



SIERRA LEONE CIVIL AVIATION AUTHORITY

ADVISORY CIRCULAR

SLCAA-AC-ANS030-Rev. 00

EFFECTIVE DATE: 31st AUGUST 2021

Search and Rescue Exercises

A handwritten signature in blue ink, appearing to read 'M. Ban', is positioned to the left of the official seal.



Director General

Sierra Leone Civil Aviation Authority

1. GENERAL

The Sierra Leone Civil Aviation Authority's Advisory Circulars contains information about standards, practices and procedures that the Authority has found to be an Acceptable Means of Compliance (AMC) with the associated Regulations.

An AMC is not intended to be the only means of compliance with a Regulation, and consideration will be given to other methods of compliance that may be presented to the Authority

Information considered directive in nature is described in this AC in terms such as "shall" and "must", indicating the actions are mandatory. Guidance information is described in terms such as "should" and "may" indicating the actions are desirable or permissive, but not mandatory

1.1 Purpose

- (a) This guidance provides instruction to conduct and evaluate SAR exercises and plan of operation.
- (b) The purpose of the SAR exercise is to evaluate the effectiveness of a functional element of the SAR system or the entire SAR chain. Thus, before one defines the type of exercise to be organized, one must identify the functions that will be tested during the exercise.
- (c) Based on the exercise objectives, the preparation team chooses the type of exercise. This decision has an impact on which parties will be involved, how long it will take to prepare the exercise and the cost of the exercise.
- (d) The choice of exercise may also be determined by regulatory requirements, which may specify a minimal frequency for conducting each type of exercise.
- (e) The very first step in preparing a SAR exercise involves defining the purpose and objectives as precisely as possible. Then, in addition to choosing the functional element to be tested, the exercise director will have answered certain vital questions.

1.2 Applicability

This AC is applicable to Air Navigation Service Providers (ANSPs) rendering Search and Rescue Services in Sierra Leone.

1.3 Description of Changes

This is the first AC to be issued on this subject

1.4 References

- (a) SLCAR Part 12-Search And Rescue
- (b) IAMSAR Manual

1.5 Cancelled Documents

Not Applicable

1.6 Abbreviations

The following abbreviations used in this document

AC - Advisory Circular

ACC - Area Control Center

ATC - Air Traffic Control

ANS - Air Navigation Service

ANSP - Air Navigation Service Provider

DG - Director General

IAMSAR - International Aeronautical and Maritime Search and Rescue

RCC - Rescue Coordination Center

SAR - Search and Rescue

SLCAA - Sierra Leone Civil Aviation Authority

SLCARs - Sierra Leone Civil Aviation Regulation

SMC - Search and Rescue Mission Coordinator

SRU - Search and Rescue Unit

2. BACKGROUND

The provisions in the Sierra Leone Civil Aviation Regulations Part 12 Search and Rescue require Air Navigation Services Providers (ANSP) to carry out search and rescue exercises as planned and required in this document.

3. SAR EXERCISES

3.1 Three types of SAR exercises

The IAMSAR manual defines three levels of SAR exercises:

- (a) The simplest 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. In this exercise, the functions being tested are
 - (i) "Receive information"
 - (ii) "Record information" from the RCC
 - (iii) The goal of the exercise
 - (iv) the RCC's capability to receive information (test various communication circuits, verify the 24-hour operability of the RCC, check whether RCC personnel can correctly use the existing communication receiving equipment...) and
 - (v) Check whether the information received is systematically and correctly recorded (in a register, rough book or daybook).
- (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. An exercise may also test a more complex "functional block," with interfaces among the various parties, as in the following example.
 - (i) To return to the previous example (the ACC announces that it has lost a plane from its screens),

- (ii) The exercise now focuses on testing the interface between air traffic control (ATC) and the RCC.
- (c) The third type, a Full-Scale Exercise or a Field Exercise, differs from the Co-ordination Exercise in that actual SAR facilities are deployed. This increases the scope of SAR system testing and adds realistic constraints due to the times involved in launching, transit, and activities of the SAR units (international abbreviation: SRU). A Full-Scale exercise tests the functionality of the entire SAR system. Such an exercise is very complex. The goal is to test the efficiency of all players in the SAR chain in a given service and its interconnections, for all services, but also to test the functioning of the interfaces between all the services in the system. The functions being tested are
 - (i) Connection between the RCC and the air search crews.
 - (ii) the time it takes them to respond to the alert, their performance in the field, transmissions between the RCC and the land or sea operations command post,
 - (iii) The coordination between the RCC and the various units at the crash scene.
 - (iv) evacuation of the injured, their assignment to the hospitals in the region, their reception and care at these hospitals,
 - (v) Identification of victims.
 - (vi) It requires detailed preparation, a large number of participants and a fairly significant budget.

4.2 During all stages of SAR exercise the following action must be conducted

- (a) Record information
- (b) Re-evaluate emergency level and
- (c) Inform appropriate parties

4.3 Appropriate SAR stage and action to be taken

Step 1

Identify the functions to be evaluated

Step 2

Define the appropriate types of exercise

Step 3

Choose the exercise area

Step 4

Plan inter-ministerial co-ordination:

Define resources, date, time frame and location

Step 5

Set up the exercise preparation team

Step 6

- (i) Draft the exercise scenario
- (ii) Funding for the exercise
- (iii) Write exercise material and Brief operational partners

Step 7

Conduct the exercise

Step 8

'Hot' debriefing

Step 9

Write a final report on the exercise, and send it to partners' involved and regulatory body

Step 10

Hold follow-up meetings to correct the deficiencies identified

4.4 Initial Action

- (a) Determine which RCC will co-ordinate
- (b) Appoint an SMC and staff to provide assistance
- (c) Evaluate emergency level
- (d) Verify, gather information, initiate communication search
- (e) Mark the aircraft's trajectory on a map (known track + expected / estimated track)
- (f) Estimate time when aircraft would normally run out of fuel, check aircraft performance in hazardous flight conditions
- (g) Record information and Notify parties concerned

4.5 Planning stage

- (a) Estimate incident / accident area
- (b) Assess situation (weather conditions, topography)
- (c) Estimate survivor motion after the accident (drift)
- (d) Estimate search conditions
- (e) Chart search Areas
- (f) Identify, select and alert SAR units
- (g) Prepare search patterns
- (h) Assign search areas / search plans to SAR units
- (i) Organize coordination in the field
- (j) Develop and communicate search plans

4.6 Operational Stage- Search

- (a) Develop search plans
- (b) Assign search areas to SAR units / Brief SAR units
- (c) Coordinate search

- (d) Conduct and analyse personnel debriefings
- (e) Re-evaluate location of accident
- (f) Re-evaluate situation and Update search

4.7 Operational Stage – Rescue

- (a) plan for accounting for survivors
- (b) activate appropriate medical units (fixed and mobile)
- (c) coordinate evacuation operations
- (d) Re-evaluate emergency level
- (e) Inform appropriate parties (services) (accident investigations, police / coast guard)
- (f) Control SAR air traffic flying in controlled airspace
- (g) Drop survival equipment, in accordance with orders from RCC
- (h) Provide rescue personnel and equipment, in accordance with RCC instructions
- (i) Coordinate operations in the field, if necessary, and as arranged with the RCC Provide assistance at sea, if necessary.

4.8 Conclusion of SAR exercises

- (a) Cancel emergency Phases
- (b) Decide to stop searches
- (c) Stop rescue operations
- (d) Suspend or close SAR operation
- (e) Produce report and send to the Air Navigation Services Division and other concerned.