



Civil Aviation Authority

Guidance Material

for

CAR-176

Civil Aviation Regulation

Search and Rescue

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Contents

Corrigendum of Amendments	3
FOREWORD	5
SUBPART A - GENERAL	6
CAR 176.001 Applicability	6
CAR 176.003 Definitions.....	6
SUBPART B – ORGANIZATION	7
CAR 176.101 Search and Rescue Services.....	7
CAR 176.103 Search and Rescue (SAR) Regions (SRR)	8
CAR 176.105 Rescue Coordination Centers and Rescue Subcenters	8
CAR 176.107 Search and Rescue Communications.....	8
CAR 176.109 Search and Rescue Units	9
CAR 176.119 Reporting System.....	9
CAR 176.121 SAR Operation Manuel	10
SUBPART C – COOPERATION.....	11
CAR 176.201 Cooperation Between States	11
CAR 176.203 Cooperation with Other Services.....	12
CAR 176.205 Dissemination of Information.....	13
SUBPART D – PREPARATORY MEASURES.....	14
CAR 176.303 Plans of Operation	14
CAR 176.305 Search and Rescue Units	14
CAR 176.307 Training and Exercises	15
CAR 176.403 Procedures for Rescue Coordination Centers During Emergency Phases.....	16
CAR 176. 417 Maintenance of Records.....	16

FOREWORD

- 1) This Guidance Material has been issued by the civil aviation authority of Oman - DGCAR (hereinafter referred to as CAA or “the Authority”) under the provisions of the Civil Aviation Law of the Sultanate of Oman.
- 2) Civil Aviation Regulation 176 (CAR 176), *Search and Rescue*, prescribes the requirements for all organizations and entities that are delegated by the Authority to provide search and rescue services for domestic and international civil aviation aircraft operating in the Muscat Flight Information Region (FIR). For purposes of CAR 176 and this associated Guidance Material, the delegated search and rescue organizations and entities are hereinafter referred to as “the DELEGATE”.
- 3) For CAR 176 elements that are not covered by this Guidance Material, the intent is that there is sufficient detail in the original CAR element itself that precludes any further explanation.
- 4) Requests for additional explanation, clarification, or questions can be sent to the Air Navigation Safety Department (ANSO) of the CAA DGCAR.
- 5) As amendments are made to the original CAR, this Guidance Material shall be reviewed to ensure continued applicability.
- 6) The editing practices used in this document are as follows:
 - (a) ‘Shall’ and ‘Must’ are used to indicate a mandatory requirement and may appear in this CAR.
 - (b) ‘Should’ is used to indicate a recommendation.
 - (c) ‘May’ is used to indicate discretion by the AUTHORITY, or the DELEGATE, as appropriate.
 - (d) ‘Will’ indicates a mandatory requirement and is used to advise of action incumbent on the AUTHORITY.

Note: The use of the male gender implies the female gender and vice versa.

SUBPART A - GENERAL**CAR 176.001 Applicability**

To provide a Search and Rescue service in the Flight Information Region of Oman (the Muscat FIR), the organization or entity must be delegated and/or certified by CAA in accordance with the operating and technical standards of this CAR.

CAR 176.003 Definitions

The definitions in ICAO Annex 12, *Search and Rescue*, have been the basis for the definitions in CAR 176.

SUBPART B – ORGANIZATION**CAR 176.101 Search and Rescue Services**

(1) The Search and Rescue Region (SRR) for Oman coincides with the Muscat Flight Information Region (FIR). Within the SRR are the Rescue Coordination Center (RCC) in Muscat and three Rescue Subcenters (RSC); these are Muscat, Masirah and Salalah. The AUTHORITY's delegated SAR provider may cover the RCC and all three RSCs, or the AUTHORITY may delegate SAR provision to more than one SAR provider. Additionally, the DELEGATE may provide SAR service individually or in cooperation with other States.

Regardless of the SAR arrangement, all SAR services are to be made available on a 24-hour basis.

- (a) Those portions of the high seas or areas of undetermined sovereignty for which search and rescue services will be established shall be determined on the basis of ICAO Middle East regional air navigation agreements. The DELEGATE, having accepted the responsibility to provide search and rescue services in such areas shall thereafter, individually or in cooperation with other States, arrange for the services to be established and provided in accordance with the provisions of CAR 176.
- (b) The DELEGATE for SAR must have:
- a legal framework such as a Letter of Agreement with the Authority;
 - its own responsible authority;
 - organized and available resources including the provision of SAR vessels, aircraft and equipment;
 - communication facilities for rapid communication between the RCC and RSCs including the RCCs from adjacent States;
 - a sufficient workforce that is skilled in SAR coordination and operation functions; and job descriptions for its technical staff.
- (c) The Delegate for SAR shall engage, employ or contract:
- An Accountable Manager who has the authority within the applicant's organization to ensure that each aspect of SAR service listed in its exposition can be financed and provided in accordance with the requirements; and
 - A Head of SAR Operations responsible for ensuring that the organization complies with the SAR provision requirements for this CAR.
 - A Head of SAR Training responsible for ensuring that the organization complies with the training.
 - Sufficient personnel to manage, supervise, provide and support the provision of the SAR service and any associated training or assessment
- (d) The Delegate for SAR shall establish procedures to ensure the competence of those personnel who:
- Supervises personnel providing the SAR service; and
 - provide training and regular assessment for the SAR service and
 - provide immediate operational support for the SAR service; and
 - Provide personnel written evidence of the scope of their authorization; and
 - Ensure that those personnel hold appropriate current certificates and endorsements, as appropriate,
 - Ensure that those personnel only exercise the privilege of their endorsements if they are familiar with all relevant and current information; and
 - Ensure that no person whose function is critical to the safety of aviation (safety sensitive personnel) shall undertake that function while under the influence of any psychoactive substance, by reason of which human performance is impaired, and that they shall not engage in any problematic use of substances;

- (2) For those areas that the DELEGATE has accepted responsibility to provide SAR service, the DELEGATE shall use SAR units and other available facilities to assist any aircraft, regardless of nationality, or its occupants that are, or appear to be, in a state of emergency.
- (3) If within the same SAR area, the maritime SAR service is a separate entity from the aeronautical SAR service, the DELEGATE shall ensure the closest practicable coordination between the two SAR entities, preferably documented in a Letter of Agreement.

CAR 176.103 Search and Rescue (SAR) Regions (SRR)

Although the DELEGATE shall establish the SRRs where it will provide SAR service, this should be done in coordination with the AUTHORITY so as to ensure that the entire FIR is covered. In any event, such regions shall not overlap and shall be contiguous with adjacent SRRs.

CAR 176.105 Rescue Coordination Centers and Rescue Subcenters

- (1) The DELEGATE shall ensure that it establishes at least one rescue coordination center in each search and rescue region.
- (2) Each rescue coordination center and, as appropriate, rescue subcenter, shall be staffed 24 hours a day by trained personnel proficient in the use of the English language used for radiotelephony communications.
- (3) In areas where public telecommunications facilities would not permit persons observing an aircraft in emergency to notify the rescue coordination center and rescue subcenters concerned directly and promptly,
- (4) The Delegate should designate suitable units of public or private services as alerting posts.

CAR 176.107 Search and Rescue Communications

- (1) Each rescue coordination center shall have means of rapid, such as a direct-speech circuit and reliable, with redundancy, two-way communication with:
 - (a) associated air traffic services units;
 - (b) associated rescue subcenters;
 - (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 rescue coordination centers in the region and aeronautical, maritime or joint rescue coordination centers in adjacent regions.

Note: Maritime rescue coordination centers are identified in relevant documents of the International Maritime Organization.;

- (g) a designated meteorological office or meteorological watch office;
 - (h) search and rescue units;
 - (i) All designated alerting posts; and
 - (j) Associated police forces;
 - (k) the COSPAS-SARSAT Mission Control Centre servicing the search and rescue region.
- (2) Each rescue sub-center shall have means of rapid and reliable two-way communication with:
 - (a) The RCC
 - (b) adjacent rescue subcenters;
 - (c) Associated air traffic services

- (d) Associated police forces
- (e) a meteorological office or meteorological watch office;
- (f) search and rescue units; and
- (g) alerting posts.
- (h) Associated aviation and maritime security and surveillance centers

CAR 176.109 Search and Rescue Units

In addition to the DELEGATE's own SAR units and facilities, the DELEGATE shall designate the following through documented coordination:

- elements of public or private services suitably located and equipped for search and rescue operations; and
- elements of public or private services that do not qualify as search and rescue units but are nevertheless able to participate in search and rescue operations.

Examples of public services may include:

- other military organizations such as the navy, army, marines and coast guard;
- the Royal Oman Police (ROP);
- fire-fighting units;
- hospitals, clinics, medical facilities and ambulance services; and other Omani Ministries or Public Authorities.

Examples of private services may include:

- entities located in non-populated areas such as crude oil production facilities;
- entities that have vessels and are engaged in maritime operations such as fishing and transportation;
- entities that have vehicles capable of operating in desert or mountainous terrain; entities that have aircraft and/or helicopters capable of operating in VFR conditions; and entities that have light and/or heavy machinery if needed to reach remote locations.

CAR 176.119 Reporting System

- (a) The Delegate shall establish a reporting system covering documentation of occurrences that occur during the conduct of SAR operations.
- (b) The Delegate shall notify any such occurrences to the Authority within three days containing explanation of the event and specifying any proposed mitigation measures.

Note - For the purposes of this CAR, a SAR Occurrence is defined as 'Any event associated with the policy, practices, procedures, training, coordination or conduct of SAR operations that could create a hazard to the safety of search and rescue operations or seriously compromise the provision of search and rescue services.'

CAR 176.121 SAR Operation Manual

The Delegate for a SAR Service shall provide a SAR operations manual containing the following:

1. The procedures required to meet the needs of CAR 176 are met
2. The procedures required regarding the competency, qualifications and maintenance of proficiency of personnel
3. The processes associated with the reporting system
4. The methodology of maintaining an up-to-date document library as required
5. The procedures required regarding the collection, retention, maintenance, access to and disposal of records
6. The procedures required to meet the reporting with respect to service disruptions
7. The processes required regarding the provision of SAR operations;
8. The procedures required to maintain the communication facilities
9. The procedure required to maintain the SAR Unit database
10. The coordination and cooperation arrangements
11. The procedures required regarding the establishment and maintenance of cooperative agreements with other SAR Service Providers in adjacent SRRs;
12. The procedures required regarding the publication and dissemination of the information required by collaboration and cooperation with other services;
13. The procedures required regarding the cooperation arrangements with ATS
14. The procedures required regarding the cooperation arrangements with other authorities domestic and international
15. The procedures required regarding the assurance of the availability of up to-date data
16. The procedures required regarding the plan of operations for conducting SAR operations
17. The procedures required regarding the evaluation of information regarding an aircraft emergency;
18. The procedures required regarding the declaration of emergency phases and the subsequent actions to be taken;
19. The procedures required regarding the initiation of SAR operations in respect of aircraft whose position is unknown;
20. The procedures required regarding the termination and suspension of SAR operations
21. The applicant's manual must be acceptable to the Authority.

SUBPART C – COOPERATION**CAR 176.201 Cooperation Between States**

- (1) The Delegate shall coordinate their search and rescue organizations with those of neighboring States.
- (2) The coordination should be documented in the form of a Letter of Agreement or similar document and should be periodically reviewed to ensure applicability with a view to:
 - (a) Strengthening SAR cooperation and coordination;
 - (b) Specifying the conditions for entry of each other's' SRUs into their respective territories; and
 - (c) Expediting entry of such SRUs.
- (3) The Delegate shall include in agreements of cooperation with SAR service providers of contiguous States information concerning its SAR services and capabilities including details of SAR Units able to assist in the conduct of SAR operations in contiguous SRRs.
- (4) The Delegate shall publish and disseminate all information necessary for the entry of SRUs of other States into its territory or, alternatively, include this information in formal SAR agreements.
- (5) The Delegate shall coordinate SAR operations that are proximate to contiguous SRRs with SAR providers of those States.
- (6) The Delegate shall encourage, to the fullest extent possible, operators of all aircraft, vessels and appropriate local services and facilities which do not form part of the SAR organization to cooperate fully, as their capacities allow, in the planning and conduct of SAR operations.
- (7) The Delegate shall establish formal, documented agreements of cooperation, that are acceptable to the Authority, with air traffic service providers within the State that clearly define respective responsibilities in providing emergency response services to civil aircraft including the exchange of flight plan and operational data, communication services, temporary attribution of staff and other specialized services as may be deemed necessary from time to time.
- (8) The Delegate shall cooperate, as far as practicable, with all properly accredited authorities and entities investigating incidents and accidents.
- (9) The Delegate shall designate a SAR Point of Contact for receipt of crash alert and location messages and associated data from authorities and users of the Cospas-Sarsat system.
- (10) The Delegate shall recommend and prepare documentation for declaration of a Restricted Area by the responsible ATS authority whenever deemed necessary for safe and efficient SAR operations.
- (11) The Delegate shall seek to arrange joint training exercises involving their SRUs and those of other States.
- (12) The SAR service provider shall seek to arrange:
 - a. Periodic liaison visits for RCC and RSC staff to cooperating entities within OMAN and ATS and SAR service providers in contiguous States;
 - b. Attendance at local, regional and international meetings of SAR authorities.

(l) The Delegate shall seek to encourage the closest possible cooperation and coordination with relevant aeronautical, maritime and military emergency response authorities.

(13) Subject to such conditions as may be prescribed by its own authorities, a Delegate shall permit immediate entry into its territory of search and rescue units of other States for the purpose of searching for the site of aircraft accidents and rescuing survivors of such accidents. In prescribing the conditions to permit immediate entry, pre-coordinated arrangements should be made and documented so as to allow a minimum amount of elapsed time from when the neighboring State requests entry until the permission is granted.

(14) The authorities of an ICAO Contracting State who wish their search and rescue units to enter the territory of the Delegate for search and rescue purposes shall transmit a request, giving full details of the projected mission and the need for it, to the rescue coordination center of the Delegate concerned or to such other authority as has been designated by the DELEGATE. As stated in (13) below, the Delegate should already have documented 'on file' any specific requirements needed for immediate entry. These requirements may be different for each adjacent State. The authorities of the Delegate shall:

- (1) immediately acknowledge the receipt of such a request;
- (2) as soon as possible, indicate the conditions, if any, under which the projected mission may be undertaken; and
- (3) provide, when requested, assistance to the other RCCs in the form of aircraft, vessels, persons or equipment.

CAR 176.203 Cooperation with Other Services

(a) The Delegate 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. Consideration should be given to establishing and documenting arrangements beforehand with appropriate public and private facilities as identified in the Guidance Material for CAR 176.101, *Search and Rescue Units*.

(b) Information Publication (AIP). The Delegate should periodically review the AIP and the COSPASSARSAT website to ensure the contact information is both the same and up-to-date. The website address is <<https://cospas-sarsat.int>>.

(c) Each search and rescue unit designated pursuant to these regulations to operate an RCC shall ensure that the RCC shall be capable of rapid and reliable two-way communication with:

1. Associated air traffic services;
2. Associated rescue sub-centers;
3. Appropriate direction-finding and position-fixing stations in the SULTANTE OF OMAN SRR;
4. The appropriate operations centers of SRUs in the Sultanate of Oman SRR;
5. The MRCCs in OMAN SRR and all ARCCs, MRCCs and JRCCs in adjacent SRRs;
6. Designated meteorological offices and meteorological watch offices in OMAN SRR;
7. All designated SRUs;
8. All designated alerting posts;
9. Associated police forces;

10. The Cospas-Sarsat Mission Control Centre servicing OMAN SRR or the relevant SPOC, as appropriate; and

11. All aviation and maritime security and surveillance centers in OMAN SRR.

(d) The search and rescue unit designated pursuant to these regulations to operate an RSC within Oman SRR shall ensure that the RSC has means of rapid and reliable two-way communication with:

1. The RCC;
2. Associated air traffic services;
3. Associated police forces;
4. Adjacent rescue sub-centers;
5. Associated meteorological office or meteorological watch office;
6. Appropriate designated SRUs;
7. Appropriate designated alerting posts; and
8. Associated aviation and maritime security and surveillance centers in OMAN SRR.

CAR 176.205 Dissemination of Information

Further to CAR 176.201, the Delegate 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 search and rescue service arrangements.

SUBPART D – PREPARATORY MEASURES

CAR 176.303 Plans of Operation

1. The SAR service provider shall prepare detailed plans with procedures of operation for the safe and effective conduct of SAR operations within Oman SRR
2. Each RCC is responsible for preparing comprehensive plans for the conduct of SAR in its SRR and for coordinated actions within adjacent SRRs. These plans must cover the whole SRR and be based on agreements between the SAR service and the providers of facilities or other support for SAR operations. Plans are intended to be valuable aids for time-critical search planning and SAR coordination processes. Each RCC and RSC should develop plans that:
 - meet the requirements of applicable international SAR manuals;
 - cover all the emergency scenarios likely to occur within the SRR;
 - are reviewed and updated regularly; and
 - are in a convenient form for quick and easy use.
3. Each RCC should prepare comprehensive plans of operation for its SRR, and take into account agreements with providers of facilities or other support for SAR operations. The plans of operation should be brought up to date whenever a change in conditions or experience in actual operations and exercises makes this necessary or advisable.
4. The location of the RCC and the description of its area of responsibility should be published in a national document (e.g. the Aeronautical Information Publication (AIP) and annual Notices to Mariners). The plans of operation should include information on the following general categories:
 - procedures for SAR coordination and types of SAR operations;
 - responsibilities of personnel assigned to SAR operations;
 - facilities;
 - communications;
 - operational information; and
 - training and discussion
5. Search and rescue plans of operations should 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.
6. Search and rescue plans of operation should be integrated with airport emergency plans to provide for rescue services in the vicinity of aerodromes including, for coastal aerodromes, areas of water.

CAR 176.305 Search and Rescue Units

- (1) Airborne SAR Units shall carry equipment for promptly locating the site of an accident, including direction finding equipment with a homing capability on 406MHz and aviation distress frequencies, and for providing adequate and timely assistance to survivors.
- (2) Airborne SAR Units shall be equipped to be able to communicate on the aeronautical and maritime distress and on-scene radio frequencies.
- (3) Airborne SAR Units designated for SAR operations over maritime areas shall be equipped to be able to communicate with vessels and to receive signals from Automatic Identification Systems carried by ships and lifeboats in accordance with the Global Maritime and Distress Safety System administered by the International Maritime Organization.
- (4) Airborne SAR Units designated for SAR operations over maritime areas shall carry a copy of the “International Code of Signals” (IMO Sales Numbers IA994 E) to assist in communication with ships.

- (5) Airborne SAR Unit shall be equipped to be able to communicate with other SAR Units and

facilities engaged in SAR operations.

- (6) Airborne SAR Units shall carry Volume III, "Mobile Facilities", of the International Aeronautical and Maritime Search and Rescue manual.
- (7) Helicopter SAR Units designated for night time rescue operations shall be equipped with night vision enhancement devices.
- (8) Helicopter SAR Units shall be equipped with a rescue winch.
- (9) Helicopter SAR Units designated for night time rescue operations shall be equipped with four axis automated flight control systems to enable the conduct of winching procedures.

Note: "SAR Unit" means "a mobile resource composed of trained personnel and provided with equipment suitable for the conduct of search and rescue operations.

CAR 176.307 Training and Exercises

- (1) The service provider must ensure that as per (d), the following types of training are provided
 - initial training; refresher (recurrent) training;
 - on-the-job (OJT) training;
 - specialized training for new facilities, procedures and equipment; and
 - human factors training.
- (2) To achieve and maintain maximum efficiency in search and rescue, the DELEGATE shall provide for regular training of their search and rescue personnel and arrange appropriate search and rescue exercises. The training and exercises conducted by search and rescue personnel shall be recorded in accordance with CAR 176.417.
- (3) In conducting SAR training exercises, exercises with neighboring States should also be conducted so as to ensure the efficient cooperation between States.
- (4) When practicable, and subject to the DELEGATE's requirements, the SAR inspectors of the CAA Air Navigation Safety Department should be allowed to observe SAR training exercises to ensure overall performance and compliance with CAR 176.
- (5) The Delegate shall ensure All SAR specialists need training, in particular, the SCs, RCC chiefs, SMCs, RCC staff, OSCs, ACOs and SRUs
- (6) The Delegate shall ensure that Operational facilities which need training include:
 - RCCs and RSCs;
 - aeronautical units;
 - maritime units;
 - land units;
 - specialized units (pararescue, paramedical, desert rescue, mountain rescue, urban SAR teams that deploy to disasters, divers, etc.); and
 - supply depots.
- (7) The Delegate shall ensure that initial and recurrent training of all RCC and, as appropriate, RSC operational and immediate supervisory staff is conducted to a syllabus that:
 - (a) Includes the content of IAMSAR guidance material.;
 - (b) Pays due regard to:
 - aviation law;
 - rules of the air;
 - air traffic control;
 - aeronautical charts;
 - aeronautical information;
 - aircraft accident and incident investigation;

- aircraft performance;
- airspace management;
- Cospas- Sarsat
- Fatigue factors
- aeronautical communications including proficiency in the English and language;

(c) Is acceptable to the Authority.

(8) The Delegate shall ensure that RCC and, as appropriate, RSC staff are given regular proficiency training and exercises to maintain skills, knowledge and attitudes as appropriate to the provision of civil aviation SAR services to domestic and international civil aviation operations. The training and exercises shall be acceptable to the Authority.

CAR 176.403 Procedures for Rescue Coordination Centers During Emergency Phases

As part of its training program, the DELEGATE should ensure that its technical staff review and are familiar with the various procedures for RCCs during emergency phases including:

- Uncertainty phase;
- Alert phase; and
- Distress phase.

Additionally, the DELEGATE should include as part of its refresher training:

- the initiation of search and rescue action in respect of an aircraft whose position is unknown; and
- the passing of information to aircraft in respect of which an emergency phase has been declared.

CAR 176. 417 Maintenance of Records

(a) Each rescue coordination center shall keep a record of the operational efficiency of the search and rescue organization in its region including the training records for their technical staff. The training records may be either hard or soft copy, and should be retained for the duration of the technical person's tenure in the SAR organization.

(b) Each rescue coordination center shall prepare appraisals of actual search and rescue operations in its region. These appraisals should 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 should be submitted to ICAO for information and dissemination as appropriate. These appraisals should also be kept on file for a minimum of three years.

END