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The Air Navigation Regulation Directorate has issued this guidance material to be used by ANSP to prepare procedure manuals and other working documents for implementation of ICAO SARPS and National Regulations.

It is important to note that this guidance material improve the safety of air navigation services within Ethiopian air space .

The Director General of Ethiopian Civil Aviation Authority has here by approved this guidance material on September 18,2017 to be used as a guidance to air navigation services provider..

Approved by

Date September, 2017




**Wossenyeteh Hunegnaw (Col.)**  
**Director General**




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PLEASE MAKE SURE THAT THIS IS THE CORRECT ISSUE BEFORE USE

1.Purpose

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*This guidance provides instruction to check the effective implementation of SAR personnel regular training and appropriate SAR exercise.*

## 2.References:

Annex12 , 4.4

DOC 9731 VOLUME I,3.3


## 3.General

To achieve and maintain maximum efficiency in search and rescue, ECAA shall provide regular training the search and rescue personnel and arrange appropriate search and rescue exercises.

A good training programme produces true professionals, personnel who can do it right the first time.The purpose of training is to meet SAR system objectives by developing SAR specialists.Since considerable experience and judgment are needed to handle typical SAR situations, necessary skills require significant time to master. Training can be expensive. Poor training is even more expensive and can result in poor operational effectiveness, which can result in loss of lives of SAR personnel, lives of those in distress and loss of valuable facilities. Quality of performance will match the quality of training. Efforts to ensure professionalism may even extend to career development actions prior to assignment to SAR duties, ensuring SAR assignments of sufficient length to develop expertise and taking advantage of SAR experience in subsequent assignments.

## 4. Training

Training is critical to performance and safety. The SAR system should save those in distress when it can, and also use training to reduce risks to its own valuable personnel and facilities. Training personnel in making sound risk assessments will help to ensure that these trained professionals and valuable facilities remain available for future operations.

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RCCs must be able to communicate with other RCCs, as well as ship and aircraft commanders, who are required to be able to speak English. Air traffic services units also have requirements for English language speaking skills.

#### 4.1 Training specifics

All SAR specialists need training, in particular, the SCs, SMCs, and OSCs. ANRD shall ensure that Operational facilities which need training include:

- RCCs and RSCs
- aeronautical units
- maritime units
- land units
- specialized units (Para rescue, paramedical, desert rescue, mountain rescue, urban SAR teams that deploy to disasters), divers, etc.
- supply depots


An individual, a group or multiple groups may be trained. Each person should have had previous training to perform individual tasks. Where the individuals integrate into teams, team training is required so that the individuals can support the team effort. Where teams integrate, multiple team training is required to support the overall effort.

#### 4.2 What to train

An individual's training must be based on a needs analysis. This analysis compares actual performance and behavior with required performance and behavior at a currently held position. Based on this analysis, training needs and methods to overcome the deficiencies can be identified.

The need for a working knowledge of the English language may be considered. RCCs must be able to communicate with other RCCs, as well as ship and aircraft commanders, who are required to be able to speak English. Air traffic services units also have requirements for English language speaking skills.

#### 4.3 When to train

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Training shall be conducted before a specialist is assigned to duties requiring that training. The training should match the duties to be performed and is generally provided at three levels.

- (a) Entry level for those specialists just entering the organization.
- (b) Current level for those specialists who must remain at a certain level of proficiency to continue with their present position. This also includes any updating due to technical and equipment improvements.
- (c) Advanced level for those specialists who have proven performance in a current position and desire or need to advance.

Training may focus on awareness and knowledge at the SAR manager level; knowledge and performance at the middle (RCC chief) management level; and performance at the operational management level (to include training of the SRU crew). There are various models of training management which seek to identify specific training requirements and match the appropriate training process.


#### ***4.4 Where to train***

Training can be accomplished in a range of locations, from on-the-job site to a formal training centre. The SAR personnel can be trained where work is normally accomplished, or can be transferred to another site for on-the-job training. Formal training can take place at a dedicated facility, or in a classroom adjacent to the work site. The location is determined by cost-effective use of available facilities and training staff or experts. Sometimes training received from other reputable organizations, even in other States, can meet needs very well. Normally, it is better not to depend totally on training facilities or visiting teams from other States, because availability of such training can be limited, unpredictable, expensive and only partly relevant. Sometimes, language differences can also reduce the effectiveness of training provided by other States.

#### ***4.5 How to train***

**The trainings for SAR personnel could be given in three ways.**

- (a) Training should be based on performance and must help SAR specialists and teams to perform their duties effectively. The SAR manager has the responsibility to ensure that the overall training program is effective. The RCC chief and others must ensure that all SAR service personnel reach and maintain the required level of competence.

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**(b)** Training based on knowledge provides information necessary for the SAR experts and students to perform their duties. One method is to provide knowledge to enable them to review SAR cases. Resulting recommendations can be used to review policy, update standard procedures, and improve training and other processes.

**(c)** Awareness training is required for those persons infrequently involved in SAR, such as ECAA high level managers, finance staff, transportation operators in the authority and national transportation authorities.

*Emphasis must be placed on results of training, not on training activities.*

*On-the-job training.* With on-the-job training, trainees learn and, at the same time, contribute to the aims of the organization. This economical approach requires competent specialists who can teach and coach trainees.


**(a)** *Checklists.* SAR training specialists should develop checklists of job duties, skills, tasks, and procedures to be taught through on-the-job training. This ensures that all trainees receive the same information. Items on the checklist can typically be covered in any order.

**(b)** *Planned progression.* This technique gives SAR specialists a clear idea where they are going.

**(c)** *Assignment rotation.* This broadens the knowledge of specialists. Rotation to different jobs allows the specialist to understand broader aspects of the organization.

**(d)** *Coaching.* This is the responsibility of every specialist in a management position. Effective coaches develop the strengths and potential of subordinates and help them overcome their weaknesses. Coaching saves time, money and costly mistakes by subordinates.

**(e)** *Library.* A training library is useful for students to increase their level of knowledge. The libraries should have different materials such as video tapes, lesson plans, reference books and papers, and audio tapes. Video tapes could be

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simply taped good classroom training sessions or a professionally produced video tape can be even more effective.

#### **4.6 Training of SAR service personnel can include the following:**

- study of the application of SAR procedures, techniques and equipment through lectures, demonstrations ,films, and SAR manuals and journals;
- assisting in or observing actual operations; and
- exercises in which personnel are trained to co-ordinate individual procedures and techniques in a simulated operation.

RCC and RSC SAR training should include at least the following topics. If search planning expertise gained from formal training is not used on a regular basis for operations or exercises, periodic refresher training will normally be needed. General categories include:

- Aeronautical drift Medical evacuations
- AFN Obtain and evaluate data
- AFTN On-scene co-coordinator duties
- Bailout scenarios and planning Parachute drift
- Briefing/questioning SRUs Plotting skills
- Case studies Registration databases
- Charts Rescue procedures
- Coastal SAR planning Resource allocation
- Computer applications Risk assessment
- Cospas–Sarsat SAR agreements
- Datum marker buoys SAR communications
- Datum determination SAR mission co-ordination
- Dealing with families SAR operations conclusion
- Dealing with public and news media SAR phases, stages, and components
- Documentation of incidents SAR resource capabilities
- Electronic sweep width SAR system organization
- Emergency care SAR technology
- Environmental factors Search areas

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- Evaluation of flare sightings Search patterns
- Fatigue factors Search planning
- Inmarsat Ship reporting systems for SAR
- International aspects SRU selection
- Interviewing techniques Stress management
- Leeway drift Survival equipment
- Legal concerns Vessel tracking systems (AIS, LRIT, VMS)
- Look-out skills and limitations Visual sweep width
- Manoeuvring boards Water currents
- Medical advice

SAR managers performing administrative functions may benefit from courses in:


- planning;
- organizing;
- staffing; and
- budgeting, performance assessment and accounting.

## 5. Qualification

The purpose of qualification is to validate an individual's ability to perform certain duties. ANRD shall ensure minimum level of knowledge and skills which are required be correctly demonstrated. This validation activity may take place at a specific position, while maintaining specific equipment or performed as a team member within a unit. ANRD shall ensure the Qualification procedures demonstrate the capability of SAR personnel to perform specific tasks. The qualification programme shall cover fundamental knowledge necessary for the duties of that position and testing of individuals on the systems they will be required to operate or maintain.

## 6. Certification

The purpose of certification is to authorize an individual to serve in a stated capacity. Certificates may be issued to candidates who meet the requirements for service, age, medical fitness, training, qualification, examinations and maturity. Certification should be in writing prior to the person assuming watch standing duties.

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ANRD shall ensure that Qualification and certification processes are used to ensure sufficient experience, maturity and judgment are gained.

During a qualification process, the individual must,

- Demonstrate abilities,
- Show mental and physical competence to perform as part of a team.
- Be assigned to an associate who observes and can attest to the trainee's competence to perform each particular task.
- Have knowledge of the geographic area of operation should also be demonstrated.
- Have the maturity, leadership and integrity to perform as a team member

ANRD shall also ensure the RCC and RSC particularly duties and check the prospective RCC watch stander undergo qualification procedures. The RCC staff should be fully qualified in SAR incident analysis, search planning and SAR operations management.

## 7. Exercises

Exercises test and improve operational plans, provide learning experience and improve liaison and co-ordination skills. Exercises, conducted on a realistic basis, help to demonstrate and assess the true effectiveness of training and the operational efficiency and competence of the SAR service. Exercises will reveal deficiencies that may exist in SAR plans and enable them to be improved. It is safer to have shortcomings revealed by exercises rather than during actual operations.


### 7.1 Types of exercises

Exercises can and should be conducted on three levels.

(a) The most simple type of exercise, a *communications exercise*, requires the least planning. It consists of periodic use of all means of communications between all potential users to ensure capability for actual emergencies.

(b) A *co-ordination exercise* involves simulated response to a crisis based on a series of scenarios. All levels of the SAR service are involved but do not deploy. This type of exercise requires considerable planning, and usually one to three days to execute.



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(c) The third type, a *full-scale exercise* or a *field exercise*, differs from the previous types in that actual SAR facilities are deployed. This increases the scope of SAR system-testing and adds realistic constraints due to times involved in launching, transit and activities of the SRUs.

## 7.2 Other considerations

The need for exercises varies. Some States have many SAR operations so exercises may add little to their learning experience, except when conducted with other States with which they may not routinely work. Other States may have very few SAR operations each year, so exercises will be critical to sustaining proficiency. Joint exercises among neighboring States or parties to SAR agreements will also be valuable. It may be necessary to assign persons full-time to planning and evaluating exercises.


Success of an exercise is measured by:

- how many problems are discovered;
- how much is learned;
- how much operating plans are improved; and
- how few mistakes are repeated during the next exercise.

## 7.3 Exercise elements

Successful exercises require planning, execution and evaluation. Exercises are carried out for training, to evaluate established plans and procedures and to test new concepts. Exercises also offer experience in the management of risks and safety for SAR operations.

**Planning.** The typical exercise sequence involves: development of the concept (broad goals and objectives) of what is to be exercised; selection of participants (staff and facilities); detailed planning for how the exercise will be conducted; conduct of the exercise; and evaluation to determine lessons learned and to develop recommendations for improvement. It is essential to have a clear understanding of which plans and procedures are being exercised. Scenarios can then be developed that include specific situations to which personnel will react and respond. Response, or lack of response, to established policy and guidance, and need for additional policy guidance, is evaluated.

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**Execution.** Those who plan exercises should not be the same ones who respond to the created scenarios. This avoids covering up known weaknesses to ensure ideal results, instead of revealing what would occur in an actual SAR situation.

(a) Scenarios must be as realistic as possible. The decision as to how large and realistic exercises should be will depend on the extent of the SAR service, the demands expected to be made upon it and general considerations of economy. If primary responsibility for SAR has been delegated to military authorities or Government services, full-scale exercises involving as many units and facilities as possible may provide satisfactory means of implementing training programs.

Where private concerns are relied upon to play a major part in SAR, the timing of major exercises should be arranged so as to minimize disruption to normal activities.


(b) Opportunities should be taken to complement formal training programs with exercises conducted on a unit basis by combining them with normal activities during quiet periods. They should be carried out at regular intervals and arranged so that all personnel participate. This is particularly important in respect of those facilities which seldom receive operational calls.

(c) Exercises carried out separately by facilities will not be as valuable as combined operations; but they can ensure that the SAR service will function in an emergency.

(d) As many facilities, including air and surface craft, should be exercised as possible. Communications between the SRUs is a vital test of co-ordination.

(e) It is not always practicable for organizations to engage in formal SAR training programs.

Whenever possible, personnel from these organizations should be invited to participate in or observe training exercises. They should be provided with documents, publications or other literature which describe the SAR policies and procedures used by the SAR service, showing the desired roles of the participating organizations in SAR operations.

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(f) Adjacent RCCs should periodically execute SAR exercises together to develop and maintain efficient co-operation and co-ordination between their services. These exercises need not always be on a large scale, but at least those SAR units which are likely to operate together should engage periodically in coordinating exercises. Much may be learned by exchanging information on training methods (e.g., programs, literature, and films) and visits between staff of adjacent SRRs.

(g) Safety requirements, particularly when using live “survivors”, may impose significant constraints on the conduct of SAR exercises. SAR coordinating unit should ensure that specific safety rules and limitations are issued for use during both the planning and conduct of SAR exercises.

**Evaluation.** The evaluation process is crucial. Inputs should come from a team of evaluation experts who observe the exercise, and from the people who actually participated in the exercise scenarios.

Those observing and evaluating the response must have expertise in the areas they are evaluating, and clearly understand what is being evaluated. The evaluators should know the situations being posed and then record the participant’s response to the objectives of the exercise. The final step is identification of weaknesses and development of recommendations for improvement. Subsequent exercises would emphasize these recommended changes as well as other concerns.

**Reports.** A permanent record of the exercise, addressing each element, is necessary to disseminate valuable information and to maintain a historic file for later case studies, analyses and system improvements. A system of indexing and filing the reports is recommended for later retrieval.



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