GHANA CIVIL AVIATION

(AIR NAVIGATION SERVICES)

DIRECTIVES



PART 37: SEARCH AND RESCUE

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INTRODUCTION

Search and Rescue (SAR) is the search for and provision of lifesaving assistance to people in distress and imminent danger of loss of life. SAR is a humanitarian service, which is neither political nor commercial, requiring collaboration from all search and rescue agencies to achieve its purpose.

Part 37 of the Ghana Civil Aviation Air Navigation Services Directives prescribes detailed technical provisions that contain information necessary for the organization, coordination, and operation of search and rescue within the Accra Search and Rescue Region (SRR), which extends over Ghana, Benin, Togo and part of the South Atlantic, for which Ghana has accepted responsibility per regional air navigation agreement.

It further prescribes the national standards and requirements for persons and organizations requiring aeronautical search and rescue services in the Accra SRR. The standards and regulatory requirements in this Directive are based on those stipulated in Amendment 19 to Annex 12 (Search and Rescue), to the Convention on International Civil Aviation, with modifications as may be determined by the Ghana Civil Aviation Authority (GCAA).

This Directive is supplemented by the Regional Supplementary procedures (Doc7030), the AFI Air Navigation Plan and 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, to assist Ghana in meeting its search and rescue (SAR) needs and obligations accepted under the Chicago Convention.

The Air Traffic Services (ATS) Provider, as well as other SAR agencies in Ghana, are required to comply with the provisions contained in this Directive. The ATS Provider shall document local procedures in its operational manual to ensure the maintenance of and compliance with standards in this Directive. Where the ANSP is unable to comply with any provision in this Directive, it shall inform the Authority within a reasonable period of time and in writing, explaining the basis for its non-compliance and proposal for corrective action in a timely manner, to which the Authority may approve, subject to such other conditions it may impose.

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The Authority may issue as and when required, Instructions and Circulars, to this Directive, to ensure the effective provision of aeronautical search and rescue services within the Accra SRR. This Directive shall be reviewed periodically to reflect any amendments received or relevant information necessary to keep it up to date.

The primary objective of Search and Rescue is to save lives, therefore, individuals and organizations involved in aeronautical search and rescue service provision may use their discretion to take initiatives to achieve this goal. However, when exercising this discretion, the provisions in this Directive should serve as a guide and all relevant parties involved should be informed. In conclusion, all search and rescue agencies in Ghana must focus on continuous improvement and error prevention to enhance the overall effectiveness and efficiency of SAR services globally.

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37.2.7 SEARCH AND RESCUE MANUAL 7

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37.1 –GENERAL

37.1.1 APPLICABILITY

(1) This Directive shall apply to:

(a) Air Traffic Service Providers;

(b) Aeronautical Information Service Providers;

(c) Aeronautical Meteorology Service Providers;

(d) Aeronautical Telecommunication Service Providers;

(e) Search and Rescue Units;

(f) Ghana registered aircraft;

(g) Aircraft of other Contracting States operating in Ghana;

(h) Aircraft registered in another Contracting State that are operated by a person licensed by Ghana, and must be maintained in accordance with the standards of the aircraft State of Registry, wherever that maintenance is performed;

(i) Aircraft operating within the Accra Search and Rescue Region; and

(j) Aerodrome Operators in Ghana.

(2) Where necessary

37.1.2 DEFINITIONS

When the following terms are used in this Directive for search and rescue, they have the following meanings:

Accident means an occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down, in

which:
a) a person is fatally or seriously injured as a result of:
— being in the aircraft, or
— direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
— direct exposure to jet blast,
except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or
b) the aircraft sustains damage or structural failure which:
— adversely affects the structural strength, performance or flight characteristics of the aircraft, and
— would normally require major repair or replacement of the affected component,
except for engine failure or damage, when the damage is limited to a single engine (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or
c) the aircraft is missing or is completely inaccessible.

Note. For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified, by ICAO, as a fatal injury.

Note. An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

Aeronautical Information Publication (AIP) means a publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

Aircraft means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Alerting post means any facility intended to serve as an intermediary between a person reporting an emergency and a rescue coordination

centre or rescue sub-centre.

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

ARCC means Aeronautical Rescue Coordination Centre

Authority means the Ghana Civil Aviation Authority.

Designated Search and Rescue Provider means the agency designated by the Republic of Ghana to coordinate Aeronautical Search and Rescue within the Accra Search and Rescue Region.

Distress phase means 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.

Ditching means the forced landing of an aircraft on water.

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

EPIRB means Emergency Position Indicating Radio Beacon.

~~**ELT**~~Emergency Locator Transmitter (ELT) means a generic term (related to aircraft) describing equipment which broadcasts distinctive signals on designated frequencies and, depending on application, may be automatically or manually activated.
Note: May be suffixed with (AD) – automatic deployable, (AF) – automatic fixed, (AP) – automatic portable, (DT) – distress tracking or (S) – survival.

Flight Information Region means an airspace of defined dimensions within which flight information service and alerting service are provided.

Incident means an occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

Joint Rescue Coordination Centre (JRCC) means a rescue coordination centre responsible for both aeronautical and maritime

search and rescue operations.

NCA means the National Communication Authority

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

Person means any institution or organization equipped to assist in an aeronautical search and rescue operation, an organ of state, a government and an agency of the government of a foreign country.

Pilot-in-command means 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.

~~**PLB**~~Personal Locator Beacon (PLB) means a portable device, manually activated, which transmits a distress signal on 406 MHz, and may have an additional homing signal on a separate frequency.

Rescue means 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) means a unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

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

Search means an operation normally coordinated by a rescue coordination centre or rescue subcentre using available personnel and facilities to locate persons in distress.

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

Search and rescue facility means any mobile resource, including

designated search and rescue units, used to conduct search and rescue operations.

Search and rescue service means the performance of distress monitoring, communication, coordination and search and rescue functions, initial medical assistance or medical evac—uation, through the use of public and private resources, including cooperating aircraft, vessels and other craft and installations.

Search and rescue region (SRR) means an area of defined dimensions, associated with a rescue coordination centre, within which search and rescue services are provided.

Search and rescue unit means a mobile resource composed of trained personnel and provided with equipment suitable for the expeditious conduct of search and rescue operations.

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

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

Vessel means any water-navigable craft of any type, whether self-propelled or not

37.2 ORGANIZATION

37.2.1 SEARCH AND RESCUE SERVICES

(1) The Air Traffic Services (ATS) Provider shall be the designated aeronautical search and rescue service provider in Ghana and shall provide aeronautical search and rescue services on a 24-hour basis.

(2) The ATS Provider shall be responsible for coordinating and directing the prompt provision of aeronautical search and rescue services within the Accra SRR, in accordance with this Part, to ensure assistance is rendered to persons in distress.

(3) The ATS Provider shall organize and make available resources, including financial resources, communication facilities, and personnel skilled in the operation and coordination of aeronautical search and rescue.

(4) The ATS Provider shall establish processes to improve service provision, including the aspects of planning domestic and international cooperative arrangements and training.

(5) The ATS Provider shall provide assistance to aircraft in distress and to survivors of aircraft accidents, regardless of the nationality or status of such persons or the circumstances in which such persons are found.

(6) The ATS Provider shall 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.

(7) Where separate aeronautical and maritime RCC's or RSC's serve the same area, the ATS Provider shall – establish and facilitate the closest practicable coordination between the centres.

(8) The ATS Provider shall facilitate consistency and cooperation between its aeronautical and maritime search and rescue services.

(9) The ATS Provider shall cooperate in the establishment of a National Search and Rescue Coordination Committee and the development of a National SAR Plan to organize, coordinate and support search and rescue provision in Ghana and portions of other land and the high seas areas, for which it has accepted responsibility per regional air navigation agreements.

Note - The National SAR Coordinating Committee shall be made up of members listed in IS 37.2.1(9).

(10) ~~When deemed necessary by the National SAR Coordinating Committee~~, aA Joint Rescue Coordination Centre (JRCC) shall be established to coordinate aeronautical and maritime search and rescue operations in Ghana.

(11) The ATS Provider shall cooperate in the establishment of the Joint Rescue Coordination Centre (JRCC).

37.2.2 SEARCH AND RESCUE REGIONS

The Accra Search Rescue Region (SRR) stretches from LAT 11.04.01N 001 57.31W to 11.03 16N 002.37 04E and to the south of the equator 09.30S. This includes the land areas of Ghana, Togo, and Benin, and about 830NM of the Oceanic Region stretching from the coastline of these states, as shown in IS.37.2.2.

37.2.3 RESCUE COORDINATION CENTRES AND RESCUE SUBCENTRES

(1) The ATS Provider shall establish an aeronautical Rescue Coordination Centre in Ghana as the Accra ARCC, for the Accra Search and Rescue Region, and equip it with appropriate facilities and personnel to facilitate:

(a) the efficient organization of search and rescue services, and

(b) the coordination of search and rescue operations within the Accra Search and Rescue Region.

(2) The ATS Provider shall publish in the AIP, details of the Accra ARCC and a description of its areas of responsibility.

Note – Details to be published include the contact details of the Accra ARCC and related rescue units.

(3) The Accra ARCC shall be staffed 24 hours a day by trained personnel dedicated to the provision and coordination of aeronautical search and rescue.

(4) The search and rescue personnel of the Accra ARCC shall be proficient in the use of the English language used for radio-telephony communications, with a minimum of Level 4 in ICAO English proficiency scale.

(5) The Accra ARCC shall develop a written job description for each of its technical staff.

(6) The ATS Provider, through the ARCC, shall 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 within Ghana.

(7) In areas where the telecommunications facilities would not permit persons observing an aircraft in emergency to notify the Accra ARCC directly and promptly, the ATS Provider shall designate suitable units of public or private services, and such units shall be published as alerting posts in the AIP.

(8) The Accra ARCC shall maintain an accurate and complete database of search and rescue units and other search and rescue facilities and resources within Ghana and provide timely advice to the ATS Provider of any change in their readiness or capability.

(9) The Accra ARCC shall maintain up-to-date contact details in paragraph (8) in an Operations Control Directory.

(10) The Accra ARCC shall subscribe and maintain access to the Location of an Aircraft in Distress Repository (LADR).

Note.— Guidance on the use of the OPS Control Directory and the LADR is contained in the Manual on Global Aeronautical Distress and Safety System (GADSS) (Doc 10165).

(11) The conduct of oversight responsibilities of the Aeronautical Rescue Sub-Centres within the Accra Search and Rescue Region shall be by their national authorities, except when such responsibilities are delegated to the GCAA.

37.2.4 SEARCH AND RESCUE COMMUNICATIONS

(1) **The Accra ARCC shall have means of rapid and**reliable two-way communication with:

(a) associated air traffic services units;

(b) associated rescue subcentres;

(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 search and rescue units in the region;

(f) all maritime RCC's or RSC's in the region and aeronautical, maritime or joint RCC's 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 Accra search and rescue region.

(2) The rescue subcentre within the Accra SRR shall have means of rapid and reliable two-way communication with:

(a) adjacent rescue subcentres;

(b) meteorological office or meteorological watch office;

(c) search and rescue units;

(d) alerting posts;

(e) the Accra ARCC; and

(f) all maritime RSCs

37.2.5 SEARCH AND RESCUE UNITS

(1) The ATS Provider shall publish in the AIP elements of public or private services suitably located and equipped for search and rescue operations as Search and Rescue Units.

Note. the minimum units and facilities necessary for the provision of search and rescue operations within the ACCRA SRR, shall be determined by regional air navigation agreements as specified in the appropriate Air Navigation Plan and Facilities and Services Implementation Document publications.

(2) The ATS Provider shall designate as part of its search and rescue plan of operation, 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. , and have equipment capable of communicating any distress information with the designated mission control centre.

(3) All ELTs on board aircraft and all PLBs used during aviation sports activities shall be registered with the National Communications Authority.

Note. Specifications for Emergency Locator Transmitters are given in Part 23.3 of the Ghana Civil Aviation (ANS) Directives.

37.2.6 SEARCH AND RESCUE EQUIPMENT

(1) The ATS Provider, through the Accra ARCC, shall ensure that each Search and Rescue Unit has:

(a) equipment to promptly locate and provide adequate assistance at the scene of an accident.

(b) a rapid and reliable two-way communication with other search and rescue facilities engaged in the same operation.

(2) **Each search and rescue aircraft shall be equipped:**
(a) to be able to communicate on the aeronautical distress and on-scene frequencies and on such other frequencies as may be prescribed by the Authority; and

(b) with a device for homing on distress frequencies and any other frequencies prescribed by the Authority.

(3) Each search and rescue aircraft, when used for search and rescue over maritime areas, shall be equipped to be able to communicate with vessels.

Note. Many vessels can communicate with aircraft on 2182 kHz, 4125 kHz and 121.5 MHz. However, these frequencies, and in particular 121.5 MHz, may not be routinely monitored by vessels. Rather, vessels monitor Channel 16 (156.8 MHz), the international maritime distress, safety and calling frequency.

(4) Each search and rescue aircraft, when used for search and rescue over maritime areas carries a copy of the *International Code of Signals* to enable it to overcome language difficulties that may be experienced during communication with ships.

Note. The International Code of Signals is published in English, French and Spanish by the International Maritime Organization as documents ~~I~~ 994E, ~~I~~ 995F and ~~I~~ 996S.

(5) At least one of the aircraft participating in a search and rescue operation carries droppable survival equipment unless it is known that there is no need to provide supplies to survivors by air.

(6) There are, at appropriate aerodromes, survival equipment suitably packed for dropping by aircraft.

(7) Each search and rescue aircraft when used for search and rescue over maritime areas, may carry a droppable device for measuring actual surface drift.

~~The GCAA, through the ATS Provider, make available adequate funds to promote the effective organization and provision of aeronautical search and rescue services in Ghana.~~

37.2.7 SEARCH AND RESCUE MANUALS

The Accra ARCC, in coordination with the ATS Provider, shall;

(a) develop and keep updated a Search and Rescue Manual of Operations, to indicate how it intends to comply with the requirements set out in this Part;

(b) submit to the Authority the initial and subsequent modified copies of the Search and Rescue Manual of Operations and any other manuals prescribed by the Authority for approval;~~, and bear all costs associated with its approval~~.

(c) develop other SAR related~~generic~~ documents prescribed by the Authority, necessary for the effective implementation of a robust aeronautical search and rescue system in Ghana.

(d) keep both electronic and printed copies of the current manuals and other SAR related documents at the Accra ARCC.

(e) review the SAR Manual of Operations and other SAR related documents at least once every three (3) years.

37.3 COOPERATION

37.3.1 COOPERATION BETWEEN STATES

(1) The ATS Provider shall coordinate its search and rescue organization with those of neighbouring States, especially when the operations are proximate to adjacent search and rescue regions.

(2) The Accra ARCC, in coordination with the ATS Provider, shall, in so far as practicable, develop common aeronautical search and rescue plans and procedures to facilitate the coordination of search and rescue operations with those of neighbouring States.

(3) Subject to such conditions as may be prescribed by the Republic of Ghana, the ATS Provider shall 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.

(4) The authorities of a Contracting State who wish their search and rescue units to enter the Republic of Ghana for search and rescue purposes shall transmit a request, giving full details of the projected mission and the need for it, to the Accra ARCC or to such other agency designated by the Republic of Ghana.

(5) The Accra ARCC or such other agency designated by the Republic of Ghana shall:

(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.

(6) The Authority shall ensure that the ATS Provider signs SAR agreements with all neighbouring States, to strengthen search and rescue cooperation and coordination, while setting forth the conditions for entry of each other's search and rescue units into their respective territories.

(7) The above SAR agreements shall also provide modalities for expediting the entry of each other's SAR units with the least possible formalities.

(8) The ATS Provider shall authorize the Accra ARCC to:

(a) request from other RCCs or RSCs 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.

(9) The ATS Provider shall authorize the Accra ARCC to provide, when requested, assistance to other RCCs or RSCs, including assistance in the form of aircraft, vessels, persons or equipment.

(10) The ATS Provider, in coordination with the Accra ARCC, shall make arrangements for joint training exercises involving their search and rescue units, those of other States and operators, in order to promote search and rescue efficiency.

(11) The ATS Provider, in coordination with the ARCC, shall make arrangements for periodic liaison visits by personnel of the Accra ARCC to the RCCs or RSCs - of neighbouring States.

37.3.2 COOPERATION WITH OTHER SERVICES

(1) The ATS Provider, through the Accra ARCC, shall 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.

(2) The ATS Provider through the Accra ARCC shall ensure the closest practicable coordination with the Ghana Maritime Authority to provide for the most effective and efficient search and rescue services.

(3) The ATS Provider shall ensure that its search and rescue services cooperate with those responsible for investigating accidents and with those responsible for the care of those who suffered from the accident.

(4) The ATS Provider shall, when practicable, ensure that rescue units are accompanied by persons qualified in the conduct of aircraft accident investigations, to facilitate the investigative process.

(5) The Accra ARCC shall be the designated 24-hour Search and Rescue Point of Contact (SPOC), available for the receipt and acknowledgement of Cospas-Sarsat distress alert data that ensures timely notification to the responsible RCC for the initiation of appropriate search and rescue response action.

(6) The ATS Provider shall publish in the AIP the aeronautical search and rescue point of contact for the receipt of COSPAS-SARSAT distress data.

37.3.3 DISSEMINATION OF INFORMATION

(1) The ATS Provider shall publish and disseminate all information necessary for the entry of search and rescue units of other States into its

territory or, alternatively, include this information in SAR agreements as may be applicable.

(2) The ATS Provider shall make available any information regarding another State's search and rescue plans of operation that could benefit the provision of search and rescue services through the Accra ARCC or other agencies.

(3) The ATS Provider, in coordination with the Authority, shall, 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 a cause for public concern or require a general emergency response.

3.1 PREPARATORY MEASURES

3.1.1 PREPARATORY INFORMATION

(1) The Accra ARCC shall have readily available at all times up-to-date information concerning the following in respect of -the Accra Search and Rescue Region:

(a) search and rescue units, rescue subcentres and alerting posts;

(b) air traffic services units;

(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.

(2) The Accra ARCC shall 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) locations where supplies of droppable emergency and survival equipment are stored; and

(d) objects which it is known might be mistaken for unlocated or unreported wreckage, particularly if viewed from the air.

(e) the position, course and speed of aircraft that may be able to provide assistance to aircraft in distress;

(f) the position, course and speed of ships that may be able to provide assistance to aircraft in distress.

(3) The ATS Provider, in coordination with the Accra ARCC, shall individually or in cooperation with other States, either establish ship reporting systems in cooperation with maritime authorities or arrange communication links with Amver or regional ship reporting systems to facilitate search and rescue operations at sea.

Note. Amver is a cooperative international ship reporting system with worldwide coverage that is available for interrogation by all RCCs. A number of Contracting States also operate regional ship reporting systems.

3.1.2 PLANS OF OPERATION

(1) The Accra ARCC shall prepare detailed plans of operation for the

conduct of aeronautical search and rescue operations within the Accra SRR.—

(2) Search and rescue plans of operations shall be developed jointly with representatives of the 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.

(3) The plans of operation shall specify arrangements for the servicing and refuelling, to the extent possible, of aircraft, vessels and vehicles employed in search and rescue operations, including those made available by other States.

(4) The search and rescue plans of operation shall 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 Accra Search and Rescue Region;

(b) the use of available communication systems and facilities;

(c) the actions to be taken jointly with other RCCs and RSCs;

(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 RCCs and RSCs, 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.

(l) the methods for obtaining approval to allow search and rescue units from an assisting State to enter into the territory of Ghana.

(5) The Accra ARCC shall document the operating procedures in a Standard Operating Procedures (SOP) manual to provide a step-by-step guide in the execution of search and rescue missions.

(6) Where practicable, the search and rescue plans of operation shall be integrated with airport emergency response plans to provide for rescue services in the vicinity of aerodromes, including coastal aerodromes, and areas of water.

Note. – Part 14 requires the Aerodrome Operator to develop an Airport Emergency Response Plan (ERP).

3.1.3 SEARCH AND RESCUE UNITS

Each search and rescue unit in Ghana shall:

(a) be cognizant of all parts of the plans of operation prescribed in section 37.4.2 that are necessary for the effective conduct of its duties; and

(b) keep the Accra ARCC informed of its preparedness.

(c) maintain in readiness the required number of search and rescue facilities; and

(d) maintain adequate supplies of rations, medical stores, signalling devices and other survival and rescue equipment.

3.1.4 TRAINING AND EXERCISES

(1) To achieve and maintain maximum efficiency in search and rescue, the ATS Provider, in coordination with the Accra ARCC, shall provide for regular SAR training and arrange for appropriate search and rescue exercises for its search and rescue personnel.

(2) The Accra ARCC, in coordination with the ATS Provider, shall establish a training program for its staff and implement such training programs.

(3) Training in SAR shall consist of theoretical and practical knowledge of SAR operations.

(4) All SAR personnel of the Accra ARCC shall have basic training in aeronautical search and rescue.

(5) All SAR Personnel required to respond to an aircraft accident site shall be trained in the management of occupational health risks.

(6) *Note.— Guidance related to effective occupational health practices at aircraft accident sites is contained in the Manual of Aircraft Accident and Incident Investigation, Part I – Organization and Planning (Doc 9756) and Circular 315 – Hazards at Aircraft Accident Sites.*

(7) Additional training shall be provided for SAR Mission Coordinators and SAR Administrators as appropriate.

(8) The Accra ARCC, in coordination with the ATS Provider, shall develop and keep an updated SAR Training plan aligned with the SAR Training program for all its SAR personnel.

(9) The ATS Provider, in coordination with the Accra ARCC, shall provide periodic refresher training for all its SAR personnel to keep them in

readiness for SAR operations. The modalities for refresher training shall be included in the SAR Training Program.

~~37.4.4(8) All aeronautical SAR personnel shall have a minimum rating of ICAO Level 4 in English Language Proficiency~~

(10) The Accra ARCC ~~, in coordination with the~~ shall conduct communication verification SAR exercises at least twice a year, a coordination exercise at least once a year, and a full-scale exercise at least once every three years to involve all relevant search and rescue agencies in Ghana.

(11) The Accra ARCC shall collaborate with neighbouring states for the conduct of periodic joint SAR Exercises.

(12) The Accra ARCC shall develop a system for the maintenance of training records of its staff and all other SAR activities conducted.

3.1.5 WRECKAGE

(1) The ATS Provider shall ensure that search and rescue personnel who may be required to respond to an aircraft accident site are trained in the management of related occupational health risks.

Note. Guidance related to effective occupational health practices at aircraft accident sites is contained in the Manual of Aircraft Accident and Incident Investigation, Part I — Organization and Planning (Doc 9756) and Circular 315 — Hazards at Aircraft Accident Sites.

(2) The Authority in coordination with the Aircraft Accident and Incident Investigation Bureau (AIB) Ghana, ~~shall~~ will ensure that wreckage resulting from aircraft accidents within its territory or, in the case of accidents on the high seas or in areas of undetermined sovereignty, within the Accra Search and Rescue Region, is removed, obliterated or charted following completion of the accident investigation, if its presence might constitute a hazard or confuse subsequent search and rescue operations.

(3)

3.2 OPERATING PROCEDURES

3.2.1 INFORMATION CONCERNING EMERGENCIES

(1) Any authority or any element of the search and rescue organization having reason to believe that an aircraft is in an emergency shall give immediately all available information to the Accra ARCC.

(2) The Accra ARCC, shall immediately upon receipt of information concerning aircraft in emergency, evaluate such information and assess the extent of the operation required.

(3) When information concerning aircraft in emergency is received from other sources than air traffic services units, the Accra ARCC, shall determine to which emergency phase the situation corresponds and shall apply the procedures applicable to that phase.

3.2.2 PROCEDURES FOR RCC's DURING EMERGENCY PHASES

3.2.2.1 UNCERTAINTY PHASE

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

3.2.2.2 ALERT PHASE

Upon the occurrence of an alert phase, the Accra ARCC shall immediately alert search and rescue units and initiate any necessary action.

3.2.2.3 DISTRESS PHASE

(1) Upon the occurrence of a distress phase, the Accra ARCC shall:

(a) immediately initiate action by search and rescue 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 or RSCs, 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 but able to assist to:

(i) maintain a listening watch for transmissions from the aircraft in distress, survival radio equipment or an ELT; (ii) assist the aircraft in distress as far as practicable; and

(ii) inform the Accra ARCC of any developments.

Note. The frequencies contained in the specifications for ELTs given in Part 23.3, are 121.5 MHz and 406 .0 to 406.1 MHz. The Cospas-Sarsat 406 MHz channel assignment plan is contained in Cospas-Sarsat Document C/S T.012.

(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 appropriate accident investigation authorities; and

(j) notify the State of Registry of the aircraft.

(2) The order in which these actions are described shall be followed unless circumstances dictate otherwise.

3.2.2.4 INITIATION OF SEARCH AND RESCUE ACTION IN RESPECT OF AN AIRCRAFT WHOSE POSITION IS UNKNOWN

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 shall apply:

(a) When the Accra ARCC is notified of the existence of an emergency phase and is unaware of other centres taking appropriate action, it shall assume responsibility for initiating suitable action in accordance with 37.5.2 and confer with neighbouring RCCs with the objective of designating one RCC to assume responsibility forthwith.

(b) Unless otherwise decided by common agreement of the RCCs concerned, the RCC to coordinate search and rescue action shall be the centre responsible for:

(i) the region in which the aircraft last reported its position; or

(ii) the region to which the aircraft was proceeding

when its last reported position was on the line separating two search and rescue regions; or

(iii) the region to which the aircraft was destined when it was not equipped with suitable two-way radio communication or not under obligation to maintain radio communication; or

(iv) the region in which the distress site is located as identified by the Cospas-Sarsat system.

(c) After declaration of the distress phase, the RCC with overall coordination responsibility shall inform all RCCs or RSCs that may become involved in the operation of all the circumstances of the emergency and subsequent developments. Likewise, all RCCs or RSCs becoming aware of any information pertaining to the emergency shall inform the RCC that has overall responsibility.

3.2.2.5 PASSING OF INFORMATION TO AIRCRAFT IN RESPECT OF WHICH AN EMERGENCY PHASE HAS BEEN DECLARED

Whenever applicable, the RCC responsible for search and rescue action shall 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 on to the aircraft.

3.2.3 PROCEDURES WHERE RESPONSIBILITY FOR OPERATIONS EXTENDS TO TWO OR MORE CONTRACTING STATES

Where the conduct of operations is over the entire Accra Search and Rescue Region, each State involved ~~, namely Ghana, Togo and Benin~~, shall take action in accordance with the relevant plan of operations when so requested by the Accra ARCC.

3.2.4 PROCEDURES FOR AUTHORITIES IN THE FIELD

The authorities immediately directing the conduct of operations or any part thereof shall:

(a) give instructions to the units under their direction and inform the Accra ARCC of such instructions; and

(b) keep the Accra ARCC informed of developments.

3.2.5 PROCEDURES FOR TERMINATION AND SUSPENSION OF OPERATIONS

(1) Search and rescue operations shall continue, when practicable, until all survivors are delivered to a place of safety or until all reasonable hope of rescuing survivors has passed.

(2) The Accra ARCC shall normally be responsible for determining when to discontinue search and rescue operations within the Accra SRR. Alternatively, other appropriate States' authorities may make inputs in the decision-making process leading to the termination of SAR operations.

(3) When a search and rescue operation has been successful or when the Accra ARCC considers, or is informed, that an emergency no longer exists, the emergency phase shall be cancelled, the search and rescue operation terminated, and any authority, facility or service that has been activated or notified shall be promptly informed.

(4) If a search and rescue operation becomes impracticable and the Accra

ARCC concludes that there might still be survivors, the centre shall temporarily suspend on-scene activities pending further developments and shall promptly inform any authority, facility or service which has been activated or notified. Relevant information subsequently received shall be evaluated and search and rescue operations resumed when justified and practicable.

3.2.6 PROCEDURES AT DISTRESS SCENE

(1) When multiple facilities are engaged in search and rescue operations on-scene, the , Accra ARCC or the relevant associated rescue subcentre shall designate one or more 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.

(2) When a pilot-in-command observes that either another aircraft or a surface craft is in distress, the pilot shall, if possible and unless considered unreasonable or unnecessary:

(a) keep the craft in distress in sight until compelled to leave the scene or advised by the RCC or RSC that it is no longer necessary;

(b) determine the position of the craft in distress;

(c) as appropriate, report to the RCC or RSC or air traffic services 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) whether any distress signals, including distress beacon transmissions, have been received or observed;

(vii) on-scene weather conditions;

(viii) apparent physical condition of survivors;

(ix) apparent best ground access route to the distress scene;

(x) position and description of any other craft in the area that may assist; and

(d) act as instructed by the RCC or RSC or the air traffic services unit.

(3) If the first aircraft to reach the distress scene is not a search and rescue aircraft, it shall take charge of on-scene activities of all other aircraft subsequently arriving until the first search and rescue aircraft reaches the distress scene . If, in the meantime, such aircraft is unable to establish communication with the appropriate RCC or RSC or air traffic services unit, it shall, 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.

(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 shall, if practicable, drop communication equipment that would enable direct contact to be established, or convey the information by dropping a hard copy message.

(5) When a ground signal has been displayed, the aircraft shall indicate whether the signal has been understood or not by the means described in 37.5.6(4) or, if this is not practicable, by making the appropriate visual signal.

(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 shall do so by transmitting precise instructions by any means at its disposal. If no radio communication can be established, the aircraft shall make the appropriate visual signal.

Note. Air-to-surface and surface-to-air visual signals are published in the IS:37.5.8 and in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, Volume III — Mobile Facilities (Doc 9731). Volume III of Doc 9731.

(7) When carrying a device for measuring actual surface drift per the provisions in 37.2.6(**c**), a search and rescue aircraft shall drop the device as soon as it reaches the scene of an accident.

Note. The deployment of such devices will assist with search area planning accuracy and, therefore, minimize search times.

3.2.7 PROCEDURES FOR A PILOT-IN-COMMAND INTERCEPTING A DISTRESS TRANSMISSION

(1) Whenever a distress transmission is intercepted by a pilot-in- command of an aircraft, the pilot shall, 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 Accra ARCC, the appropriate associate RSC 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 distress position and;

(f) attempt to establish communications with the person or persons in distress.

(2) Whenever a pilot monitors 121.5 MHz, and intercepts a transmission from a distress beacon, the pilot shall also:

(a) record and report as soon as possible, the position where the transmission was first received;

(b) not alter any settings for squelch on the aircraft's radio; and

(c) if feasible, continue to monitor the frequency until such time as the signal ceases, and inform the appropriate rescue coordination centre or air traffic services unit of such.

Note. Retaining the existing settings for squelch from the time the transmission is first received until the signal ceases provides rescue coordination centres with the most accurate potential location of the distress beacon.

3.2.8 SEARCH AND RESCUE SIGNALS

(1) The air-to-surface and surface-to-air visual signals in the IS:37.5.8 shall, when used, have the meaning indicated therein. They shall be used only for the purpose indicated and no other signals likely to be confused with them shall be used.

(2) Upon observing any of the signals in the IS: 37.5.8, aircraft shall take such action as may be required by the interpretation of the signal given in IS: 37.5.8.

3.2.9 MAINTENANCE OF RECORDS

(1) The Accra ARCC shall keep a record of the operational efficiency of the organization of search and rescue within the Accra SRR.

(2) The Accra ARCC shall prepare appraisals of actual search and rescue operations within the Accra SRR. These appraisals shall comprise any pertinent remarks on the procedures used and on the emergency and survival equipment, and any suggestions for improvement of those procedures and equipment. Those appraisals which are likely to be of interest to other States shall be submitted to ICAO for information and dissemination as appropriate.

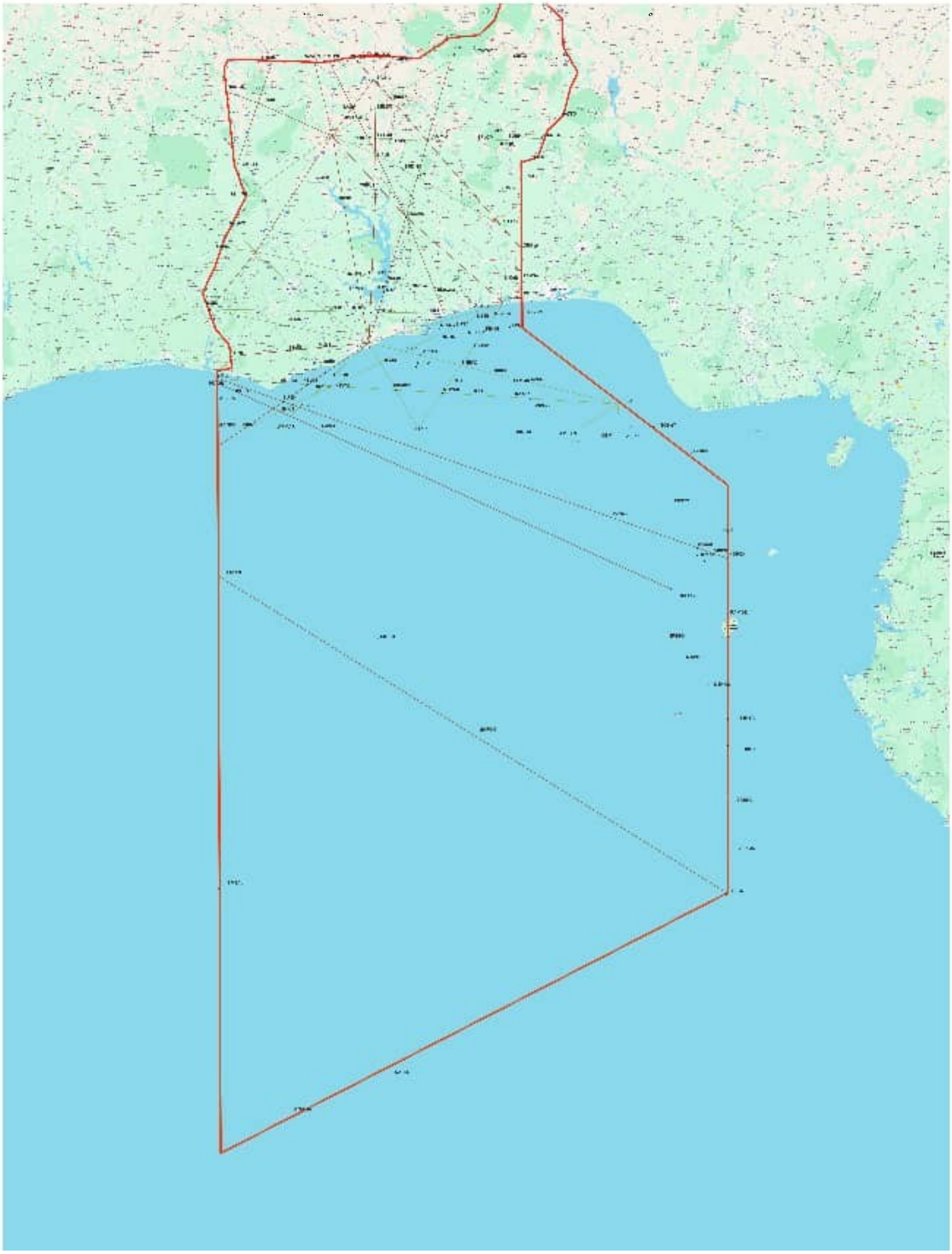
GHANA CIVIL AVIATION (AIR NAVIGATION SERVICES)DIRECTIVES

PART 37 – IMPLEMENTING STANDARDS

For ease of reference, the number assigned to each implementing standard corresponds to its associated regulation. For example, IS 37.2.1 would reflect a standard required in subsection 37.2.1

GCAA

IS: 37.2.2(1) - ACCRA SEARCH AND RESCUE REGION



IS: 37.2.1(12) **MEMBERS OF NATIONAL SAR COORDINATING COMMITTEE**

The National SAR Coordinating Committee shall be made up of the following members;

(a) Minister of Transport - Chairman
(b) Minister of Aviation
(c) Minister of Finance
(d) Minister of Defense
(e) Minister of Foreign Affairs and Regional Integration
(f) Minister of Health
(g) Minister for Local Government
(h) Chief of Staff
(i) Air Force Commander
(j) Minister for National Security
(k) Navy Commander
(l) Army Commander
(m) Inspector General of Police
(n) Controller General of Ghana Immigration Service
(o) Commissioner, Customs Division, Ghana Revenue Authority
(p) Director General of Ghana Meteorological Agency
(q) Director General (Air Navigation Service Provider)
(r) Director General of Ghana Civil Aviation Authority - (Secretary)
(s) Director General of Ghana Maritime Authority.
(t) Director National Disaster Management Organization.
(u) Managing Director of the Ghana Ports and Harbours Authority
(v) Managing Director of Ghana Airports Company Limited
(w) Commissioner General of Ghana Revenue

Authority.

(x) Director of Forestry.

IS: 37.5.8 SEARCH AND RESCUE SIGNALS

1. SIGNAL WITH SURFACE CRAFT

(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:

(i) rocking the wings; or

(ii) opening and closing the throttle; or

(iii) changing the propeller pitch.

Note. Due to high noise level on board surface craft, the sound signals in 2) and 3) 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.

Repetition of such manoeuvres has the same meaning.

(2) 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.

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

(3) for acknowledging receipt of signals:

(a) the hoisting of the "code pennant" (vertical red and white stripes) close up (meaning understood);

(b) the flashing of a succession of "T's" by signal lamp in the Morse code;

(c) the changing of heading to follow the aircraft.

(4) for indicating inability to comply:

(a) the hoisting of the international flag "N" (a blue and white checkered square);

(b) the flashing of a succession of "N's" in the Morse code.

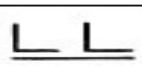
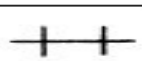
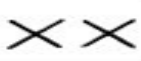
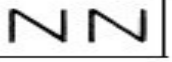
Note. See Note following 1.1 b), 3).

3. Ground-air visual signal code

2.1 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	
4	Yes or Affirmative	
5	Proceeding in this direction	

No.	Message	Code symbol
1	Operation completed	
2	We have found all personnel	
3	We have found only some personnel	
4	We are not able to continue. Returning to base	
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	

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

Note 1.— *Symbols may be formed by any means such as: strips of fabric, parachute material, pieces of wood, stones or such like material; marking the surface by tramping, or staining with oil.*

Note 2.— *Attention to the above signals may be attracted by other means such as radio, flares, smoke and reflected light.*

3. Air-to-ground signals

3.1 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;

b) during the hours of darkness:

— flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

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

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