

SAR COMMUNICATIONS



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IAMSAR VOLUME 1 – CHAPTER 4 – COMMUNICATIONS

Communication consists of a sender passing information to a receiver by various means. SAR personnel, survivors, RCCs and RSCs, SAR facilities, and many others must have the means to be senders and receivers. SAR managers must seek to provide the essential communications elements to receive distress alerts and perform the SAR mission. Also, they should promote use of appropriate alerting equipment by those who may need SAR services.

ADDITIONAL INFO ON COMMUNICATIONS

- **IAMSAR VOLUME 2 – MISSION COORDINATION**
- **IAMSAR VOLUME 3 – MOBILE FACILITIES (OSC)**



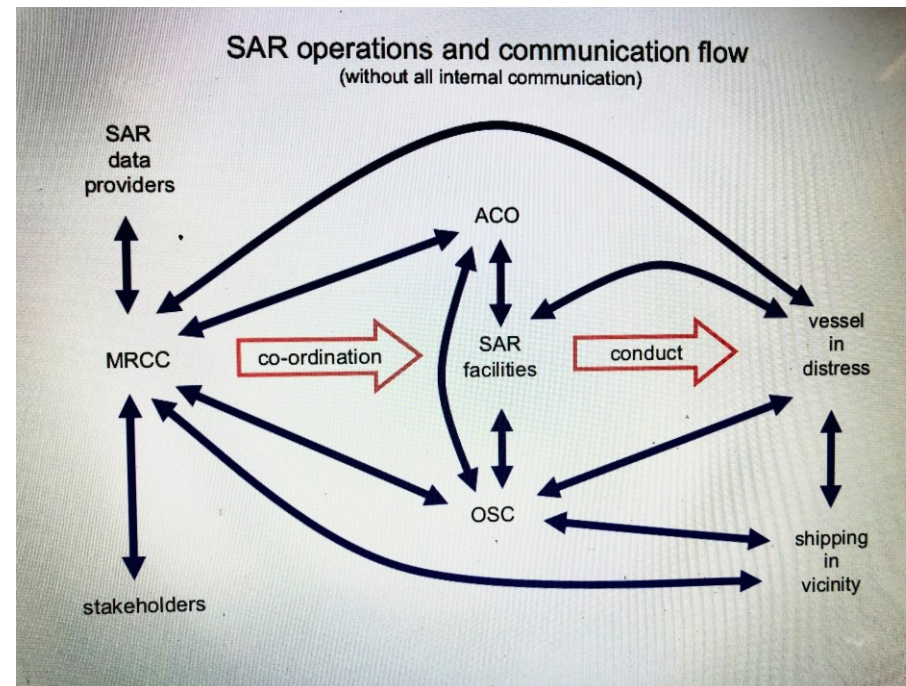
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Communications support distress alerting, coordination, and locating functions by allowing:

- those in distress to alert the SAR system
- the SAR system to respond and conduct its mission
- survivors to help SAR units respond and conduct a rescue



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Operating requirements for SAR communications

- Timely delivery of alerts (*fast delivery of alert messages to the RCC responsible to respond to a distress alert*)
- Complete and easy to understand alerts (*Information in all pre-formatted data alert*)
- Minimum number of false alerts
- Capability to contact units in distress
- Common language (*Requiring SAR staff to attain a high level of appropriate language proficiency*)

Useful publications: *International Code of Signals, the Standard Marine Communication Phrases (SMCP) and appendix I, "SITREPs and MAREC Codes" of the IAMSAR Manual*



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Important factors for SAR communications

- Priority, reliability, and availability
- Interoperability
- Identification
- Geography
- International coordination
- Available technology

“Getting the right information to the right place at the right time!”



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Mobile equipment

Equipment used by persons in distress:
“any available means may be used for distress alerting”

CONVENTIONAL →
NON CONVENTIONAL →

GMDSS
mobiles, fires, etc.

- *Distress calls take absolute priority over all other transmissions*
- *Equipment used by search and rescue units should support both co-ordination and location.*



Land-based infrastructure

“Often the land-based infrastructure is the weakest link, especially for maritime SAR”

- ALERTING POSTS → - Any facility relaying the distress to a MRCC
- SAR COM NETWORK → - route all distress communications to or from the RCC as automatically and directly as possible
- dedicated lines which preserve message priority
 - SAR data providers (databases, emergency contacts)
 - GMDSS Master Plan (DSC installations, INMARSAT, etc)
 - Ship reporting systems



Supplemental capabilities

“Instant-replay recording equipment to record maritime voice communications can help document and verify information”

- storage media are changed as necessary
- recordings are kept for at least 30 days
- recordings are retained by the RCC when an investigation or judicial inquiry is anticipated or under way
- two- or three-digit numbers for emergency landline or cellular telephone calls which are easy to remember and fast to dial



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Navy vs Lighthouse





Thank you for your attention

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SYSTEM MANAGEMENT



Understanding the SAR system

What is “Management”?

"Management comprises directing and controlling a group of one or more people or entities for the purpose of co-ordinating and harmonizing that group towards accomplishing a goal"



Understanding the SAR system

BROAD PERSPECTIVE, GLOBAL SOLUTIONS, REGIONAL APPROACH

- One way to establish a national SAR system has been to assign responsibility for the system to one agency which was expected to depend on its own resources to achieve success. A better and more cost-effective alternative may be to take a more global, regional or multi-agency approach.
- A distress situation can occur anywhere at any time. The establishment of a global SAR system is intended to ensure that all persons in distress will be assisted regardless of their nationality or circumstances and wherever they may be found.
- Neighbouring States can create a regional SAR system by means of multilateral understandings (e.g. plans and agreements) to cooperatively provide SAR services in a specific geographic area
- Assessments help to gain continued support for SAR system funding



Planning processes

"There are specific planning processes appropriate for each level of the SAR system"

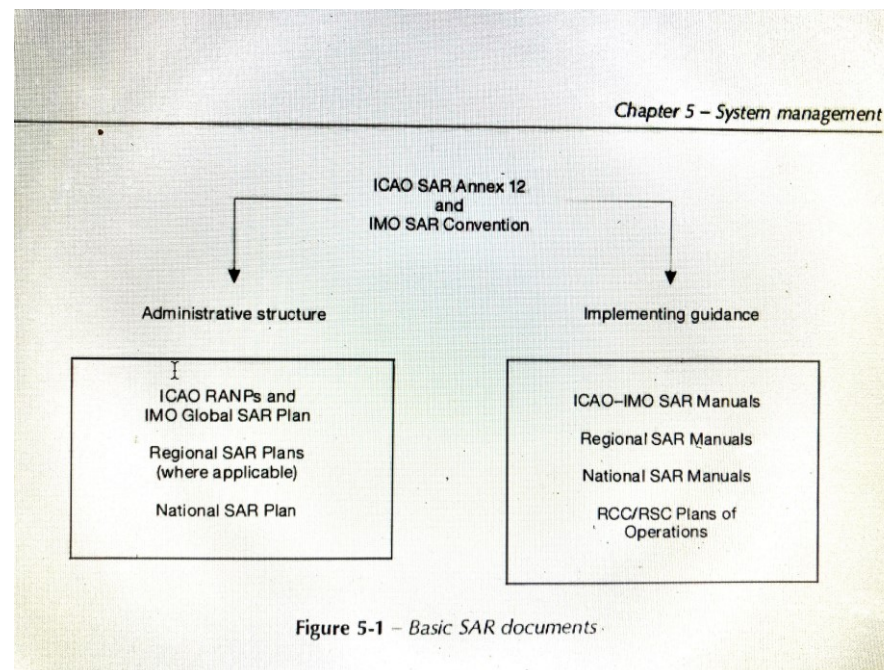
- Planning activities (*emerging technologies, meetings, etc*)
- Using goals to improve the SAR system (*continuous improvement*)
- Developing objectives to support SAR goals (*minimize loss of life, cooperation, etc*)
- Long-range planning (*multi-annual, 5 years, etc*)
- SAR plans – national (*available facilities, personnel, and equipment, training programme, agreements, etc*)
- Hierarchy of SAR documents

REMEMBER

SAR managers should periodically assess their programme and update their long-range plans. An annual review is suggested!



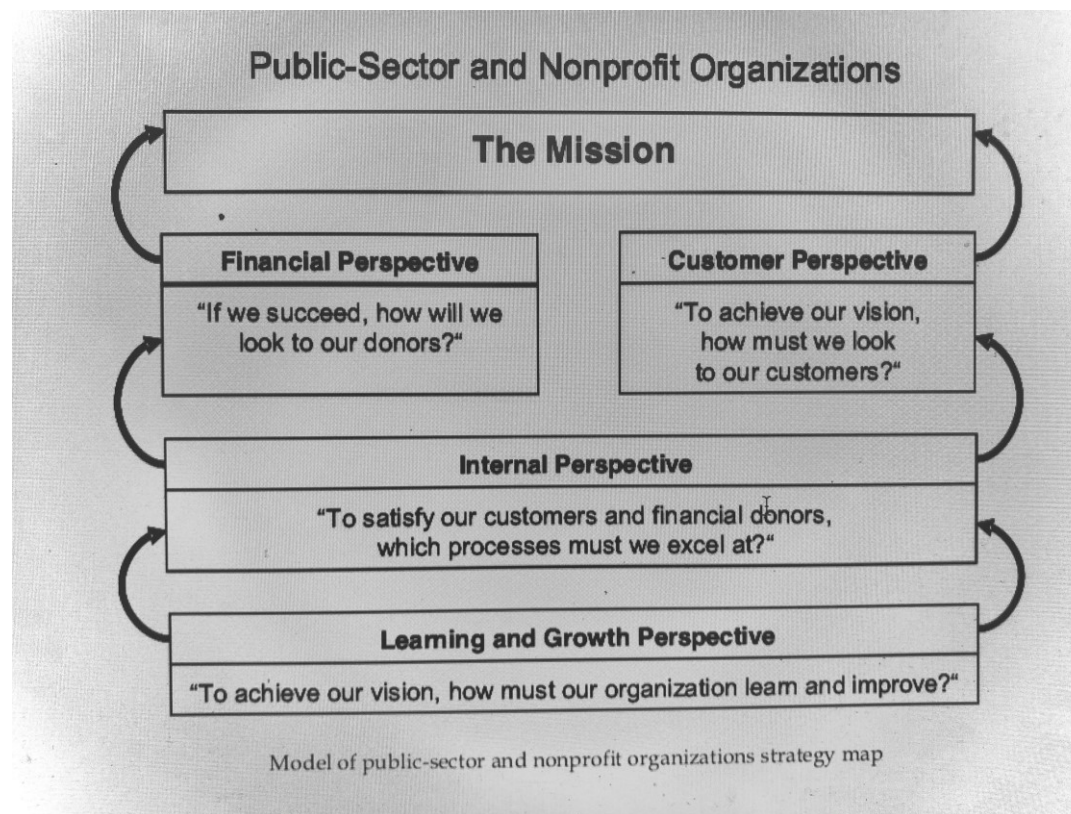
Planning processes – hierarchy of SAR documents



REMEMBER

SAR managers should periodically assess their programme and update their long-range plans. An annual review is suggested!

Planning processes



Organization

Administration

- Planning
- Organizing
- Staffing
- Funding
- Assessing



Operations

- Routine
- Emergency



SAR system

- an area within which SAR services are to be provided
- a process to transform operational requirements and national commitments into the provision of SAR services

Organization

Establishment of RCC and RCSs

“Each SRR must have an RCC. When a State assumes responsibility for an SRR, it commits to establish and staff a fully capable RCC. If necessary, RCSs may be established under an RCC to assist in providing services within an SRR. An RCS would be responsible for SAR services within its SRS”

SAR Managers: *(examples)*

- develop/review plans, policies, procedures, training requirements
- establish and support RCC and RSC facilities;
- maintain SAR plans, manuals
- develop the SAR budget
- improve SAR communications
- encourage joint training and exercises
- develop contingency plans for SAR resources
- promote visits between SAR programme personnel
- evaluate SAR researchs



Organization (see also ch. 2)

SAR Mission Coordinator (SMC)

SAR operations are normally carried out under the direction and supervision of an SMC, who is usually the supervisor of the RCC or RSC watch team. The SMC must be able to competently gather information about emergencies, transform emergency incident information into accurate and workable plans and dispatch and coordinate the facilities which will carry out the SAR missions

On Scene Coordinator (OSC)

The OSC is usually designated by the SMC and assists with coordinating the detailed activities at the scene of the SAR incident. The OSC is normally the master of one of the responding vessels, the pilot in-command of one of the responding aircraft or the most qualified person in a land party. It is desired that the OSC be trained to perform coordination functions



Organization

Maximizing system effectiveness and benefits

- A high degree of readiness must be maintained
- Periodic training and exercises must be conducted
- "Preventive SAR" is important

"The focus of all activities other than actual SAR operations should be on the continuous improvement of the SAR system"



1. ensure that SAR is recognized in legislation as an official function which will be supported by the State, which will likely facilitate any SAR manager efforts to obtain support;
2. require that SAR plans and arrangements provide, as practicable, for use of all available resources;
3. adopt measures which promote safe design, construction, maintenance, and operation of aircraft, ships and other marine craft.



Resources

The primary resources of a SAR organization are the operational facilities made available to it by various authorities. While these facilities remain administratively under their respective authorities, their operations for SAR are coordinated and guided by the SMC

In establishing a SAR service, States should use existing facilities to the fullest extent possible. A successful SAR organization can be created without having designated, full-time SAR units.



Resources

Common sources include:

- State, provincial, and local Government departments
- fire and police departments, military, coastguard, lifeboat and other auxiliary services; communications facilities
- aircraft operating agencies
- commercial ships of all sizes and types
- fishing vessels, yachts and small craft
- ship reporting systems and vessel tracking systems
- auxiliaries (privately owned craft organized for SAR)
- volunteer SAR organizations
- sports clubs and similar organizations
- commercial enterprises



Resources



Resources

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Table 5-1 – SAR system staffing overview

SAR requirements	Functional areas	Positions
Establish national or regional SAR systems as part of the global SAR system	Develop legislation Arrange to use resources Provide resources Establish SRRs with RCCs Establish SRSs with RSCs Provide staff Train personnel Ensure adequate communications Develop plans and agreements Form SAR Committees	SAR coordinators and managers, administrative staff and support staff within the State's Administration
Receive distress alerts	Monitor common means of alerting Acknowledge distress alerts Relay distress alerts to the RCC	Communications watchstanders at alerting posts and RCCs

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Resources

Table 5-1 – SAR system staffing overview (cont.)

SAR requirements	Functional areas	Positions
Coordinate SAR services	Relay distress alerts if necessary Acknowledge alerts if necessary Coordinate response Plan search and rescue operations <ul style="list-style-type: none"> – Alert and dispatch SAR facilities – Assign OSCs and OSC duties – Prepare SAR action plans – Provide medical advice – Document each case 	SMC with support of staff at the RCC or RSC
Conduct SAR operations	On-scene coordination Search Rescue Medical evacuations	Personnel aboard SRUs and other mobile SAR facilities
Support SAR services	Support SAR facilities and personnel Training Communications Supplies Facility maintenance	Logistics and support managers, administrative and training staff, suppliers, maintainers, computer operators, communications providers, etc.

Resources

A range of general skills helps SAR personnel to be more effective:

- (a) managers should be able to see a problem and design a **workable solution**. If they merely see the problem and become "problem watchers", they will fail
- (b) The ability to see the "**big picture**", to recognize significant elements in a situation, and to understand the relationships among elements, is valuable at all levels, with the possible exception of the task-focused operational level
- (e) The ability to **work with people**, to engage in cooperative effort, to foster teamwork, and to create an environment in which people feel secure and free to express their opinions is needed throughout the SAR organization
- (d) Proficiency in activities involving **methods, processes, and procedures**, usually working with support equipment, is especially useful for SAR facility operators, searchers and rescuers



Resources



Desired personal characteristics for SAR personnel include:

- **Persistence.** The SAR person exhibits a dedication to find the victim. Patience, tenacity and perseverance are common in SAR team members.
- **Dedication to rescue.** SAR personnel must often walk a fine line between personal safety and endangerment during a rescue. In the rescuer's mind, the safety of the victim may rise above personal safety.
- **Ability to communicate with empathy.** Reports, letters, speeches, and discussions about SAR demand clarity and accuracy, but they also require the ability to understand the feelings of other people and to deal with emotional aspects of communications.
- **Integrity and honesty.** SAR members should be morally sound and worthy of trust. Integrity in SAR requires being honest about search parameters and results, keeping superiors informed, adhering to the full truth at all times.
- **Experience.** Past exposure to a wide range of SAR situations is valuable. Prior experience is a predictor of future performance. Although organizations often promote their operationally experienced personnel into management or administrative positions, caution must be exercised to ensure that the required expertise remains available at the operational level to train others.





Thank you for your attention

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