aircraft may still be using just 121.5MHz ELTs. These are no longer detected by Cospas-Sarsat and will only be detected by VHF radios tuned to the frequency and within range.
i)	Improvement in the overall registration of 406MHz ELTs.	Distress beacon registration allows RCCs to determine beacon indentification details including emergency contacts. This allows RCCs to contact beacon owners or their

		emergency contacts when a beacon is activated to obtain further details. The distress beacon registration emergency contact information for the owner/operator of an aircraft subject to an ELT alert may be different to the actual operator for that flight. To avoid delays in RCC response, it is essential to enable RCCs to readily identify the operator of the aircraft at the time of the distress alert.
j)	Improvement in the level of carriage of 406MHz survival ELTs (ELT(S)) for overwater operations.	Although not mandated by ICAO SARPs many aircraft may still carry legacy 121.5/243 MHz ELT(S) beacons as part of their emergency equipment, such as slide rafts, which are no longer detected by the Cospas-Sarsat system.
k)	ATS - Improvements in Airspace coordination to prevent any compromise in the mechanism for ensuring receipt of overdue position reports.	Lack of clarity on the responsibility to ensure all position reports including those from an aircraft that has exited the airspace or area of jurisdiction.
l)	ATS - Improvements by ANSPs in consistently sharing data with other ANSPs and operators.	There is currently no international requirement for sharing position data. Some ANSPs share this data with operators while others do not.
m)	ATS - Increased experience in using emergency procedures preventing decreased proficiency when required.	The extremely low frequency of emergency situations with an accident risk necessitates regular drills and exercises to be held to ensure that proficiency with applicable procedures, cooperation between all actors and use of systems is maintained.
n)	ATS – Improved civil/military coordination and information sharing in support of emergency situations.	There is no consistent sharing of relevant information between civil/military.
o)	Improved abilities to identify the responsible RCC for the region in which an aircraft experiences an emergency.	There is no worldwide chart(s) publication of aeronautical SRRs which allows stakeholders to quickly identify the relevant RCC(s) to contact. There is no automated system support in correlating an aircraft's position with the RCC area of responsibility.
p)	Improved ability to reach operational staff of ATS Centres/Units, RCCs and aircraft operators.	There is no consolidated contact list of worldwide ATS Centres/Units, RCCs or aircraft operators to enable rapid identification and contact between these stakeholders.

		There is no automated system support in providing contact details of operational staff.
q)	Enhance provisions for effective use of English language by Points of Contact (ATSU, RCC and Aircraft Operator)	Time may be lost due to language issues between the operational staff of aircraft operations centres, ATSUs and RCCs. Stakeholder points of contact should be proficient in English.

<mark>Table x.x</mark>

~~5.15~~5.16   The GADSS CONOPs also lists other improvement areas within the aircraft systems, ATS and information management areas which the SAR system will need to integrate with.

APANPIRG/25 2014 SAR Related Conclusions and Decisions

~~5.16~~5.17   At the Twenty-Fifth Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/25), 8-11 September 2014, Kuala Lumpur, Malaysia, five Conclusions and one Decision regarding SAR were agreed to as follows:

Conclusion APANPIRG/25-11: Human Performance Initiatives

That, ICAO be urged to:

a)   *conduct an Asia/Pacific human performance seminar/workshop for optimal Air Traffic Control (ATC) and Search and Rescue (SAR) operational safety and efficiency; and*

b)   *review the human performance provisions in the Asia/Pacific Seamless ATM Plan.*

Conclusion APANPIRG/25-18: Cospas-Sarsat Alert Responses

That, considering the importance of effective Cospas-Sarsat alerting and monitoring supporting the international Search and Rescue (SAR) system, States be urged to:

a) *consider becoming formally associated with the Cospas-Sarsat system;*

b) *provide up-to-date SAR Point of Contact (SPOC) details to Cospas-Sarsat, and respond promptly to SPOC communications tests;*

c) *promote registration of 406 MHz distress beacons and make use of the free International Beacon Registration Database (IBRD) facility unless the State has its own readily available registration system;*

d) *support a simplified, serialised beacon unique identification coding system for next generation beacons;*

e) *ensure the provision of immediate access by Rescue Coordination Centres (RCCs) to the 406 MHz distress beacon registration data, whether maintained by the State or the Cospas-Sarsat IBRD; and*

f) *provide post-alert advisories to Cospas-Sarsat on all alert outcomes as soon as practicable as a performance and system improvement measure.*

Conclusion APANPIRG/25-19: Personal Locator Beacon

That, considering the development of miniaturised Personal Locator Beacons (PLBs) being increasingly carried on persons, marine vessels and aircraft, the possible overload

of alerting systems and RCCs, and the obligation of States to respond to safety alerts, ICAO in cooperation with the IMO, be urged to consider means of effectively managing PLB alerts.

Conclusion APANPIRG/25-20: Global SAR Coordination

That, considering the need for global and inter-regional Search and Rescue (SAR) coordination, ICAO be urged to:

a) *consider securing the necessary technical resources for managing global SAR policy development and inter-regional coordination; and*

b) *include SAR as part of the Aviation System Block Upgrades (ASBU).*

Conclusion APANPIRG/25-22: Provision of MH370 Feedback

In accordance with Annex 12, Recommendation 5.9.2, that:

a) *Asia/Pacific States/Administrations involved in the SAR response to MH370 be urged to develop any lessons learned and suggestions for improvement for submission to the APSAR/TF/3 meeting, scheduled for 25-29 January 2015; and*

b) *ICAO and IMO be urged to consider lessons learned and feedback in order to update global SAR standards and guidance material.*

Decision APANPIRG/25-21: Search and Rescue (SAR) Library

That, States be urged to utilise the SAR Library located at http://www.uscg.mil/hq/cg5/cg534/SAR_Manuals.asp.

Cospas-Sarsat NextGen Distress Beacons including 406MHz ELTs and MEOSAR

5.18   Cospas-Sarsat currently is developing two major enhancements to its distress-alerting System of value to all System users, including the aviation industry. One is the introduction over the period of approximately 2016 to 2018, and beyond, of a new space-segment architecture based primarily on Medium-altitude Earth Orbit Search and Rescue (MEOSAR) payloads aboard Galileo, Glonass and GPS satellites. This architecture will permit determination of a distress incident location (independent of any location data transmitted in the beacon message) beginning with the first burst from the distress beacon. The SAR/Galileo space segment also will provide a Return Link Service (RLS) that, among other possible future uses, will provide an acknowledgment back to the beacon to confirm when the distress message has been received.

5.19   The other major development is the completion in the next couple of years of specifications for the next generation of 406-MHz distress beacons, including ELTs. This new generation of beacons should further improve speed and accuracy in locating an activated distress beacon. The period from beacon activation to first transmission will be reduced from 50 seconds to three seconds. The specification will take account of ICAO (and other agencies') consideration of in-flight activation of ELTs when certain flight parameters are exceeded. ICAO (and other agencies) also is considering whether the Return Link Service should be used as a means of remotely activating an ELT in the case of an unresponsive or uncooperative cockpit.

5.20   States need to continue to ensure that aviators are aware that 121.5-MHz beacons cannot be detected by the global Cospas-Sarsat System. States also need to ensure that they have provided a suitable, clear and simple means for aircraft owners to register their 406-MHz distress beacons (see,

for example, http://www.cospas-sarsat.int/en/beacons-pro/beacon-regulations-pro/ibrd-user-information-for-professionals), and that entries in the register are available to both aeronautical and maritime RCCs on a 24/7 basis. See Annex 12 – Search and Rescue. However, Annex 10 provides the registration requirement. States should note that Annex 12 should be read in conjunction with the following ICAO Annexes:

5.17 ~~Cospas-Sarsat is currently developing its distress beacon system to enhance the value to System users including the aviation industry. This includes implementation of a new Medium-altitude Earth Orbit Search and Rescue (MEOSAR) and continuing development of specifications for the next generation (NextGen) of Cospas-Sarsat beacons. This includes potentially new features for 406MHz ELTs including automatic triggering in-flight.~~

5.18 ~~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.~~

~~5.19~~5.21 ~~The need to ensure States register 406 MHz distress beacons, and, that the register is available to both aeronautical and maritime RCCs can be associated with Annex *12 – Search and Rescue*. However, it is Annex 10 which provides the requirement. States should note that Annex 12 should be read in conjunction with the following ICAO Annexes~~:

Annex 6 – Operation of Aircraft: Part I International Transport (cargo and passenger aircraft), Chapter 6 in general and ELT in particular; Part II International General Aviation, Chapter 6 in general and ELT in particular; and Part III Helicopters, Chapter 4;

Annex 10 – Aeronautical Telecommunications (discussed above); and

Annex 14 – Aerodromes: Chapter 9 regarding aerodrome emergency planning; exercises; and, establishment, testing and assessment at regular intervals of a predetermined response for the specialist rescue services.

~~5.20~~5.22 The ICAO Global Aeronautical Distress and Safety System (GADSS) Concept of Operations also includes aspects which potentially involve use of 406 MHz ELTs and the Cospas-Sarsat system as part of the proposed GADSS solution. ~~×~~

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

CURRENT SITUATION

<u>Global Situation</u>

6.1   The ICAO Universal Safety Oversight Programme (USOAP), Report of audit results, 3rd Edition, April 2005 to August 2010 revealed a number of SAR deficiencies during the audits of 165 Member States:

- 38% of States had not laid down provisions for entry into their territory of SAR units of other States for the purpose of search for the site of aircraft accidents and rescuing survivors;

- 44% of States had not developed a detailed plan on operation for the conduct of SAR operations within their respective SRRs; and

- 67% of States had not established the necessary coordination of their SAR organisations with those of neighbouring States, including the conclusion of bi-lateral SAR agreements in order to coordinate SAR operations; and

- regarding RCCs –

    i. ....about 40% of States had not developed job descriptions for their technical staff;

    ii. ....45% did not ensure that RCC personnel involved in the conduct of radiotelephony communications were proficient in the use of the English language; and

    iii. ....about 56% of States do not regularly train their SAR personnel, and nor did they conduct SAREXs.

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

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

Insert Figure

Figure X: Asia/Pacific and adjoin FIRs/SRRs

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

6.4   The analysis should also identify where there are no or overlapping SRRs, or where there are significant differences in the delivery of aeronautical and maritime responsibilities.

<u>Asia/Pacific SAR Coordination Forums</u>

6.5   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, South and East African and Middle East regions.

6.6 High-level support might be necessary from regional bodies that can effectively support regional improvements to SAR services and the SAR Plan's implementation, such as the:

- Association of Southeast Asian Nations (ASEAN);

- Asia Pacific Economic Cooperation (APEC);

- South Asian Association for Regional Cooperation (SAARC);

- Secretariat of the Pacific Community (SPC); and

- Indian Ocean Rim Association (IORA).

~~6.6~~6.7 There are several regional initiatives for cooperative support and development already being undertaken in the Asia/Pacific Region. Examples of these are the initiatives by the Australian Maritime Safety Authority (AMSA), to assist SAR capability enhancement in cooperation with~~in Indonesia through the Indonesian Transport Safety Advancement Program (ITSAP) and~~ ~~the Indian Ocean~~the Maldives, Mauritius and Sri Lanka through a ~~the~~SAR Capability Program (SCP). These initiatives involve:

a) SAR staff exchanges;~~International Staff Exchange Program (Search & Rescue), and~~

b) ~~Indian Ocean~~ SAR ~~Capability Enhancement Project~~training and exercises;

~~b)~~c) Provision of SAR technical solutions.

~~6.7~~6.8 Such improvement ~~programmes~~programs can result from a request by a State needing assistance, ICAO/IMO oversight, the users of the SAR system itself, ~~or~~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 ~~programmes~~programs can be conducted by experts from a 'champion' State, or through a cooperative effort by several States or a regional body.

Barriers

~~6.8~~6.9 The following potential issues should be considered to ensure they do not become barriers to the achievement of the expected SAR capability:

a) establishment of an appropriate legal framework designating, recognizing and giving authority to national SAR authorities;

b) funding and equipping SAR authorities and in particular, resourcing the RCC;

c) setting of appropriate SAR organizational framework;

d) establishment of a National SAR Committee;

e) clarity of responsibilities for each component of the SAR system, and empowerment of the RCC;

f) establishment of SAR Agreements; and

g) lack of recognition of the importance of SAR.

~~6.9~~6.10 The provision of sufficient resources ~~was~~is critical in a number of areas, including:

a) financial-

- funding for 24 hour RCC facility and staff;

- funding for use/hire of search and rescue units; and

- 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-

i. appropriate RCC facility space;

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

iii. reliable and rapid H24 communications, and a suitable means to-

- receive and communicate distress alerts

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

iv. identify and task available SRUs;.

v. information technology-

- RCC workstation computers;

- Software including basic databases, drift modelling, incident management, etc.; and

- Aircraft and vessel tracking information including ADS-B, AIS, etcetc.;.

d) Back-up RCC facility, or arrangement with another RCC-

- ....a
s a contingency against inability to operate from the primary RCC due to the need to evacuate or loss of systems, etc.;

d)e) 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 (e.g.: SAR Datum Buoys, droppable life rafts and survival supplies, etc.);

e)f) Training support-

i. RCC staff – basic and ongoing; and

ii. SRU crews – pilots, air crew and air observers; and.

ii.iii. RCC support staff – basic and refresher.

PERFORMANCE IMPROVEMENT PLAN

Preferred SAR Capability Specifications (PSCS)

PSCS Phase I (expected implementation by ~~9~~ 8 November 2018)

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ข้อคิดเห็น[SC15]: Suggest insert explanatory statement describing what PSCS actually means and involves together with an expectations statement, maybe with an overall reference to the Convention.
</div>

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ข้อคิดเห็น[SC16]: how will progress to the target date of 2018 be monitored and reported? Do we need to give State's guidance? Maybe States report progress to the annual ATM/SG?
</div>

Organisation

7.1   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 to:

a)   ensure that it is party to the following Conventions, as applicable –

   i. ....C onvention on International Civil Aviation 1944;

   ii. ....I nternational Convention on Maritime Search and Rescue, 1979;

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

   iv. ....C onvention on the High Seas, 1958; and

   v. ....U nited Nations Convention on the Law of the Sea (UNCLOS), 1982;

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 applicable, military members;

d)   establish a single State SAR point of contact (SPOC) for non-urgent, administrative matters, such details to be submitted to the ICAO Regional Office;

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ข้อคิดเห็น[SC17]: need a different term as SPOC is used by COSPAS-SARSAT and this may confuse.
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e)   conduct studies to check the feasibility for, and develop an implementation plan if feasible, the integrat~~e~~ion ~~of~~ aviation and maritime SAR activities, and as far as practicable, civil and military activities, including joint training and familiarisation 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. ....d esignates the responsible RCC(s), RSC(s) and 24-hour contact points;

   ~~i.~~ ii. ....d escribes the relevant SRRs, including the ~~limits for any SRRs;~~ coordinates and geographical chart depiction of the SRR and neighbouring SRRs;

   ~~ii.~~ iii. ....d

23

etails the National SAR Committee;

iv. ....d

etails the governmental and non-governmental agencies with authority and responsibility for SAR coordination within its territories and designated area of responsibility;

~~iii.~~v. ....d

etails the responsible 24-hour SAR Point of Contact (SPOC) for receipt and acknowledgement of Cospas-Sarsat distress alert messages;

~~iv.~~vi. ....d

etails required and available SAR facilities, personnel, and equipment;

~~v.~~vii. ....d

etails the SAR manuals, plans and procedures for national and regional cooperative SAR response arrangements;

~~vi.~~viii. ....d

etails the SAR personnel training and competency programme, qualification standards, SAR certification if applicable and SAR cooperation training;

~~vii. ....d~~

~~etails a single administrative SAR point of contact for non-urgent, routine and administrative matters;~~

~~viii.~~ix. ....d

etails the SAR agreements required;

~~ix.~~x. i

s electronic and accessible on the Internet, such details to be submitted to the ICAO Asia/Pacific Regional Office; and

~~x.~~xi. i

s controlled by quality assurance processes.

> **ข้อคิดเห็น[SC18]:** need a different term to SPOC to avoid confusion with the COSPAS-SARSAT use of SPOC.

Personnel and Staffing

7.2   All States should:

a)   Add words to ensure adequate ATC resourceto notify RCCs;

b)   ensure sufficient staffing to provide a 24-hour SAR service;

c)   ensure there is a sufficient number of trained specialist RCC officers including SMCs and A/SMCs;

d)   ensure 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 during SAR incident response;

e)   ensure SRU staff, including military personnel receive appropriate and regular training;

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

g)   ensure RCC staff are proficient in the English language.

Procedures and Training

7.27.3   All 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;

   c) establish SAR Agreements with States having adjoining SRRS or FIRs, including trans-regional neighbours (consideration of removing grey ares);

   d) provide up to date cross-border information on SAR capability (this should be included in bilateral SAR agreements);

   e) pre-arrange procedures for cross-border SAR responses (this should be included in bilateral SAR agreements);

   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 may be a desktop communications exercise, and alternate years should be a full exercise;

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

   i)h) develop a comprehensive training programme that includes SAR training modules for RCC SAR Coordinators (SCs) based on a competency-based assessment approach to ensure technical and English language proficiency, cyclical (periodic) instruction that provides continuous training to ensure competency is maintained, and a system for maintaining training records; and

   j)i) conduct regular visits to relevant neighbouring RCCs, ATC units and airline operating centres in order to understand their organization, facilities and capability (reference Annex 12, paragraph 3.1.9).

7.37.4   All State SAR coordination plans should 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 aircraft aviation and shippingmaritime SAR incidents, including protocols for civil and military support and sharing of resources.

7.47.5   All States should establish procedures enabling:

   a) availability and deployment of suitably crewed trained 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(vessels and aircraft of opportunity);

   c) protocols to request assistance of military assets and similarly military SAR authorities allowed to request civil assets;

   d) 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; and

   f) pre-arranged 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.

~~All States should establish RCC plans for response to Mass Rescue Operations (MROs) integrated with national disaster plans.~~

7.6   All States should establish RCC plans for response to Mass Rescue Operations (MROs) integrated with national disaster plans.

~~7.5~~7.7   All States should, within category S (ATS surveilled) airspace, utilise a maximum time of 10 minutes ~~before~~ for declaration~~issuing~~ of an Uncertainty phase (INCERFA).ADD footnote ~~phase.~~

Facilities

~~7.6~~7.8   All States should establish RCCs of sufficient size and facilities that provide adequate provision for operational positions designed in accordance with human factors principles (such as the human machine interface) for a major search involving civil and military assets where applicable, and facilities such as plotting tables, computer equipment, communications systems, briefing/debriefing areas (particularly if the news media are involved), and room for storage and recorders. ~~commensurate with the guidance in **Appendix XX**. (should this include a recommended metre space and RCC minimum equipment list, plus an of~~ systems?)

~~7.7~~7.9   All 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, to provide an efficient and integrated State SAR system for both aeronautical and maritime SAR incident response.

~~7.8~~7.10   Where practicable, the JRCC evaluation may consider consolidation of two or more different State RCCs into single sub-regional JRCCs. 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 Rescue Sub-Centres (JRSCs) of the other partner States which may not necessarily need to ~~be~~ manned 24 hours but could be activated when required.

~~7.9~~7.11   For RCCs with responsibility for oceanic areas, all States should establish additional oceanic SAR capability 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 regional RCCs.

~~7.10~~7.12   All States should provide tools that assist RCCs to provide an improved service such as:

a)   computer resources which may provide support to RCCs with incident management, plotting, search planning, mapping, contact databases, etc.;

b)   charts, electronic or paper, ~~joint aeronautical and maritime electronic mapping~~which apply to the SRR (aeronautical, nautical, topographic and hydrographic);

c)   means of plotting;

~~a)~~d)   ~~wall~~ chart(s) depicting SRR, neighbouring SRRs, FIR(s), SAR resources;

e)   ability to receive and acknowledge distress alerts;

f)   maritime broadcast facilities;

~~b)~~g)   means of recording, playback and archiving of communications;

~~c)~~h)   shipping/vessel communications – Coast Radio Stations, RCC radio and satellite communications, marine radio networks;

~~d)~~i)   aircraft communications – via ATS units, aircraft operators, satellite

communications;

j)   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;

e)k) means of obtaining meteorological information – forecast, present and historical data;

f)l) if applicable drift modelling software;

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

n)   SAR Datum Buoys, preferably with satellite tracking capability; and

h)   RCC library, documentation and reference material such as plans of operation; SAR manuals and procedures, RCC checklists and forms, AIP, relevant ICAO and IMO documentation, etc. and

i)o) RCC recording and plotting of search object sightings and debris.

7.117.13   All States should ensure the availability of that SRU aircraft that can providehave:

a)   trained aircrew;

b)   a pool of air search observers trained in visual search techniques;

c)   ability to operate under IFR conditions;

d)   multi-engined where possible;

e)   conduct searches using standard search patterns with accurate navigation;

f)   rescue persons with a rescue winch;

a)g) night search capability including night-vision devices where appropriate.;

h)   ability to operate over water to the extent of the aircraft's range;

b)i) marine VHF radio to enable communication with vessels if used over marine maritime areas;

j)   direction-finding capability for locating distress beacons day and night;

k)   other electronic search capability including, where possible, FLIR and night vision devices;

l)   Add reference to UAS

c)

m)   the capability of delivering/dropping SAR supplies to survivors and other SAR equipment (e.g. SAR Datum Buoys, life rafts, survival supplies to sustain life pending rescue, etc.); and

d)   conduct emergency medical services and medical retrieval operations, including from vessels.

e)n) trained air search observers; and

f)o) night search capability including night-vision devices where appropriate.

7.127.14   All 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

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ข้อคิดเห็น[WL22]: Reconcile with other paragraph

online format to enable rapid determination of the responsible RCC for any distress alert.

~~7.13~~7.15   All 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:

ข้อคิดเห็น[WL23]: Chair to review

    a)   The agency responsible for providing SAR services;

    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.

~~7.14~~7.16   All States should establish an Internet-based SAR information sharing system (with security protocols as required) to share SAR activity with States and key stakeholders participating in ~~an international~~ a SAR activity. Means of handling media - next of kin enquiries, add note about avoiding premature press statements, and the SWIM concept

~~7.15~~7.17   All States should establish a web-based SAR Library, or cooperate by contributing to an Internet-based Asia/Pacific resource.

~~7.16~~7.18   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, and provide the Internet link to that list to the ICAO Asia/Pacific Regional Office. ADD REFERENCE TO COOPERATION BETWEEN STATE ENTITIES TO RECEIVE INFORMATION

SAREX

ข้อคิดเห็น[WL24]: Possible duplication 7.3

~~7.17~~7.19   All States should conduct regular SAREXs (at least once every two years) to test and evaluate:

    a)   If applicable 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~~2**. Add statement about need to involve AOCs and ATC in SAREX

Note: SAREX must test the SAR system, including ~~normally through~~ 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 take the form of simulated crash fire exercises that do not have a search component.

COSPAS-SARSAT Distress Beacon System

~~7.18~~7.20   All 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) ~~M~~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 ~~R~~receiver capability;

d) do we need a ground requirement to enable the MEOSAR system?; and

e) 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. For example, MRCCs should ensure their procedures alert ARCCs and ATS units to any EPIRB activations.

System Improvement

7.21   Implementation of a SAR System Improvement and Assessment measures, including Safety Management and Quality Assurance systems.

~~7.19~~7.22   All States should establish ~~quality assurance procedures~~ systems that –

a) provide~~s~~ 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;

b)

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 to the Chief Executive of the entity responsible for SAR services on matters of quality assurance;.

~~d)~~e) provides submissions to the ICAO/IMO Joint Working Group on the Harmonization of Aeronautical and Maritime SAR to share lessons learned and experiences with other global States.

~~7.20~~7.23   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 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) 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;.

ข้อคิดเห็น[SC25]: Provisions of the new Annex 19 may apply where a SAR service is provided under the authority of an ATS provider? See Annex 19, CHAPTER 3, 3.1.3 e).

ข้อคิดเห็น[SC26]: Should we add more standard stats to allow comparison in a standardised manner between different States?

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~~7.24   All States should conduct SAR promotion~~al~~ programs (e.g. Seminars, Workshops and public safety campaigns) to:

a) assist media to 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 through public safety campaigns aimed at preventing persons getting into distress situations, i.e. "preventative SAR";

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.

Contingency Facilities and Procedures

~~7.22~~7.25   All States should ensure there are established contingency facilities, or when a SAR service is not able to be provided, procedures in place for the temporary delegation of the SAR responsibility to another appropriate national body or State.

7.26   All States should test their contingency arrangements periodically, but not less than once a year.

SAR System Funding

7.27   States should consider whether the level of funding provided for their SAR systems is sufficient to develop and/or maintain the required SAR service per their obligations as signatories to the relevant aeronautical and maritime SAR conventions.

7.28   SAR agencies may need to present business cases to their governments outlining where additional funding is required. 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 utilising of existing funds. For example establishing a JRCC instead of operating a separate ARCC and MRCC.

7.29   States may consider additional funding sources, for example charging a small levy to aircraft and shipping operators for providing the SAR service or seeking company sponsorship for SRUs.

7.30   Other funding ideas????

ข้อคิดเห็น[WL27]: To review appropriate section

Global and Regional SAR Issues

7.31   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. Such forums may include APANPIRG and its Sub-Groups, other ICAO Region SAR groups, the ICAO/IMO Joint Working Group on Harmonisation of Aeronautical and Maritime SAR, ICAO High Level Safety Conferences and related forums;

7.237.32   States should actively contribute with submissions to the ICAO/IMO Joint Working Group on Harmonisation of Aeronautical and Maritime SAR with suggested improvements to the global SAR system and the IAMSAR manual.

PSCS Phase II (expected implementation by 2021?)

Heading

7.247.33   Include here all items that may not be able to be achieved by 2018.

RESEARCH AND FUTURE DEVELOPMENT

<u>Research and Development</u>

8.1   To develop the tools and systems required to meet foreseeable long-term requirements, there is a need for States to undertake planning and co-operate~~ion~~ 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 Seamless ATM Principle 36 (*Inter-regional cooperation ('clustering') for the research, development and implementation of ATM projects*), and may manifest itself in joint projects such as:

- ICAO/IMO Regional SAR Training Teams to assist States that are unable to provide their own SAR training; ~~and~~

- 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~~.~~

- Regional online eLearning packages.

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 data sharing such as aircraft and ship tracking information;

~~a)~~b) 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) – note the ICAO GADSS includes this concept;

~~b)~~c) regional Unmanned Aerial Systems (UAS) SAR capability

~~c)~~d) key States **such as** Australia, France, India, Japan, New Zealand and the USA that ~~have~~ share large remote regions with less developed SAR States ~~need to now should~~ come together as one project to determine the requirements for an integrated and harmonised Asia/Pacific remote SAR platform that the States involved could set up a tender for the myriad of UA~~V~~S manufacturers ~~out there~~ that may be available to meet in terms of specific SAR specifications. Just taking a wild punt at some requirements, they would include things like range 2,500km+, endurance 12 hours+, GNSS programmable, data-link command through Iridium NEXT, real-time data feed, visual/infra-red/radar scanning, carries SSR transponder and able to receive/transmit VHF within VHF airspace…;

~~d)~~e) ~~location accuracy requirement for accident site for certain categories of aircraft – note the ICAO GADSS includes this;~~

~~e)~~f) ~~ELT activation while in flight by the new generation of satellites and ground~~

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stations in the Cospas-Sarsat System – note the ICAO GADSS includes this;

    new generation beacon that uses 406MHZ for homing capability;

f)g) inclusion of the SAR system and RCC access as a component of the new ICAO System Wide Information Management (SWIM) concept of operation and implementation; and and

g)h) 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 09 November 2018 and XXXX 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.

APPENDICES

LIST OF DOCUMENTS AND PUBLICATIONS RELEVANT TO AERONAUTICAL SAR

APSAR/TF/3 NEEDS TO ADD OR DELETE DOCUMENTS FROM THE IMO LIST BELOW

ข้อคิดเห็น**[SC30]:** Do we need this list of publications in the plan? Suggest a reference only with link – assuming this is available for both ICAO and IMO?

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 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
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	November 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	April 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	Updated 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, SPOCs 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

Appendix 2: SAREX TEMPLATE

WORK PLAN FOR THE COORDINATION MEETING OF A [[JOINT]] SEARCH AND RESCUE EXERCISE

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1.   OBJECTIVES

State the objectives of the [joint] SAREX and what are to be achieved out of the SAREX by all participants.

For example:

1.1   The objectives of the [joint] SAREX are:

a)   To provide continuation of SAR exercise and improve cooperation between …………… (participating agencies or State RCC) and ……………….. (participating agencies or State RCC).

b)   To provide continuation training for personnel of SAR organisations from both …………… (participating agencies or State RCC) and ………………. (participating agencies or State RCC)

c)   To test the communication facilities and procedures between ………. (participating agencies or State RCC) and ………………… (participating agencies or State RCC); and

d)   To test and determine the effectiveness of the Search and Rescue Units of ………………… (participating agencies or State RCC) and …………………… (participating agencies or State RCC).

2   DATE AND TIMING OF SAREX

State the agreed date, time and year for the [joint] SAREX. Have alternate or contingency plan in the event that the full scale SAREX cannot be conducted due to weather or any unforeseen circumstances. It is recommended that a pre-SAREX brief be conducted to ensure all participants understand their roles and the required actions to be taken. State the agreed time for a pre-SAREX brief to be carried out for all participants and States may conduct simultaneous pre-SAREX brief at their own location for their local participants. For standardization and to avoid confusion, it is recommended that all timing and dates used should be in UTC as there may be difference in time and day for different States. After the SAREX, it is also recommended to conduct a de-brief for all participants.

For example:

2.1   Table Top SAREX or A Full Scale Exercise will be held between ………….. (participating agencies or States) and …………… (participating agencies or State) on ………….(date/month/year according to UTC) ………..(day of the week according to UTC) from ……… (time in UTC) to ………. (time in UTC).

2.2   In the event of bad weather, the Full Scale SAREX will be converted into a Table Top SAREX. The cut off time will be at ……….. (time in UTC).

2.3   A Pre-SAREX brief will be held on …………… (day/month/year according to UTC) …………. (day of the week according to UTC) in …………. (location of the pre-SAREX brief) at …….. (time in UTC).

2.4   De-Brief will be held on ………… (day/month/year according to UTC) ……….. (day of the week according to UTC) in …………. (location of the de-brief) at ………….. (time in UTC).

3   SCENARIO

Discussion and development of exercise scenario with participating State or States and agencies involved. Scenario created should be as realistic as possible to simulate close to a real incident. A fictitious flight plan can be included to provide additional information pertaining to the distressed aircraft as required by the RCCs. Using fictitious callsign or airline for distressed aircraft will avoid complication or confusion especially if it involves the social media.

For example:

3.1   At ………… (time in UTC), a chartered …………(type of aircraft) …………… (callsign of distressed aircraft) departed from …………. (point of departure) to ………….. (destination) with …………. (POB). At ……… (time in UTC), aircraft declared **"MAY DAY"** due to ………… (nature of emergency) at ………….. (location in Lat and Long or with reference to a prominent location known to all). ……………………………….

3.2   Other information like Pilot-in-command ….......... equipment carried on board …………, colour of aircraft fuselage or tail.

4   PARTICIPATING ORGANISATIONS OR UNITS

Identify and list all participating agencies or agencies from both States. Agencies should include both government and private. ANSP, Aircraft Investigation Bureau, Airlines etc should be involved in a SAREX as they are directly involved in any real air incident

For example:

4.1   From ………….. (participating local agencies or States)

    1)   Civil Aviation Authority of ……………

    2)   Local Airforce

    3)   Local Navy

    4)   …………………….

    5)   …………………….

    From …………….. (the other participating local or States):

   1)   Civil Aviation Authority of ……………..

   2)   Local Air Force

   3)   Local Navy

   5)   ……………………………

   6)   …………………………….

5   DEPLOYMENT OF EXERCISE SEARCH AND RESCUE UNITS (SRUs) AND CALLSIGNS

State all the SAR assets that will take part in the SAREX. It is recommended that the callsigns of the SRUs should be pre-fixed with the word "SAREX" to indicate that it is an exercise aircraft or surface vessel. This will not create any confusion between a SAREX and a real incident. Callsign assigned to a particular SAR asset should not be changed and to be used throughout the exercise. Different SAR asset should be assigned with an individual flight number.

For example:

5.1   SRUs from ………… (participating State) and their callsigns are as follows:

Type of SRUs	Callsign	Remarks
Fokker 50	SAREX 01	Search
C130	SAREX 02	Search
Dolphin Helicopter	SAREX 03	Search and Rescue
……………………….	SAREX……..	………………………..
……………………….	SAREX……..	………………………..
……………………….	SAREX……..	………………………..

5.2   SRUs from ………… (the other participating State) and their callsigns are as follows:

Type of SRUs	Callsign	Remarks
Helicopter	SAREX 04	Search and Rescue
Ship	SAREX 05	Search and rescue
……………….	SAREX….	…………………..

6   COMMUNICATIONS

State the agreed radio frequencies to be used in the SAREX.   Make communication arrangements between the two RCCs as well as between the RCCs and the SRUs. It is recommended that a communication check be conducted between all parties before the SAREX to ensure serviceability of communication equipment. A standby day may be necessary if the communication check is found not satisfactory or unsuccessful.

For example:

6.1   The communications arrangement will be as follows:

a)   Between …………. (participating agency or State RCC) and …………. (the other agencies or participating State RCC)

Primary communication   -   …….KHz or …..Mhz or landlines

Secondary communication   -   …….KHz or …..Mhz or landlines

Standby communication   -   …….KHz or …..Mhz or landlines

b)   Between ……………(participating agencies or State RCC) and SRUs)

Primary communication   -   ……. KHz or …….MHz

Secondary communication   -   ……. KHz or …….MHz

Standby communication   -   …….KHz or …......MHz

6.2   A communication test between …………… (participating agency or State RCC) and …………… (the other participating agencies or State RCC) will be conducted prior to the SAREX. The date for the test is on ………………. (date/month/year according to UTC) between ……… (time in UTC) to ……..…... (time in UTC).

6.3   In the case of unsatisfactory communication test, another test will be conducted on ………………. (date/month/year according to UTC) between ……… (time in UTC) to ……..…... (time in UTC). .

6.4   All messages pertaining to the exercise shall be prefixed with the words "SAREX SAREX SAREX"

7   SEARCH OBJECT

In a Full Scale SAREX, States can consider the deployment of a search object to add realism to the exercise. This will enable participating SRUs to practice visual search from air as well as on from the surface of the sea. If the homing capability of the SRUs is desired, a beacon can be placed on the search object for electronic search. Arrangement can be made for the search object to be deployed at the proposed distress location at the activation time of the SAREX. A search object with some significant marking or markings on it will enable easier visual sighting of search target on land or on water.

For example:

7.1   The search object will be provided by …………… (one of the participating agency or State RCC) and will be deployed at ………. (time in UTC) on …………..(date of the SAREX according to UTC) at the position in which the distressed aircraft is assumed to have crashed.

7.2   Search target is marked with…………… (bright colour or with the words "SAREX" or some significant marking).

8   ALERTING AND ACTIVATION

State clearly on the alert and activation processes for the SAREX. Decide on which agency or State would initiate the distress phase and notify the other participating agencies or State or States so that [joint] SAR effort can be carried out. In a joint SAREX, if the distressed location is within the area of responsibility of a particular State, the State concern should carry out the alerting and activation phase. The other participating State or States should be notified and [joint] SAR operations can be carried out.

For example:

8.1   Since the crash will occur in ………… (location or name the State FIR) or area of responsibility, ………… (State concern) RCC will notify ………….. (participating State) . Both RCCs will coordinate the SAR Operations.

9   SEARCH AREA

Discuss on how to determine the search area or which State should determine the search area. In a joint SAR effort, the two RCCs can determine their own search areas and agree on a common search area.

For example:

9.1   The respective Search Mission Coordinators (SMCs) will work out a search area upon receipt of the distress location or crash report.

9.2   The two SMCs shall discuss with each other and agree on a common search area.

9.3   If there is a great difference between the two search areas, the controlling RCC shall decide on the most probable area and take the necessary action to promulgate the area as a restricted area for SAR operations accordingly.

10   DIPLOMATIC CLEARANCE

In a joint SAREX, make necessary arrangement for the application of Diplomatic Clearance required if State assets may or are required to enter into another State's territorial airspace or waters. The process for application should be made known or if there is an agreement in place between the two States, then the agreed procedure should be followed. Provide information regarding the SRUs and particulars of the personnel on board.   It is recommended that particulars of the SRUs be provided to the State concern prior to the

SAREX. This will assist in the Diplomatic Clearance process.

For example:

10.1   …………… (State) SMC will request to ………… (State) for diplomatic clearance to allow …………… (State's) SRUs to enter …………. (State's) territorial airspace and waters.

10.2   To obtain diplomatic clearance for ……….. (State's) SRU, ……….. (State) SMC shall provide the following particulars:

a)   Registration of SRU

b)   Type of aircraft or vessel

c)   Name of Captain/Pilot In Command

d)   Names of crew on board (not required for sea asset)

e)   Area of operation

f)   Date and time of operation

10.3   The details of the …………. (State's) SRU shall be provided to ……….. (State) one or two weeks before the exercise. Application for diplomatic clearances through the normal channel via the …………… (agency for the process of the Diplomatic Clearance) is advised in order to accelerate the diplomatic clearance process.

11   SEARCH OPERATIONS

Note: Ensure the safe conduct of the SAREX especially with the air assets. It is recommended that there should be one controlling RCC providing instructions to search aircraft prior to entering the search area. It is also recommended that an Air Coordinator be deployed to provide instructions to search aircraft during transit to and fro from the search area as well as within the search area if the RCC personnel have no knowledge of Air Traffic Control.

For example:

11.1   All SRUs shall report to the controlling RCC or On Scene Coordinator (OSC) prior to entering the Search Area and while conducting search in the Search Area to ensure safety and efficiency in the [joint] SAR effort. All air search assets must observe and adhered to ATC instructions.

11.2   Non exercise aircraft shall keep clear of the search area unless clearance has been obtained for these aircraft to transit through.

12   RESCUE OPERATIONS

Note: Discuss on how the rescue operation is to be executed. Agency or States can decide on a simulated rescue operation by taking photographs of the search object once sighted or if actual personnel are deployed at the distressed location as survivors, actual rescue

operations can be conducted. Actual rescue operation will provide training for the rescue of survivors from sea or land to hospitals or landing sites. If possible, recover the search object from the land or sea after the exercise, this will help to avoid the search object becoming an obstacle to others on land or sea. If recovering is not possible, make a general broadcast to warn others of the objects.

For example:

12.1   When the search object is sighted, the SRU shall inform the ……… (State) RCC. The ……… (State) RCC will disseminate the information to all other SRUs.

12.2   The SRUs to take photographs of the search object to simulate the rescue of the survivors.

12.3   Recovery of the search object will be by …………………….. (agency that is recovering the search object).

12.4   If the search object is unable to be recovered due to sea state or weather, an Urgent Marine Information Broadcast is provided by ……….. (maritime agency responsible for the area).

13   EMERGENCY LANDING OF SEARCH AIRCRAFT

Note: In a joint SAREX, make arrangement for search aircraft to land in airport or airfield of another State in the event of an emergency encountered by the search aircraft where immediate landing is required.

For example:

13.1   ………… (State's) search aircraft will be given permission to land in …………….. (name of airport or airfield) if an emergency landing is required.

14   TERMINATION OF SAREX

Note: State the requirements or under what circumstances that will terminate the SAREX. Make arrangement in the event of a real incident that might occur during the SAREX. Consideration can be given to have a code word or words which are understood by all participating agencies and SRUs in the event of a real incident. Once the code word is broadcast to all concern, it will be understood by all participants and the SAREX will be converted into real SAR operations.

For example:

14.1   The SAREX will be terminated under any one of the following circumstances:

a)   When the all the SRUs have returned to base.

b)   When the time for the SAREX has expired and no search object is sighted.

c)   When there is an actual emergency.

14.2   In the case of a real emergency, the exercise will be converted into a real SAR Operations. The code word **"NO DUFF NO DUFF"** will be broadcast and all agencies to terminate the exercise immediately and prepare and convert it into a real SAR Operations.

15   SAREX De-brief

Note: Conduct of a SAREX de-brief is important as this is where the evaluation process of the exercise is presented by evaluation experts who observed the exercise and observations by people who actually participated in the exercise scenarios. This is the final step to identify weaknesses and development of recommendations for improvement. Agree on a date and venue to conduct a SAREX de-brief to all participants from both States.

For example:

15.1   SAREX Debrief will be held in on ………….. (date/month/year according to UTC) at …………. (time in UTC).

15.2   The venue for the SAREX De-brief will be at ……………. (name the venue).

16   SAREX CONTROLLERS/EVALUTORS/OBSERVERS

Note: Name the personnel who will be involved in the SAREX as observers, evaluators and controllers. As for evaluators and controllers, they must have expertise in the areas of SAR as they will understand what is to be evaluated and how to control the exercise to maximize the training value.

For example:

16.1   Personnel involved in the SAREX will be as follows:

From   SAREX Controllers/Evaluators/Observers

a)   …………… (Agency or State) ………………. (name of personnel and their role)

            …………… (Agency or State) ……………….. (name of personnel and their role)

            …………… (Agency or State) ……………….. (name of personnel and their role)

17   INVITATION TO FOREIGN OBSERVERS

Note: Agency or States may consider inviting observers from other agencies or foreign countries or international organizations to attend and observe the SAREX. These personnel can provide valuable feedbacks for improvement to the system. Arrangement to be made as to which State will do the invitation and who should be invited to attend.

For example:

17.1   Invitation to foreign observers to observe the SAREX at …………. (state the venue for the observation of the SAREX) will be provided ……… (State that is providing the invitation) on

behalf of …………. (the other State).

17.2   The following countries and organizations will be invited to attend:

a)   ………………. (name of country or organization)
b)   ………………. (name of country or organization)
c)   ………………. (name of country or organization)
d)   ………………. (name of country or organization)

18   PRESS COVERAGE

Note: If there provision for any press coverage for the SAREX, made the arrangement for drafting of press release.

For example:

18.1   If there is a requirement for a **[joint]** press release on the SAREX to be issued, …………..(Agency or State that will produce the draft) will draft the press release and forward to ……… (the other participating agencies or State) for concurrence.

19   SAREX REPORT

Note: SAREX Report is important as it serve as a permanent record of the exercise. Each element of the exercise is recorded and lesson learnt during the exercise is captured. Make arrangement on who should produce the SAREX Report for dissemination to all participating agencies as well as others who may be interested.

For example:

19.1   ……….. (Agency or State) will produce the SAREX Report with assistance from ………. (the other participating agencies or State). Photographs will be made available for the SAREX Report.

19.2   A copy of the report will be sent to each of the following countries and International Organizations.

a)   ………………………….. (agency or country or International Organization)
b)   ………………………….. (agency or country or International Organization)
c)   ………………………….. (agency or country or International Organization)

20   VENUE FOR THE NEXT SAREX

*Note: It will be good to plan for an annual **[joint]** SAREX with relevant agencies or neighbouring State or States. State the tentative date and venue if possible for the next SAREX coordination meeting and SAREX.*

For example:

20.1   The next SAREX Coordination Meeting will be held at ……………. (venue) on ……….. (date/month/year).

20.2   The next Full Scale SAREX will be held on ………… (date/month/year). .