



International Civil Aviation Organization

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

Singapore, 27 – 30 January 2014

Agenda Item 5: Asia/Pacific Regional SAR Plan

**RECOMMENDATIONS FOR THE IMPROVEMENT OF
A DEVELOPING STATE'S SAR SYSTEM**

(Presented by Australia)

SUMMARY

This paper presents a list of recommendations for improving a developing State's SAR system derived from an actual SAR Gap Analysis of a regional State, including the establishment of a basic Joint Rescue Coordination Centre (JRCC) and JRCC minimum equipment list. These recommendations are provided as an example for consideration during the development of the Asia/Pacific Regional SAR Plan.

This paper relates to –

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

1. INTRODUCTION

1.1 At the request of a regional State, the Australian Maritime Safety Authority (AMSA) conducted a SAR Gap Analysis of that State's SAR system in 2012. This SAR Gap Analysis was conducted by aeronautical and maritime SAR officers from AMSA's JRCC Australia cooperatively with the requesting State with the objective of improving that State's SAR system, including the establishment of their own Joint Rescue Coordination Centre (JRCC).

1.2 Based on the findings of the SAR Gap Analysis, a list of recommendations was developed. This list of recommendations is specific to the previously mentioned regional State. For the purposes of presentation to the ICAO Asia/Pacific SAR Task Force, this list of recommendations has been modified to maintain confidentiality.

2. DISCUSSION

2.1 The attached list of recommendations is offered for Task Force consideration and discussion as an example for the improvement of a developing State's SAR system and for consideration during the development of the Asia/Pacific Regional SAR Plan.

2.2 Not all recommendations may be appropriate for individual States however the list may provide a basis for a customized development plan appropriate to an individual State's SAR system needs.

2.3 Australia has also been requested to provide a recommended JRCC minimum equipment list to the Task Force to be considered for inclusion within the Asia/Pacific Regional SAR Plan. This list is contained within the attachment.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) review and discuss the attached list of recommendations and consider if all, or components of this list, are appropriate for inclusion within the Asia/Pacific Regional SAR Plan, and
- c) discuss any relevant matters as appropriate.

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LIST OF RECOMMENDATIONS FOR THE IMPROVEMENT OF A DEVELOPING STATE’S SEARCH AND RESCUE (SAR) SYSTEM

RECOMMENDATION		DESCRIPTION
1	SAR Specific Legislation	<p>National Level - Legislation to be developed and enacted at the National Government level to formalize agency responsibilities to co-ordinate SAR operations.</p> <p>Local Level – Legislation to be developed and enacted at the Local Government level to formalize Local Government Disaster Office (or equivalent) responsibility for the co-ordination of SAR operations for small craft, or other local response.</p>
2	Formation of a Joint Rescue-Coordination Centre (JRCC)	A new national SAR entity formed to run the JRCC and other associated functions. The JRCC should develop standard operating procedures (SOPs) relating to the prosecution of SAR incidents. These SOPs should be in accordance with the National and Local legislation once developed, and support the procedures within a National SAR Manual.
3	Formation of a National SAR Committee	A committee chaired by the lead SAR agency which has responsibility for the operation of the JRCC. Meetings would need to be held at least bi-annually with mandatory representation. It is envisaged that this committee will establish a number of technical sub-committees to address a wide range of issues including the publication and ongoing review of a National SAR Manual.
4	Formation of a Local SAR Committee	A committee chaired by the Local Government Disaster Office (or equivalent) with representatives from Local Government response organisations and key local industry groups, tasked to promote a systematic approach to SAR and boating safety.
5	Inter-Governmental Agreements (IGAs) and Memoranda of Understanding (MOUs)	The National SAR Committee to oversee the development of appropriate agreements between agencies involved with SAR co-ordination.
6	Development of a National SAR Manual	A Manual of procedures and responsibilities for the SAR system. This will incorporate all agencies’ responsibilities within the SAR system and clearly delineate proper lines of communication between them. This should be set up in accordance with IAMSAR requirements and then tailored to the country’s environment. In the interim, a manual based on the Australian National Search and Rescue Manual (NATSARMAN) tailored for the country may be appropriate.
7	Recruitment and training of staff	<ul style="list-style-type: none"> • Increase manning to a level to sustain 24/7 SAR Operations – at least one maritime and one aeronautical qualified SAR Mission Coordinator (SMC) within the JRCC. • In-country training tailored to that country’s SAR System. • Training delivered at “train the trainer” standard.

RECOMMENDATION		DESCRIPTION
8	Equipment for JRCC	<p>1) <u>Contact database</u> - for all relevant organisations and emergency points of contact, which is geospatially searchable to allow for contacts in a theatre of operations to be contacted.</p> <p>2) <u>Incident management system</u> - a system to support SAR incident management, including a chronologically based incident log noting system, GIS based search area development capability, search asset identification and allocation capability, access to computer based maritime and aviation mapping (including charts), ability to generate briefing materials for SAR assets, and ultimately drift planning software.</p> <p>3) <u>Paper charts/publications for maritime SAR operations</u> - for the country's SRR and relevant nautical publications as recommended to be held by an MRCC in accordance with IMO SAR.7/Circ.10.</p> <p><u>Paper charts/publications for aeronautical SAR operations</u> - appropriate aeronautical charts and publications for the country's SRR.</p> <p>4) <u>Communications Access</u> - capability to communicate effectively with all GMDSS based shore to ship communications, including satellite telephones and Inmarsat-C.</p> <p>5) <u>Enhancement of terrestrial AIS network</u> - to cover the country's coastal areas with supplementation in the off-shore area by satellite based AIS.</p> <p>6) <u>Broadcast Capability</u> - ability to broadcast safety, urgency and distress relay messages to ships within the country's SRR as well as marine safety information.</p> <p>7) <u>Phone capability</u> - Electronic recording and easily accessible playback capability of all incoming and outgoing phone calls within the JRCC.</p> <p>8) <u>Communication capability</u> - Provision of enhanced communication capabilities including broadband data provision.</p> <p>9) <u>Back-up capability</u> - automated computer back-up of incident management and database information. It may be appropriate, due to lack of infrastructure, to investigate a cloud based data storage system.</p> <p>10) <u>Disaster recovery</u> - The establishment of disaster recovery facilities to provide redundancy in the event of the primary JRCC not being available.</p> <p>11) <u>Records Management System</u> - The implementation of an effective JRCC records management system, particularly for the retention of SAR incident records.</p>

RECOMMENDATION		DESCRIPTION
9	Joint International Search and Rescue Exercise (SAREX)	An annual Joint International Search and Rescue Exercise (SAREX) with a neighbouring State involving deployment of real assets, including aviation capability and the country's local surface assets.
10	Finance	Budget for the operation, equipping and staffing of a 24/7 JRCC.
11	SAR Operations Cash Reserve	An immediately accessible budget allocation, held at the national government level, with SMCs having the delegation to spend funds (set to an appropriate financial limit). To be used for the timely financial recompense of operators involved in SAR operations. This should allow access for the chartering of aircraft, and provide for cost recoveries (fuel and crewing allowances where appropriate) associated with vessels tasked during SAR operations.
12	Community Boating Safety Awareness	Education program to coastal communities on boating safety and the use of life saving equipment. Consideration should be given to producing an educational DVD, which could be provided as a 'free gift' at places such as vessel fuel stations, to promote better penetration of the safety message into the community.
13	Subsidised/Tax Exempt Life Saving, Navigation and Communication Equipment	Consider reducing or completely removing import duties and taxes to reduce high costs associated with lifesaving equipment. The government could explore options for sourcing these items directly from the manufacturers and offering them at a fixed price for registered boat owners; and sell through local government offices.
14	National 406MHz distress beacon database	A 406MHz distress beacon database should be developed for all the country's coded 406MHz distress beacons. Legislation should be put in place to make it mandatory for all 406MHz distress beacons to be registered at point of sale at no additional cost.
15	Local Government Disaster Offices (or equivalent)	Provide every office with adequate aeronautical, topographic and maritime charts to effectively cover their area of responsibility. They should have access to the national SAR contacts database to allow them to effectively co-ordinate small-scale SAR operations and make initial enquiries as appropriate. They should be provided with adequate communication capabilities to allow them to conduct their role efficiently where possible and this should consist of email and telephone communications. They should provide a 24/7 coverage capability with an on-call disaster response officer who is appropriately trained and resourced to conduct initial local government responses. Carriage of their responsibilities in regard to SAR operations should include provisions to facilitate medical treatment of survivors associated with SAR incidents.
16	Response Vessels	Each maritime Local Government should have access to an all-weather surface response capability. This vessel should be appropriately manned and equipped to conduct its role efficiently and safely, and be fitted with AIS based tracking and GMDSS compliant communications systems, 121.5MHz direction finding equipment and electronic chart plotting equipment.

RECOMMENDATION		DESCRIPTION
		It is recommended that vessels are of a multi-purpose standardized design, including capability for at sea/port firefighting, pollution response and remote community medical retrieval.
17	Response Aircraft	Develop relationships between SAR agencies and key aviation asset providers rather than establishing a dedicated aviation SAR operation. Couple this with enhancing the capabilities of existing aviation industry assets, both fixed and rotary wing, through training and equipment supplementation.
18	SAR Stores	Establish access to aviation deployable SAR supplies, such as, life rafts, emergency rations and communications equipment. Drift datum marker buoys should also be available for verification of drifted search areas. This equipment should be accessible and maintained at a level where it is ready to be deployed at short notice in the event of a SAR incident.
19	Air Search Observers	Develop a pool of trained persons skilled in air search observer techniques. These observers should be sourced through formal agreement with one or more of the key response agencies within the National SAR Committee.
20	Satellite based aircraft tracking	Introduce mandatory satellite tracking capability for all aircraft on the country's aircraft register.
21	Toll free telephone number	Introduction of a nation-wide toll free SAR telephone number for SAR alerting and co-ordination purposes.