




TECHNICAL STANDARDS – Issue version (2020) NAMCATS: Part 179 – SEARCH AND RESCUE SERVICES (SAR)

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 <p>NCAA NAMIBIA CIVIL AVIATION AUTHORITY</p>	<p>Namibia Civil Aviation Authority - Safety Division</p>	<p>TECHNICAL STANDARDS (NAMCATS)</p> <p>Part 179: SAR</p>
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1. General

- 1.1 Section 227 of the Civil Aviation Act, 2016 (Act no. 6 of 2016 – hereinafter “the Act”) empowers the Executive Director of Civil Aviation to issue technical standards for civil aviation “on such matters as may be prescribed”. Section 227(3) of the Act further empowers the Executive Director of Civil Aviation to incorporate into a technical standard any international aviation standard or any amendment without publishing the text of such standard or any amendment “by mere reference” to the title, number and year of issue of such standard or amendment or to any other particulars by which such standard or amendment is sufficiently identified.
- 1.2 By way of Government Notice 89/2020 published in Government Gazette 7157 dated 27th March 2020, NAMCARS (amendment 2020) provides for Part 179 – “Search and Rescue Services (SAR). This Part 179 provides for the issue of technical standards as NAM-CATS-SAR. The Executive Director of Civil Aviation has, pursuant to the empowerment mentioned above, issued technical standards relating to NAMCAR Part 179 (Search and Rescue Services) to be known as NAM-CATS-SAR as further set out in the SCHEDULE herein.
- 1.3 NAM-CATS-SAR comprises the standards, rules, requirements, methods, specifications, characteristics and procedures which are applicable in respect of the provision of Aeronautical Telecommunications Services to be used in all aspects of civil aviation air and ground operations.
- 1.4 To the extent possible, each reference to a technical standard in this document, is a reference to the corresponding regulation in the Namibian Civil Aviation Regulations.

Example: (1) *Technical standard 179.02.1 refers to regulation Part 179 of Subpart 02 of the Part 179*

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(2) Technical standard 179.02.2 refers to either the whole, or more than one specific regulation, of Subpart 02 of Part 2.

1.5 Where there is any perceived disparity of meaning or inconsistency between these technical standards and the regulations, the provisions of the regulations will take precedence.

1.6 Where there is a difference between a standard and procedure prescribed in ICAO documents and the Civil Aviation Technical Standards (CATS), the CATS standard will prevail.

2. GUIDANCE MATERIAL

2.1 Guidelines and recommendations in support of any particular technical standard are contained in schedules or appendices to, and/or compliance notes inserted throughout, the technical standards. These guidelines, upon release, are intended to provide recommendations and guidance to illustrate a means, but not necessarily the only means of complying with the regulations and technical standards. They may explain certain regulatory requirements by providing interpretive and explanatory materials. It is expected that service providers will document internal actions in their own operational manuals, to put into effect those, or similarly adequate, practices.

3. AMENDMENTS TO THE TECHNICAL STANDARDS

3.1 The NCAA Safety (ANSO) Division has responsibility for the technical content of this technical standard.

3.2 This technical standard is issued, and may only be amended, under the authority of the Executive Director of Civil Aviation.



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- 3.3 Requests for changes to the content of this technical standard must be forwarded to the Executive Director and may come from:
- (a) technical areas within NCAA; or
 - (b) aviation industry service providers or operators; or
 - (c) pilots and ATC staff.
- 3.4 The need to change the content of this technical standard may arise for any of the following reasons:
- (a) to ensure safety;
 - (b) to ensure standardisation;
 - (c) to respond to changed NCAA regulations or standards;
 - (d) to respond to changes initiated by ICAO;
 - (e) to accommodate proposed initiatives or new technologies.
- 3.5 NCAA may approve trials of new procedures or technologies to develop appropriate standards.

4. INTERNATIONAL STANDARDS

- 4.1 Section 227 of the Civil Aviation Act, 2016 empowers the Executive Director of Civil Aviation to issue technical standard for civil aviation. Section 227 of the Civil Aviation Act, 2016 further empowers the Executive Director of Civil Aviation to incorporate into a technical standard any international aviation standard or any amendment without stating the text of such standard or amendment, “by mere reference” to the title, number and year of issue of such standard or amendment, or to any other particulars by which such standard or amendment is sufficiently identified.
- 4.2 The following international standards, recommended practices and procedures, as amended from time to time, are incorporated into the technical standards contained in this document:
- (a) ICAO Annex 12 – Search and Rescue;



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- (b) International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual (ICAO Doc 9731):
 - (i) Volume I — Organization and Management;
 - (ii) Volume II — Mission Co-ordination; and
 - (iii) Volume III — Mobile Facilities;
- (c) ICAO Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) (Doc 4444);
- (d) ICAO Regional Supplementary Procedures (Doc 7030)
- (e) The Air Navigation Plan - Africa-Indian Ocean Region (Document 7474/26), approved and published by a decision of the Council of ICAO.

4.3 Differences from ICAO Standards, Recommended Practices and Procedures are published in the AIP.

These Technical Standards apply with immediate effect and repealed the – Civil Aviation Technical Standards NAM-CATS-ATS “Airspace and Air Traffic Services” published under Government Notices No. 3135 of 23 January 2004..

Further access is available on NCAA website: www.ncaa.com.na/resources

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**REINHARD GAERTNER
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SCHEDULE

PART 179 – SEARCH AND RESCUE SERVICES

(NAM-CATS-SAR)

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175.01.1 Definitions

1.1 When the following terms are used in this Part 179, they have the following meanings:

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.

Alert phase. A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

AMVER. A world-wide ship reporting system for search and rescue.

COSPAS SARSAT system. A satellite system designed to detect distress beacons transmitting on the frequencies 121.5 MHz and 406 MHz.

Craft. Any air or sea-surface vehicle, or submersible of any kind or size.

Distress alerting. The reporting of a distress incident to a unit which can provide or co-ordinate assistance.

Distress phase. A situation wherein there is a reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger and require immediate assistance.

Direction finding (DF). Homing on signals to pinpoint a position

Ditching. The forced landing of an aircraft on water.



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Emergency locator transmitter (ELT). Aeronautical radio distress beacon for alerting and transmitting homing signals.

Emergency phase. A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.

Emergency position-indicating radio beacon (EPIRGB). A device, usually carried aboard maritime craft that transmits a signal that alerts search and rescue authorities and enables rescue units to locate the scene of the distress.

Executive Director. The Chief Executive Officer of the Namibia Civil Aviation Authority under the Civil Aviation Act No.16 of 2016.

Joint rescue coordination centre (JRCC). A rescue coordination centre responsible for both aeronautical and maritime search and rescue operations.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Pilot-in-command. The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Rescue. An operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety.

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.



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Rescue sub-centre (RSC). A unit subordinate to a rescue coordination centre, established to complement the latter according to particular provisions of the responsible authorities.

Search. An operation normally coordinated by a rescue coordination centre or rescue sub-centre using available personnel and facilities to locate persons in distress.

Search and rescue aircraft. An aircraft provided with specialized equipment suitable for the efficient conduct of search and rescue missions.

Search and rescue co-ordinator (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 data providers. A source for a rescue co-ordination centre to contact to obtain data to support search and rescue operations, including emergency information from communications equipment registration databases, ship reporting systems and environmental data systems (e.g., weather or sea current).

Search and rescue facility. Any mobile resource, including designated search and rescue units, used to conduct search and rescue operations.

Search and rescue mission coordinator (SMC). The official temporarily assigned to coordinate response to an actual or apparent distress situation.

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.

Search and rescue service. The performance of distress monitoring, communication, coordination and search and rescue functions, initial medical assistance or medical

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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.

Search and rescue unit (SRU). A mobile resource composed of trained personnel and provided with equipment suitable for the expeditious conduct of search and rescue operations.

State of Registry. The State on whose register the aircraft is entered.

Uncertainty phase. A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

Vessel. A maritime craft.

179.02.2 Provision of Search and Rescue Services

- 1.1 The Executive Director must either individually, or in cooperation with another State, designate a search and rescue coordinating agency for the provision of search and rescue services within the territory of Namibia.
- 1.2 The designated SAR coordinating agency must arrange for the establishment and prompt provision of search and rescue services within the Namibia search and rescue region (SRR) to ensure that assistance is rendered to persons in distress. Such services must be provided on a 24-hour basis.




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- 1.3 Those portions of the high seas or areas of undetermined sovereignty for which search and rescue services will be established must be determined on the basis of regional air navigation agreements. Namibia having accepted the responsibility to provide search and rescue services in such areas must thereafter, individually or in cooperation with another State, arrange for the services to be established and provided in accordance with the provisions of this Part 179.
- 1.4 The phrase “regional air navigation agreements” where used in this Part refers to the agreements approved by the Council of ICAO normally on the advice of Regional Air Navigation Meeting.
- 1.5 Basic elements of search and rescue services in Namibia will be the legal framework established in this Part 179, the SAR coordinating agency as the responsible authority, who in coordination with the Executive Director must ensure organized availability of resources, communication facilities and a workforce skilled in coordination and operational functions.
- 1.6 The search and rescue coordinating agency must, in coordination with the Executive Director:
- (a) determine the type and degree of search and rescue services to be provided within the search and rescue region and must coordinate such services in accordance with these regulations;
 - (b) establish a system for reporting occurrences and the conduct of Search and Rescue operations;
 - (c) ensure the availability of sufficient resources, communication facilities and skilled workforce to coordinate and provide the search and rescue operations at any one time.
 - (d) establish processes to improve service provision, including the aspects of planning domestic and international cooperative arrangements and training.

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- 1.7 Where the aeronautical SAR coordinating agency serves the same area with the maritime rescue coordination centre, or with the military, the SAR coordinating agency must ensure the closest possible cooperation and coordination with the relevant maritime and military emergency response services.
- 1.8 The search and rescue coordinating agency may in coordination with the Executive Director, cooperate in establishment of joint rescue coordination centres to coordinate aeronautical and maritime search and rescue operations.
- 1.9 In providing assistance to aircraft in distress and to survivors of aircraft accidents, the designated SAR coordinating agency must do so regardless of the nationality or status of such persons or the circumstances in which such persons are found.
- 1.10 The designated SA coordinating agency must, in providing search and rescue services, use search and rescue units and other available facilities to assist any aircraft or its occupants that are or appear to be in a state of emergency.
- 1.11 Where aeronautical SAR services serve the same area as maritime rescue coordination centres or military, the SAR coordinating agency must ensure the closest practicable coordination with the maritime or military authorities.
- 1.12 The designated SA coordinating agency must facilitate consistency and cooperation between their aeronautical and maritime search and rescue services.

179.02.4 Establishment of Rescue Coordination Centres (RCC) and Rescue Sub Centres

- 1.1 The designated SAR coordinating agency must establish and publish in the AIP, a rescue coordination centre (RCC) within the Namibia search and rescue region, to:
- (a) facilitate efficient organization of search and rescue services; and

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(b) co-ordinate the conduct of search and rescue operations within the search and rescue region on a 24 hours a day basis.


- 1.2 The search and rescue coordinating agency may establish and publish in the AIP search and rescue sub centres (RSCs) subordinate to the rescue coordination centre where this is considered to improve the efficiency of search and rescue services within Namibia.
- 1.3 The rescue coordination centre and, as appropriate, rescue sub centre, must be staffed 24 hours a day by trained personnel proficient in the use of English language used for radiotelephony communications.
- 1.3 The SAR coordinating agency must ensure that RCC/RCSC personnel involved in the conduct of radiotelephony communications are proficient in the use of the English language.
- 1.4 In areas where public telecommunications facilities would not permit persons observing an aircraft in emergency to notify the Namibia rescue coordination centre concerned directly and promptly, the SAR coordinating agency must designate suitable units of public or private services as alerting posts.
- 1.5 The search and rescue coordinating agency must:
 - (a) make formal arrangements for cooperative and appropriate use of public and private search and rescue units that are suitably located, equipped and crewed for search and rescue operations throughout the search and rescue region;
 - (b) maintain an accurate and complete database of search and rescue units and other search and rescue facilities and resources within the search and rescue region; and
 - (c) make arrangements for the timely advice to the rescue coordination centre of any change in the readiness or capability of the published search and rescue units and other search and rescue facilities and resources.




- (d) designated and publish in the AIP as alerting posts, suitable units of public or private services in areas where telecommunications facilities would not permit persons observing an aircraft in emergency to notify the rescue coordination centre concerned directly and promptly; and
- (e) ensure that the units designated in accordance with (d) are suitably located, equipped and crewed for search and rescue operations throughout the search and rescue region.

179.02.5 Search and rescue communication

- 1.1 A SAR coordinating agency must establish communication systems and procedures to ensure that the Rescue Coordination Centre and each of the Rescue Coordination Sub-Centres listed in the service provider's manual can provide the services for which they are intended.
- 1.2 The communication systems and procedures must be able to handle the volume and nature of the information being communicated so that no information is delayed to the extent that the information becomes out-of-date or affects the ability of the provider to respond effectively and in a timely manner.
- 1.3 The rescue coordination centre must have means of rapid and reliable two-way communication with:
 - (a) associated air traffic services units;
 - (b) associated rescue sub-centres;
 - (c) appropriate direction-finding and position-fixing stations;
 - (d) where appropriate, coastal radio stations capable of alerting and communicating with surface vessels in the region;
 - (e) the headquarters of SAR units in the region;

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- (f) all maritime rescue coordination centres in the region and aeronautical, maritime or joint rescue coordination centres in adjacent regions;
 - (g) a designated meteorological office or meteorological watch office;
 - (h) search and rescue units;
 - (i) alerting posts; and
 - (j) the COSPAS-SARSAT Mission Control Centre servicing the Namibia SRR.
- 1.4 The rescue sub-centre must have means of rapid and reliable two-way communication with:
- (a) adjacent RCCs and associated RCSCs;
 - (b) a meteorological office or meteorological watch office;
 - (c) search and rescue units; and
 - (d) alerting posts.
- 1.5 SAR personnel, survivors, RCCs and RSCs, SAR facilities, and others as appropriate must have the means to send and receive information. The SAR coordinating agency must therefore:
- (a) ensure that essential communications elements are provided to receive distress alerts and perform the SAR mission; and
 - (b) promote use of appropriate alerting equipment by those who may need SAR service.
- 1.6 The SAR communications systems must be established to enable:
- (a) receipt of alerts from equipment used by persons in distress;
 - (b) exchange of information:
 - (i) with persons in distress;
 - (ii) among the SAR mission co-ordinator (SMC);
 - (iii) with on-scene coordinator (OSC); and
 - (iv) with SAR facilities for co-ordination of responses to SAR incidents.
 - (c) direction finding (DF) and homing in order to allow SRUs to be dispatched to the vicinity of the distress and to home on signals from equipment used by survivors.

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2. Communications with Alerting posts


- 2.1 Alerting posts must be able to receive and forward distress information to the RCC or RSCs.
- 2.2 RCC and RSCs must be able to promptly receive information from alerting posts in order to act quickly and effectively when an emergency occurs. If alerting posts are used, the RCC or RSC must ensure that the alerting post is well qualified to carry out its responsibilities. It is essential that communications between an alerting post and the RCC, RSC or local SRU must be by fast and reliable means. Such channels must be checked regularly.
- 2.3 Alerting channels may be established by voice or data communications via direct or public telephone, radiotelephone, radiotelegraph or other means and where possible, data alerts must be automatically routed to the responsible RCC or RSC over communication links which help preserve the distress priority.

3. Locating systems communications

- 3.1 Locating capabilities must enable the responding SAR facilities to minimize the search time and to get to the actual position of distress for rescue. The basic types of equipment that must be carried by ships and aircraft include:
- (a) an emergency locator transmitter (ELT) 121.5 MHz for aircraft homing and locating of a distress scene and survivors.
 - (b) emergency position-indicating radio beacons (EPIRBs) for ships to facilitate the location of survivors in SAR operations.

4. Communications for SAR co-ordination

- 4.1 The SAR coordinating agency must ensure that local agreements are in place for the handling of communications with SAR facilities. Communications with mobile facilities must be handled

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directly by the RCC or RSC or via capable associated alerting posts. Communications with alerting posts or other elements of the SAR system, including international communications among RCCs, must be reliable and either be dedicated or preserve message priority or pre-emptive handling. Channels of communication between the RCC and assigned SAR Mission Co-ordinator (SMC) must be pre-planned and reliable.

- 4.2 Communications to and from RCCs and RSCs must be as timely and reliable as possible and sufficient to handle the total diversity and volume of needs for the worst potential scenarios.


5. On-scene

- 5.1 On-scene channels are used between SRUs and the OSC. The SMC must specify an on-scene communications channel for use by all SRUs based on the equipment carried by the SRUs. If an on-scene radio frequency is required for communications between air and surface facilities involved in a SAR operation, distress and on-scene frequencies may be used. Designated SAR aircraft operating in maritime areas must be equipped with a frequency for communicating with vessels during SAR operations.

- 5.6 The SAR coordinating agency must ensure that communications exist between aircraft and surface units within their SAR Region. Arrangements must therefore be made to have a communication link between the aircraft and surface units with RCC equipment. SAR and government vessels must be encouraged to fit equipment to be able to communicate directly on aeronautical frequencies.

179.02.6 Search and Rescue Units


- 1.1 The minimum units and facilities established by the SAR coordinating agency for provision of search and rescue operations within the search and rescue region must be determined by regional air navigation agreements and as specified in the ICAO AFI Air Navigation Plan and Facilities and Services Implementation Document publications.

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- 1.2 The Search and rescue coordinating agency must publish in the AIP elements of public or private services suitably located and equipped for search and rescue operations in accordance with 1.1 above.
- 1.3 The Search and rescue coordinating agency must publish in the AIP elements of public or private services that do not qualify as search and rescue units but are able to participate in search and rescue operations as parts of the search and rescue plan of operation.

179.02.7 Search and Rescue Equipment

- 1.1 Search and rescue units must be provided with equipment for locating promptly, and for providing adequate assistance at, the scene of an accident.
- 1.2 Each search and rescue unit must have means of rapid and reliable two-way communication with other search and rescue facilities engaged in the same operation.
- 1.3 Each search and rescue aircraft must be equipped to be able to communicate on the aeronautical distress and on-scene frequencies and on such other frequencies as may be prescribed.
- 1.4 Except for aircraft involved in conducting a visual search, each search and rescue aircraft must be equipped with a device for homing on distress frequencies. The carriage of emergency locator transmitter (ELT) must be in accordance with the requirements of the aircraft operations regulations. Where ELT is carried, its specifications must comply with the requirements in NAM-CARs Part 171 – Aeronautical Telecommunications.
- 1.5 Each search and rescue aircraft, when used for search and rescue over maritime areas, must:
- (a) be equipped to be able to communicate with vessels;


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(b) carry a copy of the International Code of Signals (published by the International Maritime Organization as document 1994E) to enable it to overcome language difficulties that may be experienced in communicating with ships.

- 1.6 Aircraft involved in search and rescue operations must communicate with vessels on frequencies 2182 kHz, 4125 kHz and 121.5 MHz. However, these frequencies, and in particular 121.5 MHz, may not be routinely monitored by vessels.
- 1.7 Unless it is known that there is no need to provide supplies to survivors by air, at least one of the aircraft participating in a search and rescue operation must carry droppable survival equipment.
- 1.9 The search and rescue coordinating agency must, where necessary coordinate with the concerned authorities in order to locate, at appropriate aerodromes, survival equipment suitably packed for dropping by aircraft.

2. Equipment requirements for search and rescue units (SRUs)


- 2.1 SAR facilities include designated search and rescue units (SRUs) and other resources which can be used to conduct or support SAR operations. An SRU must be composed of trained personnel and provided with equipment suitable for the expeditious and efficient conduct of search and rescue. An SRU can be an air, maritime, or land-based facility. Facilities selected as SRUs must be able to reach the scene of distress quickly and, in particular, be suitable for one or more of the following operations:
- (a) providing assistance to prevent or reduce the severity of accidents and the hardship of survivors, e.g. escorting an aircraft, standing by a sinking vessel;
 - (b) conducting a search;
 - (c) delivering supplies and survival equipment to the scene;
 - (d) rescuing survivors;
 - (e) providing food, medical or other initial needs of survivors; and

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(f) delivering the survivors to a place of safety.

2.2 The equipment needed by SRUs may be grouped as follows:

- (a) *Communications.* An SRU must have rapid and reliable means to communicate by voice or message with the SMC, the OSC if assigned, other SRUs, and the distressed persons.
- (b) *Mobility.* The effectiveness of a SAR service depends on the number, speed, location, and efficiency of the aircraft, vessels and land vehicles available.
- (c) *Supplies and Survival Equipment.* Supplies and survival equipment are carried by air and maritime SAR facilities to give aid to survivors and to facilitate their rescue. The type and number to be carried must depend on the circumstances on-scene. Maritime facilities and helicopters generally can deliver this equipment directly to survivors. Fixed-wing aircraft can deliver supplies to survivors if suitable landing areas exist nearby or if the supplies can be dropped at the scene. The packing of supplies and survival equipment must be adapted to the manner of delivery. Containers and packages of supplies and survival equipment must be strong, of a highly visible colour, waterproof and buoyant. The general nature of their contents must be clearly indicated in print in English and two or more other languages or using self-explanatory symbols, and may also be indicated by colour-coded streamers and pictograms.
- (d) *Other Equipment.* Every SRU must have at its disposal maps, charts, plotting equipment, and information relevant to the SRR(s) in which it is likely to operate.
- (e) *Rescue team monitoring/tracking.* Every SRU must have a means to track their personnel, vehicles and aircraft involved in the search and rescue operation.

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179.03.4 Standards for the provision of SAR services

1.1 Introduction

1.1.1 This Part 179 contains the standards, rules and procedures for the provision of search and rescue (SAR) services that are additional to, or expand upon, or specify additional conditions for, the standards, rules and procedures contained in NAM-CARs Part 179.

1.1.2 These standards, rules and procedures are applicable to all persons involved in the provision of SAR services.

1.2 Applicability of the Standards of the International Civil Aviation Organization


1.2.1 SAR services must be provided in full compliance with the regulations in NAM-CARs Part 179 and the standards prescribed in this NAMCATS Part 179.

1.2.3 General aviation aircraft operating over designated areas, land or sea, where search and rescue operations would be difficult, must:

- (a) carry appropriate survival equipment; and
- (b) follow the routes or procedures specified by the appropriate ATS authority if not equipped with two-way radio, except where specific exemptions from this requirement has been granted under special circumstances by the appropriate ATS authority.


2.1 Objectives of SAR Services for Air Navigation

2.1.1 The objective of SAR must be to contribute towards the safety of air navigation through the performance of distress monitoring, communication, coordination of search and rescue functions, initial medical assistance or medical evacuation, achieved through the use of State national and private resources, including cooperating aircraft, vessels and other craft and installations.


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179.04.1 Cooperation with other States

- 1.1 The SAR coordinating agency must coordinate its SAR organization and with those of neighboring States.
- 1.2 Whenever necessary, the SAR coordinating agency must coordinate its search and rescue operations with those of neighbouring States especially when these operations are proximate to adjacent search and rescue regions.
- 1.3 The SAR coordinating agency must, in so far as practicable, develop common search and rescue plans and procedures to facilitate coordination of search and rescue operations with those of neighboring States.
- 1.4 Subject to such conditions as may be prescribed by the Government of Namibia, the SAR coordinating agency must permit immediate entry into its territory, search and rescue units of other States for the purpose of searching for the site of aircraft accidents and rescuing survivors of such accidents.
- 1.5 Submissions and processing of requests to enter into the territory of Namibia by other States for search and rescue purposes must be as prescribed under regulation 179.04.2.
- 1.6 The SAR coordinating agency must enter into agreements with neighboring States to strengthen search and rescue cooperation and coordination, setting forth the conditions for entry of each other's SAR units into their respective territories. These agreements must also provide arrangements for expediting entry of such units with the least possible formalities.

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- 1.7 The SAR coordinating agency may in its regional SAR agreement establish a regional SAR coordinating committee. This will provide the process for SAR co-operation and co-ordination at a regional level. The regional SAR coordinating committee must be established such that:
- (a) Members will be made up of a person designated by each Party to the SAR Plan for Region.
 - (b) The Parties will each designate an alternate member;
 - (c) Members will be responsible for any appropriate co-ordination with interested agencies within their respective countries and organizations.
 - (d) General meetings of the Committee, which will held at least once per year, will be open to designated observers, advisors and visitors.
 - (e) Executive meetings may also be held as necessary, and working groups may be established to handle detailed work and bring proposals to the Committee.
 - (f) The Chairperson or any member may call a special Committee meeting when necessary.
 - (g) The Committee Chairperson will be rotated annually among the States and Secretariat services will be provided by the designated SAR coordinating agencies of the States.
 - (h) By signing the SAR Plan for Region, each Party agrees to fully support the regional Committee within its means.
- 1.8 The role of the regional SAR coordinating committee established under sub-section 1.7 must be to:
- (a) Provide a standing national forum for co-ordination of administrative and operational SAR matters;
 - (b) Provide an interface with other regional and international organizations involved with emergency services;
 - (c) Oversee the SAR Plan for the region and the development and maintenance of a regional SAR Manual as necessary;
 - (d) Promote effective use of all available facilities for SAR operations within the region;
 - (e) Serve as a co-operative forum to exchange information and develop positions and policies of interest to more than one Party to the regional Plan;


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- (f) Promote close co-operation and co-ordination between civilian and military authorities and organizations for the provision of effective SAR services;
- (g) Improve co-operation among aeronautical, maritime and land SAR communities for the provision of effective SAR services; and
- (h) Determine other ways to enhance the overall effectiveness and efficiency of SAR services within the region and to standardize SAR procedures and equipment where practicable.

- 1.9 The SAR coordinating agency must authorize its rescue coordination centre to provide, when requested, assistance to other rescue coordination centres, including assistance in the form of aircraft, vessels, persons or equipment.
- 1.10 The SAR coordinating agency must make arrangements for joint training exercises involving its SAR units, those of other States and operators, in order to promote search and rescue efficiency.
- 1.11 The SAR coordinating agency must make arrangements for periodic liaison visits by personnel of their rescue coordination centres and sub centres to the centres of neighboring States.

179.04.2 Entry into the Namibia territory by other States parties


- 2.1 The SAR coordinating agency must in coordination with the Executive director and the relevant government authorities make arrangements to permit immediate entry into the Namibian territory, search and rescue units of other States for the purpose of searching for the site of aircraft accidents and rescuing survivors of such accidents.
- 2.2 The SAR authorities of other States who wish their SAR units to enter into the territory of Namibia for search and rescue purposes must transmit a request, giving full details of the projected mission and the need for it, to the Executive director or the Namibia rescue coordination centre.

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- 2.3 The Executive director, or the rescue coordination centre must:
- (a) immediately acknowledge the receipt of such a request, and
 - (b) as soon as possible, indicate the conditions, if any, under which the projected mission may be undertaken.
- 2.4 For the purpose of these regulations, the SAR coordinating agency must ensure that its rescue coordination centre has the necessary authorisations to:
- (a) request from other rescue coordination centres such assistance, including aircraft, vessels, persons or equipment, as may be needed;
 - (b) grant any necessary permission for the entry of such aircraft, vessels, persons or equipment into its territory; and
 - (c) make the necessary arrangements with the appropriate customs, immigration or other authorities with a view to expediting such entry.

179.04.3 Cooperation with other services

- 1.1 The SAR coordinating agency must arrange for all aircraft, vessels and local services and facilities which do not form part of the search and rescue organization to cooperate fully with the latter in search and rescue and to extend any possible assistance to the survivors of aircraft accidents.
- 1.2 The SAR coordinating agency must ensure the closest practicable coordination with the maritime authorities to provide for the most effective and efficient search and rescue services.
- 1.3 The SAR coordinating agency must ensure that its search and rescue services cooperate with Namibia Directorate of Aviation Accident and Incident Investigation (DAAII) personnel responsible for investigating accidents and with those responsible for the care of those who suffered from the accident.

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- 1.4 To facilitate accident investigation, rescue units must, when practicable, be accompanied by persons qualified in the conduct of aircraft accident investigations.
- 1.5 The SAR coordinating agency must designate a search and rescue point for contact for receipt of COSPAS-SARSAT distress data.
- 1.6 The SAR coordinating agency may in its search and rescue plan, establish a national SAR coordinating committee. This will provide the process for SAR co-operation and co-ordination. Participating organizations must include those directly involved with SAR and those in a supporting role. The national SAR coordinating committee must be established such that:
- (a) Members will be made up of a person designated by each Party to the SAR Plan for Namibia.
 - (b) The Parties will each designate an alternate member;
 - (c) Members will be responsible for any appropriate co-ordination with interested agencies within their respective organizations.
 - (d) General meetings of the Committee, which will be held at least once per year, will be open to designated observers, advisors and visitors.
 - (e) Executive meetings may also be held as necessary, and working groups may be established to handle detailed work and bring proposals to the Committee.
 - (f) The Chairperson or any member may call a special Committee meeting when necessary.
 - (g) The Committee Chairperson may be rotated annually among the members and Secretariat services will be provided by the designated SAR coordinating agency.
 - (h) By signing the SAR Plan for Namibia, each Party agrees to fully support the national Committee within its means.
- 1.7 The role of the national SAR coordinating committee established under sub-section 1.6 must be to:
- (a) Provide a standing national forum for co-ordination of administrative and operational SAR matters;

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- (b) Provide an interface with other national and international organizations involved with emergency services;
- (c) Oversee the SAR Plan for Namibia and develop and maintain a national SAR Manual;
- (d) Promote effective use of all available facilities for SAR;
- (e) Serve as a co-operative forum to exchange information and develop positions and policies of interest to more than one Party to the Plan;
- (f) Promote close co-operation and co-ordination between civilian and military authorities and organizations for the provision of effective SAR services;
- (g) Improve co-operation among aeronautical, maritime and land SAR communities for the provision of effective SAR services; and
- (h) Determine other ways to enhance the overall effectiveness and efficiency of SAR services within Namibia and to standardize SAR procedures and equipment where practicable.


179.04.4 Dissemination of Information

- 1.1 The SAR coordinating agency must publish and disseminate all information necessary for the entry of SAR units of other States into Namibia territory or, alternatively, include this information in search and rescue service arrangements.
- 1.2 When information published in accordance with 1.1 above could benefit the provision of search and rescue services, the SAR coordinating agency must make available, through the rescue coordination centres or other agencies, information regarding the search and rescue plans of operation of such SAR units of other States.
- 1.3 The SAR coordinating agency must, to the extent desirable and practicable, disseminate information to the general public and emergency response authorities regarding actions to be taken when there is reason to believe that an aircraft's emergency situation may become cause for public concern or require a general emergency response.

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179.05.1 Preparatory Information

- 1.1 Rescue coordination centres and rescue coordination sub-centres (RCC/RCSCs) must have readily available, at all times, up-to-date information concerning the following in respect of its search and rescue region:
- (a) SAR units, associated rescue sub centres and alerting posts;
 - (b) air traffic services units approved under Part 172;
 - (c) means of communication that may be used in search and rescue operations;
 - (d) addresses and telephone numbers of all operators, or their designated representatives, engaged in operations in the region; and
 - (e) any other public and private resources including medical and transportation facilities that are likely to be useful in search and rescue.
- 1.2 RCC/RCSCs must have readily available all other information of interest to search and rescue, including information regarding:
- (a) the locations, call signs, hours of watch, and frequencies of all radio stations likely to be employed in support of search and rescue operations;
 - (b) the locations and hours of watch of services keeping radio watch, and the frequencies guarded;
 - (c) the locations where supplies of droppable emergency and survival equipment are stored; and
 - (d) objects which it is known might be mistaken for un-located or unreported wreckage, particularly if viewed from the air.
- 1.3 The rescue coordination centre must have ready access to information regarding the position, course and speed of ships at Sea that may be able to provide assistance to aircraft in distress and information on how to contact them.
- 1.4 The SAR coordinating agency must, in cooperation with maritime authorities, either establish ship reporting systems or arrange communication links with AMVERs or regional ship

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reporting systems in order for the RCC/RCSCs to have ready access to information regarding the positions, course and speed of ships at sea that may be able to provide assistance to aircraft in distress and information on how to contact such ships.

Compliance Note: *AMVER (Automated Mutual-Assistance Vessel Rescue System) is a worldwide voluntary reporting system sponsored by the United States Coast Guard.*

179.05.2 Search and rescue plan of operation

- 1.1 The rescue coordination centre must prepare detailed plans of operation for the conduct of search and rescue operations within its search and rescue region.
- 1.2 The search and rescue plans of operation must contain details regarding actions to be taken by those persons engaged in search and rescue.
- 1.3 Search and rescue plans of operations must be developed jointly with representatives of concerned authorities, operators and other public or private services that may assist in providing search and rescue services or benefit from them, taking into account that the number of survivors could be large.
- 1.4 The plans of operation must specify arrangements for the servicing and refueling, to the extent possible, of aircraft, vessels and vehicles employed in search and rescue operations, including those made available by other adjacent States.
- 1.5 The search and rescue plans of operation must contain details regarding actions to be taken by those persons engaged in search and rescue, including:
 - (a) the manner in which search and rescue operations are to be conducted in the search and rescue region;
 - (b) the use of available communication systems and facilities;
 - (c) the actions to be taken jointly with other rescue coordination centres;



- (d) the methods of alerting en-route aircraft and ships at sea;
- (e) the duties and prerogatives of persons assigned to search and rescue;
- (f) the possible redeployment of equipment that may be necessitated by meteorological or other conditions;
- (g) the methods for obtaining essential information relevant to search and rescue operations, such as weather reports and forecasts, appropriate NOTAM, etc.;
- (h) the methods for obtaining, from other rescue coordination centres, such assistance, including aircraft, vessels, persons or equipment, as may be needed;
- (i) the methods for assisting distressed aircraft being compelled to ditch to rendezvous with surface craft;
- (j) the methods for assisting search and rescue or other aircraft to proceed to aircraft in distress; and
- (k) cooperative actions to be taken in conjunction with air traffic services units and other authorities concerned to assist aircraft known or believed to be subject to unlawful interference.


1.6 Search and rescue plans of operation must be integrated with aerodrome emergency plans and air operator's emergency response plans to provide for rescue services in the vicinity of aerodromes including areas of water.

1.7 To facilitate the implementation of the search and rescue plan, the SAR coordinating agency must prepare and keep updated, a search and rescue manual containing the necessary procedures for search and rescue operations and matters connected therewith.

179.05.3 Search and Rescue Units

1.1 Each SAR unit must:

- (a) be cognizant of all parts of the plans of operation specified in 179.05.2 that are necessary for the effective conduct of its duties; and
- (b) keep the rescue coordination centre informed of its preparedness.

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1.2 All the concerned authorities must:

- (a) maintain in readiness the required number of search and rescue facilities; and
- (b) maintain adequate supplies of rations, medical stores, signaling devices and other survival and rescue equipment.

179.05.4 Training and Exercises

1.1 To achieve and maintain maximum efficiency in search and rescue, the SAR coordinating agency and their search and rescue providers must provide for regular training of their search and rescue personnel and arrange appropriate search and rescue exercises.


1.2 The SAR coordinating agency must, in coordination with other relevant authorities, arrange for and conduct search and rescue exercises once every two years and must ensure that any recommendations resulting from such exercises are followed up for implementation.

2. SAR Training Programme

2.1 A SAR coordinating agency must

- (a) have a training programme for the SAR personnel to be able to meet the SAR system objectives;
- (b) ensure that RCC and RSC personnel are prepared to properly receive, collect, assess, use, preserve and provide information related to a distress situation or to SAR coordination;
- (c) ensure that operational personnel are trained to work together continuously as a team, in order to recognize and avoid undue risks and to prevent accidents, damage, injury, death, or worsening of the situation of those in distress.

2.2 The purpose of the training must be to enable personnel to acquire the necessary qualification and ability to perform SAR duties and individual tasks.

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2.3 Personnel who perform SAR duties must be authorised to serve in that capacity based on the training and qualifications acquired.

2.4 RCC and RSC staff must be fully qualified in:

- (a) SAR incident analysis;
- (b) Search planning; and
- (c) SAR operations management.

3. Training Requirements

3.1 Who to train

3.1.1 SAR personnel working in the following SAR facilities must be trained:

- (a) RCCs and RSCs;
- (b) aeronautical units;
- (c) maritime units;
- (d) land units;
- (e) specialised units (pararescue, paramedical, desert rescue, mountain rescue, urban SAR teams that deploy to disasters), divers, etc.; and
- (f) supply depots.

3.1.2 SAR training may be undertaken for an individual, a group or multiple groups. Where 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. An example of multiple team training is the search and rescue units (SRUs) training together.

3.1.3 The aviation and maritime communities require training in distress prevention, escape procedures, survival techniques, how to be located and actions to be taken to assist in one's



own rescue. This training may focus on individuals or groups. Such training may be provided by the industry or company involved. It may also be provided by public and private education efforts for safety awareness.

3.2 What to Train

3.2.1 The SAR coordinating agency must:

- (a) assess individual training needs for SAR personnel. Based on this assessment, a training programme must be developed;
(b) plan for competencies that may be required in future to enable systematic preparation for future SAR assignments. Planning for future training needs can be more effective if knowledge and skills which will be needed due to changing technology can be predicted.


3.2.2 SAR personnel must have a working knowledge of the English language. RCCs must be able to communicate with other RCCs, ship masters, and aircraft pilots, and air traffic services units.

3.2.3 Training of SAR service personnel may include but not limited to the following:

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

3.2.4 RCC and RSC SAR training must include at least the following topics:

- Aeronautical drift
AFN
AFTN
Bailout scenarios and planning
Briefing/questioning SRUs
Medical evacuations
Medical advice
Obtain and evaluate data
On-scene co-ordinator duties
Parachute drift

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Case studies	Plotting skills
Charts	Registration databases
Coastal SAR planning	Rescue procedures
Computer applications	Resource allocation
COSPAS–SARSAT	Risk assessment
Datum marker buoys	SAR agreements
Datum determination	SAR communications
Dealing with public and news media	SAR mission co-ordination
Dealing with families	SAR operations conclusion
Documentation of incidents	SAR phases, stages, and components
Electronic sweep width	SAR resource capabilities
Emergency care	SAR system organization
Environmental factors	SAR technology
Evaluation of flare sightings	Search areas
Fatigue factors	Search patterns
Inmarsat	Search planning
International aspects	Ship reporting systems for SAR
Interviewing techniques	SRU selection
Leeway drift	Stress management
Legal concerns	Survival equipment
Look-out skills and limitations	Visual sweep width
Manoeuvring boards	Water currents

3.2.5 If expertise gained from formal training is not used on a regular basis for operations or exercises, periodic refresher training may be needed.

3.2.6 SAR managers performing administrative functions may undertake courses in:

- (a) planning;
- (b) organizing;
- (c) staffing; and
- (d) budgeting, performance assessment, and accounting.

3.2.7 Operating a facility in a SAR environment, such as stormy weather, may require special skills and therefore training in specialized training facilities may be considered.

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3.3 *When to Train*

3.3.1 Training of SAR personnel must be accomplished before being assigned SAR duties. The training must match the duties to be performed. Training must be 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

3.3.2 At SAR manager level, training may focus on the following levels:

- (a) awareness and knowledge at the SAR manager level;
- (b) knowledge and performance at the middle (RCC chief) management level; and
- (c) performance at the operational management level (to include training of the SRU crew).


3.4 *Where to Train*

3.4.1 Training including formal and on-the-job training may be accomplished in a range of locations depending on the training needed and cost-effectiveness:

- (a) at the place where work is normally accomplished;
- (b) at another site for on-the-job training;
- (c) formal training at a dedicated facility; or
- (d) formal training in a classroom adjacent to the work site.

3.5 *How to Train*

3.5.1 The following three ways of training may be adopted for training of SAR personnel.

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- (a) *Training based on performance.* This helps the SAR personnel and teams to perform their duties effectively. The SAR manager and the RCC chief have the responsibility to ensure that the overall training programme is effective and that all SAR service personnel reach and maintain the required level of competence.

- (b) *Training based on knowledge.* This provides information necessary for SAR personnel to perform their duties. This training provides knowledge to enable SAR personnel to review SAR cases and use the results of such cases to review SAR policy, update standard procedures, and improve training and other processes.

- (c) *Awareness training.* This is required for those persons infrequently involved in SAR, such as high-level executives, budget authorities, general transportation operators and national transportation authorities.


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

3.5.3 *On-the-Job Training.* On-the-job training must be conducted to enable personnel to learn and, at the same time, contribute to the aims of the SAR organization. OJT must be conducted by competent specialists who can teach and coach trainees. On-the-job training must involve the use of checklists, planned progression, assignment rotation and coaching. A training library may be provided to enable trainees increase their level of knowledge.

3.5.4 *Formal Classroom Training:* Courses, workshops, conferences and other programmes for training SAR personnel may be conducted, Formal classroom training may include:

- (a) Train-the-trainer;
- (b) Maintenance of a Training Facility;
- (c) Adding SAR training to an existing Curriculum;
- (d) Attendance of Conferences, Workshops and Seminars.

4 SAR Exercises

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4.1 The SAR coordinating agency must conduct exercises to test and improve operational plans and to provide learning experience and improve liaison and coordination skills to SAR personnel. Exercises must be conducted on a realistic basis to demonstrate and assess the true effectiveness of training and the operational efficiency and competence of the SAR service. Exercises must be used to reveal deficiencies that may exist in SAR plans and enable such plans to be improved rather than revealing such deficiencies during actual operations.

4.2 Types of Exercises


4.2.1 The SAR coordinating agency must ensure that exercises are conducted at three levels:

- (a) *Communications Exercise*. This 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.
- (c) *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 search and rescue units. (SRUs).

4.3 Other Considerations

4.3.1 The SAR coordinating agency must determine the need for SAR exercises on the basis the level of SAR operations. Exercises are more critical where there are very few SAR operations each year in order to sustain proficiency. Joint exercises with neighbouring States or parties to SAR agreements may be valuable. Success of an exercise may be measured by:

- (a) how many problems are discovered;

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- (b) how much is learned;
- (c) how much operating plans are improved; and
- (d) how few mistakes are repeated during the next exercise.

4.4 Exercise Elements

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

4.4.2 *Planning.* The sequence for planning and conduct of SAR exercise must involve:

- (a) development of the concept (broad goals and objectives) of what is to be exercised;
- (b) selection of participants (staff and facilities);
- (c) detailed planning for how the exercise will be conducted;
- (d) conduct of the exercise; and
- (e) 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).

4.4.3 *Execution.* Persons planning a SAR exercises must not be the same persons who respond to the created scenarios. This will avoid 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




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many units and facilities as possible may provide satisfactory means of implementing training programmes. 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) Formal training programmes must as much as possible be complemented with exercises conducted on a unit basis by combining them with normal activities during quiet periods. They must 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 as possible should be exercised, including air and surface craft. Communications between the search and rescue units is a vital test of co-ordination.
- (e) It is not always practicable for organizations to engage in formal SAR training programmes. Whenever possible, personnel from these organizations must be invited to participate in or observe training exercises. They must 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.
- (f) Adjacent RCCs may 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 must engage periodically in coordinating exercises. Much may be learned by exchanging information on training methods (e.g., programmes, 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 co-ordinating authorities should ensure that

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specific safety rules and limitations are issued for use during both the planning and conduct of SAR exercises.

4.4.4 *Evaluation.* The evaluation process is crucial. Inputs must 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 must 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.

4.5 Reports


4.5.1 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 required for later retrieval.

179.06.2 Procedures for rescue coordination centre during emergency phases

Uncertainty phase

1.1 Upon the occurrence of an uncertainty phase, the RCC must cooperate to the utmost with air traffic services units and other appropriate agencies and services in order that incoming reports may be speedily evaluated.


Alert phase

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- 1.2 Upon the occurrence of an alert phase the RCC must immediately alert SAR units and initiate any necessary action.

Distress phase


- 1.3 Upon the occurrence of a distress phase, the RCC must:
- (a) Immediately initiate action by SAR units in accordance with the appropriate plan of operation;
 - (b) Ascertain the position of the aircraft, estimate the degree of uncertainty of this position, and, on the basis of this information and the circumstances, determine the extent of the area to be searched;
 - (c) Notify the operator, where possible, and keep the operator informed of developments;
 - (d) Notify other RCCs, the help of which seems likely to be required, or which may be concerned in the operation;
 - (e) Notify the associated air traffic services unit, when the information on the emergency has been received from another source;
 - (f) Request at an early stage such aircraft, vessels, coastal stations and other services not specifically included in the appropriate plan of operation and able to assist to:
 - (1) Maintain a listening watch for transmissions from the aircraft in distress, survival radio equipment or an ELT;
 - (2) Assist the aircraft in distress as far as practicable; and
 - (3) Inform the concerned rescue coordination centre of any developments.
 - (g) From the information available, draw up a detailed plan of action for the conduct of the search and/or rescue operation required and communicate such plan for the guidance of the authorities immediately directing the conduct of such an operation;
 - (h) Amend as necessary, in the light of evolving circumstances, the detailed plan of action;
 - (i) Notify the Executive director and the Department of aircraft accident and incident investigation; and
 - (j) Notify the State of Registry of the aircraft.

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- 1.4 The order in which these actions are described must be followed unless circumstances dictate otherwise.
- 1.5 After declaration of the distress phase, the rescue coordination centre with overall coordination responsibility must inform all rescue coordination centres that may become involved in the operation of all the circumstances of the emergency and subsequent developments. Likewise, all rescue coordination centers becoming aware of any information pertaining to the emergency must inform the rescue coordination centre that has overall responsibility.
- 1.6 Whenever applicable, the rescue coordination centre responsible for search and rescue action must forward to the air traffic services unit serving the flight information region in which the aircraft is operating, information of the search and rescue action initiated, in order that such information can be passed to the aircraft.

179.06.3 Initiation of Search and Rescue action in respect of an aircraft whose position is unknown

- 1.1 In the event that an emergency phase is declared in respect of an aircraft whose position is unknown and may be in one of two or more search and rescue regions, the following must apply:
- (a) When the Namibia RCC is notified of the existence of an emergency phase and is unaware of other centres taking appropriate action, it must assume responsibility for initiating suitable action in accordance with 6.2 and confer with neighboring RCCs with the objective of designating one RCC to assume responsibility forthwith.
 - (b) Unless otherwise decided by common arrangements/ agreement of the RCCs concerned, the Namibia rescue coordination centre must coordinate search and rescue action where:


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- (i) the aircraft last reported its position within the Namibia search and rescue region;
or
 - (ii) the aircraft was proceeding into Namibia search and rescue region and its last reported position was on the border separating Namibia search and rescue region from other search and rescue regions; or
 - (iii) the aircraft was destined for Namibia when it was not equipped with suitable two-way radio communication or not under obligation to maintain radio communication; or
 - (iv) the distress site is located within Namibia search and rescue region as identified by the COSPAS-SARSAT system.
- (c) After declaration of the distress phase, the concerned RCC with overall coordination responsibility must inform all RCCs that may become involved in the operation of all the circumstances of the emergency and subsequent developments. Likewise, all RCCs becoming aware of any information pertaining to the emergency must inform the RCC that has overall responsibility.

179.06.8 Search and Rescue frequencies

- 1.1 Where there is a requirement for the use of high frequencies for search and rescue scene of action coordination purposes, the frequencies 3 023 kHz and 5 680 kHz must be employed.
- 1.2 Where specific frequencies are required for communication between rescue coordination centres and aircraft engaged in search and rescue operations, they must be selected from the appropriate aeronautical mobile frequency bands in light of the nature of the provisions made for the establishment of search and rescue aircraft.

Compliance Note: *Where civil commercial aircraft take part in search and rescue operations, they will normally communicate on the appropriate en-route channels with the flight information centre associated with the rescue coordination centre concerned.*

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179.06.9 Procedures for Rescue Coordination Centres — termination and suspension of operations

- 1.1 Search and rescue operations must continue, when practicable, until all survivors are delivered to a place of safety or until all reasonable hope of rescuing survivors has passed.
- 1.2 The RCC has the responsibility for determining when to discontinue search and rescue operations.
- 1.3 When a search and rescue operation has been successful or when the RCC considers, or is informed, that an emergency no longer exists, the emergency phase must be cancelled, the search and rescue operation must be terminated and any authority, facility or service that has been activated or notified must be promptly informed.
- 1.4 If a search and rescue operation becomes impracticable and the RCC concludes that there might still be survivors, the centre must temporarily suspend on-scene activities pending further developments and must promptly inform any authority, facility or service which has been activated or notified. Relevant information subsequently received must be evaluated and search and rescue operations resumed when justified and practicable.

179.06.10 Procedures at the scene of an accident

- 1.1 When multiple facilities are engaged in search and rescue operations on-scene, the RCC or rescue sub-centre must designate one or more of the units on-scene to coordinate all actions to help ensure the safety and effectiveness of air and surface operations, taking into account facility capabilities and operational requirements.
- 1.2 When a pilot-in-command observes that either another aircraft or a surface craft is in distress, the pilot must, unless considered unsafe, unreasonable or unnecessary:



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- (a) keep the craft in distress in sight until compelled to leave the scene or advised by the RCC that it is no longer necessary;
- (b) determine the position of the craft in distress;
- (c) as appropriate, report to the RCC or ATS unit as much of the following information as possible:
 - (i) type of craft in distress, its identification and condition;
 - (ii) its position, expressed in geographical or grid coordinates or in distance and true bearing from a distinctive landmark or from a radio navigation aid;
 - (iii) time of observation expressed in hours and minutes Coordinated Universal Time (UTC);
 - (iv) number of persons observed;
 - (v) whether persons have been seen to abandon the craft in distress;
 - (vi) on-scene weather conditions;
 - (vii) apparent physical condition of survivors;
 - (viii) apparent best ground access route to the distress site; and
- (d) act as instructed by the RCC or ATS unit.

1.3 If the first aircraft to reach the scene of an accident is not a search and rescue aircraft, it must take charge of on-scene activities of all other aircraft subsequently arriving until the first search and rescue aircraft reaches the scene of the accident. If, in the meantime, such aircraft is unable to establish communication with the RCC or ATS unit, it must, by mutual agreement, hand over to an aircraft capable of establishing and maintaining such communications until the arrival of the first search and rescue aircraft.

1.4 When it is necessary for an aircraft to convey information to survivors or surface rescue units, and two-way communication is not available, it must, if practicable, drop communication equipment that would enable direct contact to be established, or convey the information by dropping a hard copy message.

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- 1.5 When a ground signal has been displayed, the aircraft must indicate whether the signal has been understood or not by the means described in 10, or if this is not practicable, by making the appropriate visual signal.
- 1.6 When it is necessary for an aircraft to direct a surface craft to the place where an aircraft or surface craft is in distress, the aircraft must do so by transmitting precise instructions by any means at its disposal. If no radio communication can be established, the aircraft must make the appropriate visual signal.

179.06.11 Procedures for a pilot-in-command intercepting a distress transmission

- 1.1 Whenever a distress transmission is intercepted by a pilot-in-command of an aircraft, the pilot must, if feasible:
- (a) acknowledge the distress transmission;
 - (b) record the position of the craft in distress if given;
 - (c) take a bearing on the transmission;
 - (d) inform the appropriate rescue coordination centre or air traffic services unit of the distress transmission, giving all available information; and
 - (e) at the pilot's discretion, while awaiting instructions, proceed to the position given in the transmission.

179.07.2 Signals with surface craft

- 1.1 The following manoeuvres performed in sequence by an aircraft mean that the aircraft wishes to direct a surface craft towards an aircraft or a surface craft in distress:
- (a) circling the surface craft at least once;
 - (b) crossing the projected course of the surface craft close ahead at low altitude and:



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- (i) rocking the wings; or
- (ii) opening and closing the throttle; or
- (iii) changing the propeller pitch.

Compliance Note: Due to high noise level on board surface craft, the sound signals in ii) and ii) may be less effective than the visual signal in 1) and are regarded as alternative means of attracting attention.

- (c) heading in the direction in which the surface craft is to be directed.

1.2 Repetition of the manoeuvres described in 1.1 (a), (b) and (c) above have the same meaning.

1.3 The following manoeuvres by an aircraft means that the assistance of the surface craft to which the signal is directed is no longer required:

- (a) crossing the wake of the surface craft close astern at a low altitude and:
 - (i) rocking the wings; or
 - (ii) opening and closing the throttle; or
 - (iii) changing the propeller pitch.

1.4 The following replies may be made by surface craft to the signal in 1.1:

- (a) for acknowledging receipt of signals:
 - (i) the hoisting of the "code pennant" (vertical red and white stripes) close up (meaning understood);
 - (ii) the flashing of a succession of "T's" by signal lamp in the Morse code;
 - (iii) the changing of heading to follow the aircraft.
- (b) for indicating inability to comply:
 - (i) the hoisting of the international flag "N" (a blue and white checkered square);
 - (ii) the flashing of a succession of "N's" in the Morse code.


179.07.3 Ground-air visual signal code



1.1 The ground signals indicated in (a) below may be used by survivors. The ground signals that may be used by rescue units are indicated in (b) below. In both cases, the symbols will be at least 2.5 metres (8 feet) long and will be made as conspicuous as possible.

(a) Ground-air visual signal code for use by survivors

No.	Message	Code symbol
1	Require assistance	V
2	Require medical assistance	X
3	No or Negative	N
4	Yes or Affirmative	Y
5	Proceeding in this direction	↑

(b) Ground-air visual signal code for use by rescue units

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No.	Message	Code symbol
1	Operation completed	LLL
2	We have found all personnel	<u>LL</u>
3	We have found only some personnel	++
4	We are not able to continue. Returning to base	XX
5	Have divided into two groups. Each proceeding in direction indicated	
6	Information received that aircraft is in this direction	
7	Nothing found. Will continue to search	NN


1.2 Symbols must be at least 2.5 metres (8 feet) long and must be made as conspicuous as possible.

1.3 The symbols may be formed by any available means including strips of fabric, parachute material, pieces of wood, stones or such like material; marking the surface by tramping, or staining with oil. Attention to the above signals may be attracted by other means such as radio, flares, smoke and reflected light.

179.07.4 Air-to-ground signals

1.1 The following signals by aircraft mean that the ground signals have been understood:

- (a) during the hours of daylight - by rocking the aircraft's wings;


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- (b) during the hours of darkness - by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

1.2 Lack of the above signal indicates that the ground signal is not understood.

179.08.2 Documents to be held by the SAR coordinating agency

- 2.1 The SAR coordinating agency must hold and maintain certain documentation essential to the effective provision of SAR services. These documents form part of the service provider Operations Manual. Documents that are essential for the provision of SAR services include:
- (a) Namibia Civil Aviation Act, as amended from time to time;
 - (b) ICAO Annex 12, as amended from time to time;
 - (c) NAMCAR Part 179 (search and rescue services) and the associated technical standards as amended from time to time;
 - (d) the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, Volume I — Organization and Management, Volume II — Mission Co-ordination, and Volume III — Mobile Facilities (ICAO Doc 9731);
 - (e) Regional Supplemental Procedures as specified in ICAO Doc. 7030;
 - (f) charts and maps covering all areas within the search and rescue region;
 - (g) interface agreements with other organisations;
 - (h) SAR facility technical manuals or instructions;
 - (i) operations or procedures manuals for other SAR response agencies including the ministry of Works and Transport, Ministry of Home Affairs, and the Ministry of Defence; and
 - (j) local instructions and technical procedures;

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179.08.4 SAR event - records and reports

- 1.1 All actions taken in relation to a SAR event must be recorded in a SAR log maintained in the Rescue Coordination Centre (RCC) managing the SAR event. The receipt of all calls, documents and other correspondence or communication in relation to a SAR even must be recorded in the SAR log in the time order in which it was received. If this is not possible, the log entry must be made as close as possible to the time of receipt and marked out of sequence.

- 1.2 When a search has been terminated after successfully locating a missing aircraft or its occupants, the time of terminating the operation must be recorded, all outstanding documents and communications logged, and a line drawn under the event log entries to indicate that the SAR action has been completed.

- 1.3 When a search has been terminated without locating a missing aircraft or its occupants the time of suspending the search must be recorded along with the reasons for suspending the search.

- 1.4 When a search has been terminated without locating a missing aircraft or its occupants, all records, charts etc. must be retained and be accessible to SAR staff to allow easy resumption of search activity should further information be received.

- 1.5 Records relating to search and rescue operations, including air searches on behalf of other organisation, must be retained for a period of 5 years, unless otherwise specified by the President.

- 1.6 Reports on SAR actions must be generated as required for legal, management or training purposes.