



Workshop on the Development of National SAR Plans for the NAM/CAR/SAM Regions

Calvin Zuniga

COCESNA SAR Coordinator

NACC/WG SAR Implementation Task Force Rapporteur





References

- ✈ Chicago Convention
- ✈ Annex 12
- ✈ Annex 11
- ✈ INTERNATIONAL AERONAUTICAL AND MARITIME SEARCH AND RESCUE MANUAL (IAMSAR Manual), Volume 1 – Organization and Management.
- ✈ CAR/SAM Air Navigation Plan.
- ✈ GUIDANCE MATERIAL FOR THE PREPARATION OF A NATIONAL SAR PLAN (Lima, June 2002)
- ✈ El Salvador National Aeronautical and Maritime SAR Plan.



Objectives

- ✈️ Raise awareness about the importance of the SAR and the need to establish correct planning for the provision of this important service.
- ✈️ Provide guidance for the development of national search and rescue plans.
- ✈️ Promote the integration of different national plans in order to make efficient use of available resources, supporting an effective SAR response.



Contents

✈ Introduction to SAR.

✈ Key concepts.

✈ SAR National Plan.

✈ Recommendations.



Introduction to the Search and Rescue Service

- ✈ Why provide search and rescue services?
- ✈ Benefits of SAR services.
- ✈ International agencies that support the provision of search and rescue services.
- ✈ SAR documents of international reference.
- ✈ Global SAR concept.
- ✈ Regional and national search and rescue system.



Definitions: Annex 12 – Search and Rescue

- ✈ **Search.** An operation normally coordinated by a rescue coordination centre or rescue subcentre using available personnel and facilities to locate persons in distress.
- ✈ **Rescue.** An operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety.
- ✈ **Search and Rescue Service.** The performance of distress monitoring, communication, coordination and search and rescue functions, initial medical assistance or medical evacuation, through the use of public and private resources, including cooperating aircraft, vessels and other craft and installations.
- ✈ **Search and rescue region (SRR).** An area of defined dimensions, associated with a rescue coordination centre, within which search and rescue services are provided.



Definitions: Annex 12 – Search and Rescue

- ✈ **Rescue coordination centre (RCC).** A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.
- ✈ **Rescue subcentre (RSC).** A unit subordinate to a rescue coordination centre, established to complement the latter according to particular provisions of the responsible authorities.
- ✈ **Joint rescue coordination centre (JRCC).** A rescue coordination centre responsible for both aeronautical and maritime search and rescue operations.
- ✈ **Emergency phase.** A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.



Definitions: *IAMSAR Manual Volume I*

- ✈ **Search and rescue coordinating Communications**
 - ✈ Communications necessary for the coordination of facilities participating in a search and rescue operation.
- ✈ **Search and rescue coordinator (SC)**
 - ✈ One or more persons or agencies within an Administration with overall responsibility for establishing and providing SAR services and ensuring that planning for those services is properly coordinated.
- ✈ **Search and rescue mission coordinator (SMC)**
 - ✈ The official temporarily assigned to coordinate response to an actual or apparent distress situation..
- ✈ **Search and rescue facility**
 - ✈ Any mobile resource, including designated search and rescue units, used to conduct search and rescue operations.
- ✈ **Search object**
 - ✈ A ship, aircraft, or other craft missing or in distress or survivors or related search objects or evidence for which a search is being conducted.



Definitions: *IAMSAR Manual Volume I*

✈ **Mass rescue operation (MRO)**

- ✈ Search and rescue services characterized by the need for immediate response to large numbers of persons in distress, such that the capabilities normally available to search and rescue authorities are inadequate.

✈ **Search and rescue plan**

- ✈ A general term used to describe documents which exist at all levels of the national and international search and rescue structure to describe goals, arrangements and procedures which support the provision of search and rescue services..

✈ **Alerting post**

- ✈ Any facility intended to serve as an intermediary between a person reporting an emergency and a rescue coordination centre or rescue sub-centre.

✈ **Search and rescue point of contact (SPOC)**

- ✈ A point of contact for SAR, designated by the national administration, that is responsible for receiving distress alert information and providing the information to appropriate SAR authorities.

✈ **Search and rescue sub-region (SRS)**

- ✈ A specified area within a search and rescue region associated with a rescue sub-centre.



Annex 12 – Search and Rescue

Key Concepts

- ✦ Organization
 - ✦ Search and rescue services
 - ✦ Search and rescue regions
 - ✦ Rescue coordination centres and rescue subcentres
 - ✦ Search and rescue communications
 - ✦ Search and rescue units
 - ✦ Search and rescue equipment

- ✦ Cooperation
 - ✦ Cooperation between States
 - ✦ Cooperation with other services
 - ✦ Dissemination of information

- ✦ Preparatory measures
 - ✦ Preparatory information
 - ✦ Plans of operation
 - ✦ Search and rescue units
 - ✦ Training and exercises

- ✦ Operating procedures
 - ✦ Information concerning emergencies
 - ✦ Procedures for rescue coordination centres during emergency phases



Emergency Phases

- ✈ Emergency Phase. A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.
- ✈ Alert phase. A situation wherein apprehension exists as to the safety of an aircraft or marine vessel and of the persons on board.
 - ✈ ALERFA. The code word used to designate an alert phase.
- ✈ Uncertainty phase. A situation wherein doubt exists as to the safety of an aircraft or a marine vessel, and of the persons on board.
 - ✈ INCERFA. The code word used to designate an uncertainty phase.
- ✈ Distress phase. A situation wherein there is reasonable certainty that a vessel or other craft, including an aircraft or a person, is threatened by grave and imminent danger and requires immediate assistance.
 - ✈ DETRESFA. The code word used to designate a distress phase.



Annex 11 – Air Traffic Services

CHAPTER 5. ALERTING SERVICE

5.2 Notification of rescue coordination centres

5.2.1 Without prejudice to any other circumstances that may render such notification advisable, air traffic services units shall, except as prescribed in 5.5.1, notify rescue coordination centres immediately an aircraft is considered to be in a state of emergency in accordance with the following:

a) Uncertainty phase when:

1) no communication has been received from an aircraft within a period of thirty minutes after the time a communication should have been received, or from the time an unsuccessful attempt to establish communication with such aircraft was first made, whichever is the earlier, or when

2) an aircraft fails to arrive within thirty minutes of the estimated time of arrival last notified to or estimated by air traffic services units, whichever is the later, except when no doubt exists as to the safety of the aircraft and its occupants..



Annex 11 – Air Traffic Services

CHAPTER 5. ALERTING SERVICE

b) Alert phase when:

- 1) following the uncertainty phase, subsequent attempts to establish communication with the aircraft or inquiries to other relevant sources have failed to reveal any news of the aircraft, or when
- 2) an aircraft has been cleared to land and fails to land within five minutes of the estimated time of landing and communication has not been re-established with the aircraft, or when
- 3) information has been received which indicates that the operating efficiency of the aircraft has been impaired, but not to the extent that a forced landing is likely, except when evidence exists that would allay apprehension as to the safety of the aircraft and its occupants, or when
- 4) an aircraft is known or believed to be the subject of unlawful interference.

c) Distress phase when:

- 1) following the alert phase, further unsuccessful attempts to establish communication with the aircraft and more widespread unsuccessful inquiries point to the probability that the aircraft is in distress, or when
- 2) the fuel on board is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety, or when
- 3) information is received which indicates that the operating efficiency of the aircraft has been impaired to the extent that a forced landing is likely, or when
- 4) information is received or it is reasonably certain that the aircraft is about to make or has made a forced landing, except when there is reasonable certainty that the aircraft and its occupants are not threatened by grave and imminent danger and do not require immediate assistance..



Annex 11 – Air Traffic Services

CHAPTER 5. ALERTING SERVICE

5.2.2 The notification shall contain such of the following information as is available in the order listed::

- a) INCERFA, ALERFA or DETRESFA, as appropriate to the phase of the emergency;
- b) agency and person calling;
- c) nature of the emergency;
- d) significant information from the flight plan;
- e) unit which made last contact, time and means used;
- f) last position report and how determined;
- g) colour and distinctive marks of aircraft;
- h) dangerous goods carried as cargo;
- i) any action taken by reporting office; and
- j) other pertinent remarks..

5.2.3 Further to the notification in 5.2.1, the rescue coordination centre shall, without delay, be furnished with::

- a) any useful additional information, especially on the development of the state of emergency through subsequent phases; or
- b) information that the emergency situation no longer exists.

Note.— The cancellation of action initiated by the rescue coordination centre is the responsibility of that centre.



SAR Plans

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

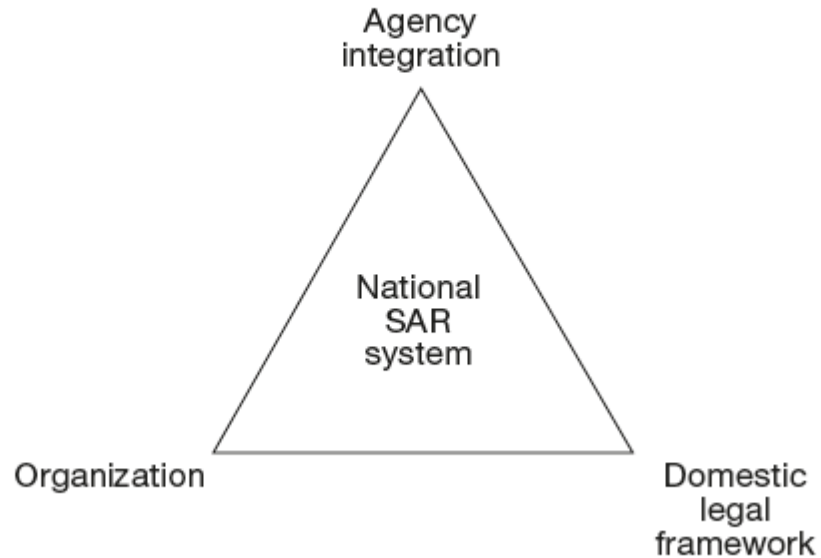
- ✈ A national SAR plan is a single document that pertains to the SRRs, RCCs, and RSCs and SAR-related functions for which one State is responsible. Principles of operational coordination must be covered in this plan, which serves as a basis for more detailed provisions in subordinate State documents such as a SAR manual or plans of operation. Other types of SAR cooperation, such as mutual visits and training, also may be addressed. The national SAR plan may include a:
 - description of the SRR, including the limits for any SRSs created to make the organization more efficient;
 - description of the available facilities, personnel, and equipment;
 - discussion of the SAR personnel training programme, qualification standards, and certification procedures;
 - discussion of the roles and responsibilities of all agencies which will provide or support SAR services;
 - copy or summary of all agreements with authorities providing facilities and services not under the direct control of the SAR managers; and
 - copy or summary of all agreements regarding mutual assistance with neighbouring RCCs.

- ✈ SAR plan may be supported by legislation or regulations if necessary, or may be a self-supporting memorandum of understanding (MOU) between appropriate agencies.

- ✈ Ratification of an MOU at the Ministry level recognizes the importance of SAR, while allowing for an easier revision process than higher-level agreements would allow..



A national SAR system is comprised of three components that form a triangle:





National SAR Plan

- ✈ Introduction to the Plan.
- ✈ National Legal Framework.
- ✈ Organization of the National SAR service.
- ✈ Area of Responsibility.
- ✈ Implementation agencies.
- ✈ SAR Functions and Responsibilities.
- ✈ SAR personnel training programme.
- ✈ National agreements.
- ✈ International agreements.



Introduction to the National SAR Plan

- ✈ Objectives of the Plan.
- ✈ Overview.
- ✈ Government responsibilities.
 - ✈ States may provide these services by establishing an effective national SAR organization, or by creating a SAR organization jointly with one or more States.
- ✈ Integration into the national emergency and disaster response system.



National Legal Framework

- ✈ A State must have a national legal framework to implement the national SAR system in order to fulfill its international SAR commitments under the SOLAS Convention, the International Convention on Maritime Search and Rescue, 1979 and the Convention on International Civil Aviation.
- ✈ Within the national legal framework, States provide specific legal authorities for agencies to carry out SAR operations.
- ✈ The legal basis is described here, including all the laws or acts as necessary, that allow the establishment and proper functioning of the search and rescue system at the State level.
- ✈ State legislative provisions should conform to accepted principles of international law, and may contribute to the following objectives:
 - ✈ recognize the SAR function as a State responsibility;
 - ✈ implement ICAO and IMO requirements and standards;
 - ✈ designate the SAR agencies and their general responsibilities; Y
 - ✈ define the jurisdiction and legal authority of the rescue coordination center (RCC) in accordance with the relevant ICAO and IMO standards.
- ✈ International law contemplates the saving of lives and issues of sovereignty. Neighboring States should seek practical means of balancing these objectives in situations where the entry of foreign SAR assets into territorial waters or territory may be necessary or timely.



Organization of the National SAR service

- ✈ Every SAR system should be structured in such a way that it can effectively provide all SAR services:
 - receive, acknowledge receipt and relay distress notifications from alert posts;
 - coordinate the search;
 - coordinate the rescue and transport of survivors to a safe place; and
 - offer medical advice, initial medical assistance or medical evacuation.

- ✈ This refers to the body in charge of facilitating the search and rescue service in the national territory and its jurisdictional waters, as well as in any other internationally agreed area on a permanent or temporary basis; which, through its Executing Agency called Search and Rescue Coordination Center (RCC) and Search and Rescue Coordination Subcenter (RSC) plans, coordinates and directs the action to be followed by the different concurrent agencies (or support means) who perform or collaborate on tasks.

- ✈ Also, reference is made to the identification of the area of responsibility (name of the search and rescue Region or Subregion).

- ✈ The detail of the basic functions of the SAR system is included as they have been assigned by national legislation.

- ✈ Additionally, the organizations concurrent with the National SAR Plan are listed and that through the corresponding Letters of Agreement have committed their support.



Area of Responsibility

- ✈ The SAR area of responsibility within which the search and rescue service is provided is described in detail here.
- ✈ Detailed data of the limits established for the search and rescue (SRR) region (or each region) are provided, including a demonstrative graph of the SRR.
- ✈ If a SAR Sub-region, or more, has been established, the corresponding established limits must be indicated, accompanied by a demonstrative graph.
- ✈ The responsible dependency is established: RCC XXX or RSC XXX
 - ✈ In the event that more than one RCC has been established, cite each of them identifying their search and rescue region of jurisdiction.
 - ✈ If a Sub-region has been established, the RSC in charge must also be indicated.
- ✈ Additionally, the air, land and sea resources available, their respective base locations and expected time of their availability by the corresponding RCC or RSC are described in detail.
 - ✈ Air resources available:
 - ✈ Available terrestrial means:
 - ✈ Available maritime means:



Implementation agencies

- ✦ SAR coordination Committee b(SCC).
 - ✦ An effective process for SAR coordination is the establishment and use of SCCs comprised of SAR system participants to provide a government-wide strategic approach to cooperation and coordination in the national SAR system. SCCs can be established within a SAR agency, at the national or regional level, and preferably at all three levels.
 - ✦ A national SAR plan or a regional SAR agreement should provide for the constitution of an SCC. This entity provides the process for SAR cooperation and coordination. Participating organizations would include those directly related to SAR and those that play a supporting role. Here is the list of the organizations that make it up.
 - ✦ If there is no such Committee, indicate the body that is responsible for acting as the national SAR authority and the bodies that have committed their participation in the National SAR Plan as executing bodies through a Letter of Agreement.

- ✦ National SAR Plan implementation agencies.
 - ✦ All the organizations that will be responsible for the integration of efforts and coordinated SAR operations at the national level must be indicated, as well as, if any, the support organizations that through Letter of Agreement have committed to be available to any of the implementing agencies during a SAR operation.

- ✦ Facilities, personnel and equipment committed.
 - ✦ A general description is made of all the means, personnel and equipment that each organization participating in the National Plan has agreed to make available to the SAR through a Letter of Agreement. (executive agencies as well as support agencies).



SAR Functions and Responsibilities

✈ SAR functions and responsibilities taken on by each of the organisations participating in the National SAR Plan:

- ✈ A general description is made of all the means, personnel and equipment that each organization participating in the National Plan has agreed to make available to the SAR through a Letter of Agreement. (executive agencies as well as support agencies).



SAR personnel training program

- ✈ Training, qualification, degree or certification and exercises.
- ✈ General description of the SAR personnel training program prepared for each area, instructions for preparing exercise schedules (laboratory exercises and those planned using means and personnel), including a description of the different SAR procedures, techniques and equipment to be use during them.
- ✈ This information will serve as a reference for those responsible for preparing and teaching the SAR personnel assigned to the SAR units as well as the organizations involved in the National SAR Plan.
- ✈ Qualification – SAR Certifications:
 - ✈ Designation of performance qualification standards and aptitude certifications for SAR personnel in each SAR area or function, as official recognition that a person has satisfactorily demonstrated their abilities and mental and physical competence for SAR work.
 - ✈ In addition, a list of the organizations authorized to grant them should be included.



- ✈ Who should receive training
 - ✈ All SAR specialists need training, and especially SCs, RCC heads, SMCs, RCC staff, OSCs, ACOs and SRUs.

- ✈ Among the operational means that need training, it is worth highlighting:
 - RCC and RSC;
 - aeronautical units;
 - maritime units;
 - ground units;
 - specialized units (parachute rescue, medical, desert rescue, mountain rescue, urban SAR groups involved in disasters), divers, etc.; and
 - supply depots.

- ✈ Training can be given to a single person, a group or multiple groups. Each person should already have been trained to perform certain tasks. When people are integrated into groups, a group formation will be needed so that they can bring their particular skills to the team effort. When teams are integrated, a multi-group formation will be needed to support the overall effort. An example of multi-group training is the joint training of SRUs.

- ✈ The aeronautical and maritime communities require training in risk prevention, evacuation procedures, survival and localization techniques, as well as in the necessary measures to contribute to the rescue of oneself. This training can be concentrated on individuals or groups, and can be given by the corresponding sector or company. It can also be taught by public and private educational services responsible for training on security measures.



National agreements

- ✈ Agreements with support organizations.
 - ✈ The Contracting States shall arrange for all aircraft, ships, and local services and facilities that are not part of the search and rescue organization to cooperate fully with them and render all possible assistance to aircraft accident survivors.
 - ✈ Recommendation.— Contracting States should seek the closest possible cooperation between competent aeronautical and maritime authorities to provide the most effective and efficient search and rescue services possible.
 - ✈ The Contracting States shall ensure that their search and rescue services cooperate with the services responsible for accident investigation and with those responsible for the care of accident victims.
 - ✈ States shall designate a search and rescue point of contact for receipt of Cospas-Sarsat distress data.

- ✈ This Chapter incorporates the complete copies of each of the operational agreements made by the agency responsible for the national SAR with the authorities of agencies or organizations that participate with means, services and/or personnel and that will not be under the direct control of the SAR directorate, but whose participation is considered essential during search and rescue operations or a combination of both.



International agreements

✈ Cooperation between States:

1. Contracting States shall coordinate their search and rescue organizations with those of neighbouring States.
2. Subject to such conditions as may be prescribed by its own authorities, a Contracting State shall permit immediate entry into its territory of search and rescue units of other States for the purpose of searching for the site of aircraft accidents and rescuing survivors of such accidents.

✈ This Chapter includes the complete copies of each of the operational agreements made by the agency responsible for the national SAR with the authorities of the adjacent Coordination Centers (RCC) of neighboring States.

✈ A copy of each of the agreements established with neighboring states can also be included.



Recomendations

- ✈ Emphasize the importance of establishing SAR Operational Agreement Letters between adjacent States.
- ✈ It is recommended that the AIP of each State clarify the way in which the brigades of other States may enter their territory or jurisdiction, to participate in Search and Rescue Operations.
- ✈ SAR collaboration should include the establishment of inter-institutional agreements for the best response to emergencies. Likewise, establish the National SAR Committee in each State, to distribute efforts and carry out coordinated operations.
- ✈ Each State should include in the Regional SAR Plan only the information that is already duly authorized in its National SAR Plan.
- ✈ It is recommended to establish Detailed Plans in each Country on how the different types of SAR missions will be faced.
- ✈ An important recommendation is to carry out regional exercises to test the procedures contained in the Regional SAR Plan, as well as carry out joint training between the civil part, the naval and air forces.



Recomendations

- ✈ Creation of a directory of regional SAR Coordinators, who are available 24 hours a day.
- ✈ That, just as the growth of air traffic in the region has increased, support should be increased in terms of hiring specialized personnel in SAR matters, as well as training for them.
- ✈ Provide the States with what is necessary to carry out their tasks effectively.
- ✈ Ensure that the air and naval forces have the appropriate ships to carry out adequate SAR missions and based on a state budget based on a budget projection for each institution.
- ✈ Empower the SAR coordinators of each State with decision-making authority without having to spend time on unnecessary coordination



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THANK YOU!