

STATE OF LIBYA
MINISTRY OF TRANSPORT
CIVIL AVIATION
AUTHORITY



دولة ليبيا
وزارة المواصلات
مصلحة الطيران المدني

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AIR AMBULANCE OPERATIONS – CERTIFICATION REQUIREMENTS

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Approved by:



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Capt. Nasereddin Shaebelain
Director General

Section 1 – General

1. Applicability.

This AC:

- 1.1. Prescribes the standards and requirements for any air ambulance services certification and the general operating rules for holders of the certificates;
- 1.2. Establishes the minimum acceptable standards of service common to public and private sectors in the rotor and fixed -wing categories, and medical care units for specialized transport systems.

2. Scope.

The requirements cited in this AC applies to all organisations in the State of Libya specialised in air transport of persons requiring medical care including but not limited to:

- (a) Basic life support (BLS)
- (b) Advanced life support (ALS)
- (c) Critical care; or
- (d) Specialty care.

3. Definitions.

For the purpose of this AC the following terms are defined according to their use in this AC:

- **Complex motor-powered aircraft** means:
 - i. an aeroplane:
 - with a maximum certificated take-off mass exceeding 5700 kg, or
 - certificated for a maximum passenger seating configuration of more than nineteen, or
 - certificated for operation with a minimum crew of at least two pilots, or
 - equipped with (a) turbojet engine(s) or more than one turboprop engine, or
 - ii. a helicopter certificated:
 - for a maximum take-off mass exceeding 3175 kg, or
 - for a maximum passenger seating configuration of more than nine, or
 - for operation with a minimum crew of at least two pilots,
- **Advanced life support (ALS)**: means advanced pre- hospital and inter facility care and treatment, as authorized by regulation, which may be performed only by a person licensed by the Ministry of Health as emergency medical technician paramedic, or licensed by the Armed Forces Medical Core.
- **Air Ambulance**: An aircraft that is an ambulance.
- **Air Ambulance Service**: means any governmental or private service that provides air transportation specifically designed to accommodate the medical needs of a person who is ill, injured or otherwise mentally or physically incapacitated and who requires in-flight medical supervision.
- **Aircraft type**: means a particular make and model of helicopter or fixed wing aircraft.
- **Aircraft operator**: means the owner who operates and maintains the aircraft utilized by an air ambulance service.
- **Basic life support (BLS)**: means the medical and equipment required to provide basic life support to patients.
- **Certification Evaluation Team**: means a permanent Team appointed by Libyan Civil Aviation Authority leading by (FOI) Flight Safety Department, whose duties will include

initial or subsequent inspection of air medical services seeking certification, or of those already certified.

- **Critical care:** means pre-hospital or inter-facility care and treatment, respectively, that exceeds the advanced life support level of care.
- **Critical care air ambulance service:** means an organization certified by the (LYCAA) to transport patients in an air ambulance that requires critical care.
- **Libyan Civil Aviation Regulations (LYCARs):** means regulations promulgated by the Civil Aviation Authority governing the operation of all Civil aircraft in the State of Libya.
- **Level of service:** means the highest level at which the air ambulance service is certified.
- **Medical director:** means a physician who has the responsibility for oversight of patient care of an Emergency Medical Service system or provider service, including providing for or ensuring the medical control of emergency medical technicians, the development, implementation, and evaluation of medical protocols, and quality assurance activities.
- **Physician:** means a doctor of medicine or doctor of emergency and accident, who's licensed or otherwise authorized to practice medicine in the State of Libya.
- **Protocol:** means a predetermined, written medical care plan and includes standing orders.
- **Provider:** means a person who has been licensed by the appropriate agency to provide patient care at the ALS, critical or specialty care level.
- **State aircraft:** Aircraft used in military, customs and police services shall be deemed to be state aircraft.
- **Specialty care:** means care and treatment that exceeds the advanced life support level of care. The specialty care mission shall consist of at least one specialty care provider and at least one additional provider which shall be licensed at or above the ALS level of care, and/or specialty trained in the area of care required.
- **Specialty care provider:** means a caregiver appropriately trained and licensed to provide care as defined by the mission.

Section 2 - Certification Requirements and Procedures

4. Required Certificates.

No person shall operate an air ambulance in the State of Libya unless the person has a current and valid air ambulance service certificate.

5. Eligibility for air ambulance service certificate.

5.1. To be eligible for an air ambulance service certificate, an applicant shall:

- 5.1.1 Own a registered complex motor-powered aircraft
 - 5.1.2 Hold the following issued by the Libyan Civil Aviation Authority (LYCAA);
 - (a) A Current and valid Air Operator Certificate authorizing common carriage under LYCAR- Part ORO, CAT & Part SPA.
 - (b) A Current and valid operations specifications authorizing air ambulance operations.
 - (c) Current and valid certificate of Registration for each air ambulance to be operated; and
 - (d) A Current and valid Airworthiness certificate for each air ambulance to be operated.
 - 5.1.3 Have Current and valid liability insurance coverage for the air ambulance service.
 - 5.1.4 Have Current and valid malpractice insurance coverage for air ambulance service; and
 - 5.1.5 Have a system and procedure for the disposal of the medical remnants.
 - 5.1.6 Comply with all applicable requirements of this AC.
- 5.2. To maintain eligibility for an air ambulance service certificate, an air ambulance service shall meet the requirements of 5.1.2 to 5.1.5

6. Certification Process for Air Ambulance/EMS Approval.

6.1 PRE-APPLICATION PHASE

A. The applicant for initial AOC certification may include the request for air ambulance approval in the original Pre-Application Statement of Intent.

- Existing AOC holders may simply advise the LYCAA via e-mail or letter and request a Pre-Application Meeting.

B. The LYCAA will provide a Pre-Application Meeting for the applicant at a convenient time to be arranged.

6.2 INITIAL APPLICATION REVIEW PHASE

Shortly after the formal application is submitted, the LYCAA will make an initial review of the application contents to determine that it is acceptable for processing.

- If the air ambulance application is acceptable, the LYCAA will notify the applicant of the intent to process with evaluation of the documents.
- If the air ambulance application is not acceptable, the LYCAA will return all documents included in the formal application to the applicant.

6.3 DOCUMENT CONFORMANCE PHASE

A. In this phase, the LYCAA will review in detail the documents and manuals submitted with the formal application for conformance to the applicable regulations and relevant safety practices.

B. When the documents are acceptable to the LYCAA, interim approval for their use will be granted.

6.4 INSPECTION & DEMONSTRATION PHASE

In this phase, the LYCAA will perform a series of inspections that culminate with one or more demonstration flights.

6.4.1 RECORDS INSPECTIONS

6.4.1.1 Maintenance Records

The LYCAA will inspect the aircraft maintenance records at the operator's primary base to ensure that all airworthiness requirements associated with air ambulance operations have been addressed.

6.4.1.2 Pilot Qualification Records

The LYCAA will inspect the pilot qualification records to ensure that they have completed all qualification and training specified for air ambulance operations.

6.4.1.3 Pilot Flight Time & Rest System

The LYCAA will inspect the pilot member scheduling and flight time records to ensure that the applicant has implemented a system that addresses the special fatigue considerations associated with air ambulance operations.

6.4.1.4 Other Personnel Qualification Records

The LYCAA will inspect the qualification records of other personnel specified in this AC to ensure that they have been qualified by the applicant for participation in air ambulance operations.

6.4.2 AIRCRAFT CONFORMITY INSPECTIONS

Each aircraft to be used in air ambulance will receive a LYCAA conformity inspection for compliance with all applicable airworthiness requirements and documentation for air ambulance operations.

6.4.3 ORGANIZATION, FACILITIES & EQUIPMENT INSPECTIONS

6.4.3.1 Maintenance Facilities

A. The operator and/or service provider maintenance facilities may be inspected for compliance with the appropriate air ambulance requirements, including the adequacy of tools, spare parts, special tools, and that properly trained personnel are available

B. Maintenance facilities should be large enough to accommodate the largest aircraft used by the AOC holder, adequately lighted, and properly equipped for required maintenance.

C. This inspection will include the additional specialized tools/equipment required for the EMS equipment installed in the aircraft.

6.4.3.2 Operations Facilities

A. The primary base of operations will be the location of all documents and records associated with the air ambulance operations, unless otherwise authorized by the LYCAA.

B. The operations facilities inspection will include the areas for flight planning, scheduling and flight following and rest facilities (if applicable),

6.4.3.3 Heliport/Helideck Inspection

A. EMS/H heliports, other than medical emergency sites, will be inspected to determine that they meet the criteria established in Annex 14 for heliports.

B. The LYCAA will also be on-site to inspect the implementation procedures for a simulated medical emergency landing prior to the landing of the helicopter during the demonstration flight.

6.4.4 DEMONSTRATIONS

6.4.4.1 Evacuation Demonstration

The applicant will be required to demonstrate the procedures for a ground evacuation of the personnel and the patient from the aircraft.

6.4.4.2 Communications Demonstration

The applicant will be required to demonstrate the communications capability of the operations center with the air ambulance aircraft during a demonstration flight scenario.

6.4.4.3 Demonstration Flight

A. The applicant will be required to conduct at least one demonstration flight scenario exhibiting the capability to support a typical air ambulance operation for which they seek approval.

6.4.4.4 Night Demonstration Flight - Helicopters

The applicant for EMS/H night operations will be required to conduct at least one demonstration flight to and from an unprepared landing site and a heliport.

6.5 FINAL CERTIFICATION ACTIONS PHASE

In this phase, the LYCAA will complete all documentation necessary to the grant of air ambulance authority, including the issuance of new operation specification pages.

Section 3 - Aeromedical Personnel Requirements

7. Applicability.

This Suction applies to Aeromedical crewmembers who are responsible for patient care on an air ambulance.

8. Level of Medical Care.

8.1. Basic life support (BLS):

Refers to the air-medical provider offering airborne patients transport staffed by a minimum of one medical person who is experienced and qualified by training, certification, and current competency in BLS care.

This medical person practices through the orders of a physician medical director and is supported by a medically configured aircraft capable of providing BLS system (such as oxygen, suction, electrical supply, lighting, and climate control) to the person capable of recognizing respiratory and cardiac arrest, starting and maintaining the proper medical procedures, or until ALS is available. In air medical transports, BLS includes air -to-ground communications to ensure continuity of care.

8.2. Advanced life support(ALS):

Refers to the air-medical provider offering airborne patients transport staffed by a minimum of two medical personnel who are experienced and qualified by training, certification, and current competency in emergency critical care. The medical personnel practice through the orders of a physician-medical director and are supported by a medically configured aircraft capable of providing life support system (such as oxygen, suction, electrical supply, lighting, climate control, pressurization, etc.) to the patient. The following elements are recommended for ALS course experience:

8.2.1 BLS.

8.2.2 Using adjunctive equipment and special techniques, such as endotracheal intubation and closed chest cardiac compression.

8.2.3 Cardiac monitoring for dysrhythmia recognition and treatment.

8.2.4 Defibrillation.

8.2.5 Establishing and maintaining an intravenous infusion lifeline.

8.2.6 Employing definitive therapy, including drug administration.

8.2.7 Stabilization of patient's condition.

8.2.8 ALS includes air-to- ground communications to ensure continuity of care, and the capability of constant patient has been delivered to a continuing care facility.

9. Medical Personnel.

A person trained in air medical environment and assigned to perform medical duties during flight including, but not limited to, doctors, nurses, paramedics, respiratory therapists or emergency medical technicians. Medical personnel may also be trained and assigned to perform other duties by the certificate holder.

Also the Medical Personnel assigned duty during flight should be instructed in the use of aviation terminology.

9.1. Aeromedical Director:

A licensed physician within an air ambulance service who is ultimately responsible for patient care during patient transport missions. The aeromedical director is responsible for assuring that appropriate medical personnel and equipment are provided for each patient.

- 9.2. Basic life Support Medical Officer:
A licensed physician who is trained and hold valid BLS certificate or equivalent medical course approved by the Ministry of Health.
- 9.3. Advanced life support Medical officer:
A licensed physician who is trained and hold ALS certificate or equivalent course approved by the Ministry of Health.
- 9.4. Registered Nurse:
A registered licensed Nurse who completes a basic Flight Attendant a medical course or equivalent emergency course approved by Ministry of Health.
- 9.5. Paramedic:
A registered licensed Nurse who successfully completed an approved by ministry of health advanced medical training course that includes for normal course work, practical instruction clinical & field experience and who is certified to perform those skills in the Emergency Room.
- 9.6. Emergency Medical Technician:
A licensed Medical Technician who may perform Basic life support services or those services equivalent to level of certification.

10. Medical Personnel Requirements.

- 10.1. To Serve as an Aeromedical Director a person must:
- 10.1.1 Hold valid and none limited physician license issued by ministry of health.
 - 10.1.2 Hold a diploma in Aviation Medicine.
 - 10.1.3 Have at least five years' work experience in Aeromedical Evacuation.
 - 10.1.4 Know the Medical Standards and Libyan Civil Aviation Regulation and other Authorities' Regulation like European. (EASA- FCL), ICAO (Annex1) and Federal Aviation Administration (FAA - Part 67) .
- 10.2. To Serve as a Basic Life Support Medical Officer a person must:
- 10.2.1 Hold valid and none limited physician license issued by the Ministry of Health.
 - 10.2.2 Hold valid BLS certificate or equivalent medical course approved by the Ministry of Health.
 - 10.2.3 Complete three years of work experience in the same field and Aeromedical Evacuation.
 - 10.2.4 Hold valid Class II Medical certificate issued under Part MED of LYCARs.
- 10.3. To Serve as an advanced life support Medical officer a person must:
- 10.3.1 Hold valid and none limited physician license issued by the Ministry of Health.
 - 10.3.2 Hold valid ALS certificate or equivalent course approved by the Ministry of Health.
 - 10.3.3 Complete three years of work experience in the same field and Aeromedical Evacuation.
 - 10.3.4 Hold valid Class II medical certificate issued under Part MED of LYCARs.
- 10.4. To Serve as a Registered Nurse a person must:
- 10.4.1 Hold valid and none limited professional license issued by the Ministry of Health.
 - 10.4.2 Complete five years of work experience in the same field.

- 10.4.3 Hold valid Class II medical certificate issued under Part MED of LYCARs.
- 10.5. To serve as a Paramedic a person must:
 - 10.5.1 Hold a valid & none limited professional license issued by the Ministry of Health.
 - 10.5.2 Complete three years work experience in the same field.
 - 10.5.3 Hold valid Class II medical certificate issued under Part MED of LYCARs.
- 10.6. To Serve as an Emergency Medical Technician:
 - 10.6.1 Hold a valid and none limited Professional license issued by the Ministry of Health.
 - 10.6.2 Complete three years of work experience in the same field.
 - 10.6.3 Hold valid Class II medical certificate issued under Part MED of LYCARs.
- 10.7. A certificate holder may request a deviation to employ a person who does not meet the appropriate airman experience managerial experience or supervisory experience requirements of this section if the Director General finds that the person has comparable experience, and can effectively perform the functions associated with the position in accordance with the requirements of LYCARs and the procedures outlined in the certificate holder's manual.

11. Medical Personnel Training.

All physicians, nurses and respiratory therapists should have extensive experience in critical care medicine. The doctors and nurses should be certified in Advanced Cardiac Life Support, and be further trained in aviation physiology. Paragraphs 11.1, 11.2 and 11.3 describe the minimum required training areas with respect to BLS, ALS and other required training:

- 11.1. Basic Life Support Training:
 - 11.1.1 Airway maintenance and ventilatory support.
 - 11.1.2 Obtaining and monitoring vital signs.
 - 11.1.3 Cardiopulmonary resuscitation (CPR).
 - 11.1.4 Defibrillation with an Automated External Defibrillator (AED).
 - 11.1.5 Performing scene assessment, Patient assessment and triage.
 - 11.1.6 Bleeding control, wound care, and treatment for shock.
 - 11.1.7 Fracture immobilization.
 - 11.1.8 Management of medical and behavioral emergencies.
 - 11.1.9 Gaining access to patients and extricate for treatment and transport.
 - 11.1.10 Use of emergency medical services communication equipment.
 - 11.1.11 Provide verbal patient reports and run documentation to the care facility as required.
 - 11.1.12 Additional procedures and skills as recommended by the Certification Evaluation Team and approved by the Aviation Medicine.
- 11.2. Advanced Life Support Training:
 - 11.2.1 Administration of approved intravenous fluids.
 - 11.2.2 Airway maintenance and ventilatory support including endotracheal intubation, nasotracheal intubation, cricothyroidotomy, and needle thoracotomy.
 - 11.2.3 Administration of approved drugs.
 - 11.2.4 Electrocardiogram monitoring and interpretation.
 - 11.2.5 Defibrillation and synchronized cardio version.

- 11.2.6 Oralgastric and nasogastric insertion, lavage and suction.
- 11.2.7 Additional procedures and skills as recommended by the by the Certification Evaluation Team and approved by the Aviation Medicine
- 11.3. Other Required Training:
 - 11.3.1 Medical personnel should also be trained to properly use, remove, and replace medical equipment installed on the aircraft.
 - 11.3.2 Medical personnel should be trained in physiological aspects of flight prior to being assigned duty during flight.
 - 11.3.3 Medical personnel should also be trained in aircraft evacuation and patient loading and unloading.
 - 11.3.4 The training program should consider the particular aircraft being used, and its safety features. A practice evacuation using emergency exits should be accomplished.
 - 11.3.5 Medical Personnel should use aviation terminology to avoid confusion or misunderstandings of instructions from the flight crew during the Air Mission.

12. Medical Equipment.

Paragraph13 and14 describes the Applicable Medical equipment should be installed in the aircraft. The applicant should identify in their initial application, any specialized equipment that may be used in the Air Medical Operation. The equipment should be installed in the Aircraft in an acceptable method using data approved by the aircraft manufacturer or medical equipment manufacturer or by the Director General:

- 12.1. The Equipment must be periodically tested, inspected & certified by Approved Medical Equipment Agent.
- 12.2. A chick list of medical equipment should be filled before any mission and records should be kept for periodical check by LYCAA personnel.

13. Basic Equipment.

Prior to any medical air mission the basic medical equipment must include the following:

- 13.1. Portable Ventilator with rechargeable Battery.
- 13.2. Pulse oximeter.
- 13.3. Portable Cardiac Monitor.
- 13.4. Defibrillator with rechargeable Battery, Electro Cardio Graph (ECG), Leads, Pediatric and Adults Paddles.
- 13.5. Suction unit.
- 13.6. Blood pressure devise, Doppler Monitor.
- 13.7. Installed oxygen System Source mounted in the patient Case area: Fully inspected & maintained.
- 13.8. Three Oxygen Cylinders bottles.
- 13.9. External Battery.
- 13.10. Intravenous Pump.
- 13.11. Different sizes of Endo Tracheal tubes.
- 13.12. Different sizes of laryngoscope.
- 13.13. All the Emergency & lifesaving drugs.

- 13.14. Any other equipment that be needed for specific Medical case that should be approved by the Medical Director & the Medical Engineer.

14. Additional Medical Equipment.

The following additional items of equipment are recommended for Emergency Air Missions:

- 14.1. Medical oxygen system:

A medical oxygen system including bottles, lines, gauges, regulators, and other system components which has been installed by approved data on an aircraft becomes an "appliance." An Oxygen bottle installed in the cabin area having its own regulator, hose, and mask feeding directory to the patient may be removed and serviced by any person trained by the certificate holder. If servicing is accomplished by removing and replacing bottles or by disconnecting lines, regardless of the type fitting, it must be accomplished by an appropriately certified mechanic or repairman.

- 14.2. Motor-driven Vacuum/Air pumps:

Motors and /or pumps must be installed in accordance with applicable LYCAR parts. Any motor-driven device should be installed in a way to preclude contact with any flammable fluid, gas, or foreign materials that may cause heat buildup and possibly fire.

- 14.3. Incubators:

Incubators, balloon pumps, or other large carry-on medical equipment must be restrained in an appropriate manner to the following ultimate load factors:

- 14.3.1 3.0 g upward, 6.6 g downward, and

- 14.3.2 9.0 g forward, 1.5 g sideward

- 14.4. If pull test data are not provided by the equipment manufacturer to verify that specific equipment can withstand the above loads, the certificate holder must demonstrate the above loads on each specific piece of equipment, or use an approved restraining device. Aircraft cargo straps or safety belts provide a satisfactory restraint in many instances. Also, mechanical (metallic) fasteners may be used for attachment.

- 14.5. The incubator lid latches should withstand appropriate loads (approximately (6 kg) 15 pounds and any significant lid load)

Bb The operator should ensure the unit has minimum movement when secured if straps or belts are used. If the incubator includes features requiring electrical power, operation should be evaluated to assure there is no interference with the instruments and equipment that are required by the LYCAA airworthiness certificate for safe operation of the aircraft. The operator should provide padding for the infant for forward loads.

- 14.6. Stretchers (litters):

Stretchers must be in compliance with International standards with restraint devices, including shoulder harnesses, must be available to ensure patient safety.

- 14.7. Any other equipment recommended or required by medical Director according to the medical case should be in written order to the Director General for Approval.

Section 4 - Aircraft Requirements and Certification

15. General.

No certified air ambulance service operator may use an aircraft in the form of air ambulance unless the aircraft is certified in accordance with the requirements of this AC & LYCAA-AC-OPS- 002 rev: 03 Issued on 07.01.2018

16. Eligibility.

To be eligible for an air ambulance aircraft operations:

- 16.1. The applicant shall have a current and valid air ambulance service certificates
- 16.2. The Aircraft shall be registered in accordance with LYCAR part 47 and hold current Certificate of Registration (C of R).
- 16.3. The aircraft should meet the requirements of standard Certificate of Airworthiness (C of A), as prescribed in LYCAR part 21 Subpart H.
- 16.4. The aircraft should meet the additional special requirements of Paragraph 17 of this AC.
- 16.5. The aircraft is certified under LYCAR part ORO, CAT & SPA and the operator hold a current Air Operating Certificate.

17. Special Additional Requirements.

The operator of a fixed -wing or rotor-wing aircraft under part ORO, CAT & SPA who desires to operate air ambulance service is required to have additional equipment installed in the Aircraft in an acceptable manner and approved by the LYCAA, and shall:

- 17.1. Have an entry that allows patient loading and unloading without tilting the patient greater than (30) thirty degrees from the horizontal axis.
- 17.2. Having a heating system that maintains temperature of not less than 18°C in the patient compartment during patient transport in winter weather conditions or demonstrate a procedure to maintain patient temperature, to prevent hypothermia.
- 17.3. Have air conditioning systems that shall maintain a temperature of not more than 29°C in summer to prevent hypothermia.
- 17.4. Utilize an alternate aircraft or alternate mode of transportation, if the environment within the aircraft is such that it would be detrimental to the staff's physical welfare or the patient conditions until those conditions are alleviated.
- 17.5. Be configured in such a way that air medical personnel shall have access to the patient in order to begin and maintain both basic and advanced life support.
- 17.6. Have interior lighting adequate, to ensure complete observation of the patient, and without interfering with the pilots vision.
- 17.7. Have a procedure to limit light in the cockpit during night operation.
- 17.8. Have an electric inverter with two outlets to convert Direct Current (DC) to Alternative Current (AC) for operations of specialized equipment.
- 17.9. Have equipment, stretcher or litter which:
 - 17.9.1 Has capability to raise the head of the patient
 - 17.9.2 Has appropriate device to secure patient to the stretcher.
 - 17.9.3 The upper surface of the litter must be at least 75 cm from the ceiling of the aircraft, or off the under surface of another litter.
 - 17.9.4 The stretcher or litter must be at least 50 cm wide and 170 cm long.

- 17.10. Radio equipment used in Emergency Medical Service (EMS) aircraft shall be appropriately licensed, copies of the current communication licenses to be kept in the providers offices.
- 17.10.1 Aircraft shall be equipped with two ways radio communication equipment capable under normal conditions, of contacting dispatch centers and hospitals.
- 17.10.2 Aircraft shall have air-to-air, air-to-ground and ground-to-air communication capabilities and shall be to properly coordinate the landing and primary medical responders on the ground who may be caring for the patient, and.
- 17.10.3 Aircraft shall have a minimum of two portable communication devices capable of operating on the provider frequency that shall be provided for personnel when away from the aircraft.
- 17.10.4 An intercom system should be provided for flight crew members and medical personnel to communicate with each other during the flight.
- 17.10.5 Medical oxygen system, either portable or fixed, which is approved by the LYCAA Aviation Medicine, and LYCAA Director Flight Safety Department.
- 17.10.6 Before returning the aircraft to service, after the installation of additional equipment, flight test must be accomplished to determine if there is radio frequency/ electromagnetic interference Radio Frequency Interference/Electro Magnetic Interference (EMI/RFI) with any navigation, communication, or flight control system, the flight test should be accomplished in visual meteorological conditions(VMC).
- 17.10.7 Each aircraft and its equipment shall be checked after each use to ensure that it is in a clean and sanitary condition.

Section 5 - Facilitation Requirements

18. Facility Requirements.

The applicant shall identify the base and location of the proposed air ambulance service. It should include the premises of the service provider offices suitably situated, and comprises:

- 18.1. Versatile public communication system.
- 18.2. Ground ambulance as applicable.
- 18.3. Medical Equipment Storage.

19. Intercommunication.

A communications system between the base operation, the air ambulance and hospitals shall be developed, coordinated and maintained by each ambulance provider, the communication system shall meet the following requirements:

- 19.1. Radio equipment used in emergency medical services, shall be appropriately licensed and kept in the provider's offices.
- 19.2. Operation base shall be equipped with two ways radio communication equipment capable under normal conditions, of contacting dispatch centers and hospitals.
- 19.3. Operation base shall have air-to-air, air-to-ground and ground-to-air communication capabilities and shall be to properly coordinate the landing and primary medical responders on the ground who may be caring for the patient, and.
- 19.4. The operator shall provide a minimum of two portable communication devices capable of operating on the provider frequency for personnel when away from the aircraft.

20. Aircraft spacing.

All air ambulance service providers should have available a hanger spacing for:

- 20.1. Housing the aircraft when not in use.
- 20.2. Keeping the maintenance recording requirement, and
- 20.3. All records regarding operational aspects of the aircraft including but not limited to:
 - 20.3.1 Crewmembers flight time and rest records, and
 - 20.3.2 Records of the proficiency and training records.

Section 6 - Operations Requirements and Agreements

21. Operations Requirements.

The air ambulance service provider shall administrate the following operational requirements along with the additional requirements in the provider's operations specifications:

- 21.1. All air ambulance providers shall provide service 24 hours a day, (7) days a week; these provisions may be met through a call system or through mutual agreements.
- 21.2. A provider shall have a written plan to assure all requests for services are promptly answered.
- 21.3. Request for emergency service shall be dispatched within (2) minutes of the call taker determining the correct address location of the emergency incident site and completion of a weather check.
- 21.4. Any provider that determines it is unable to have an aircraft responding within (10) minutes from the initial time the emergency call received from the dispatch center shall notify the requesting agency of the inability to respond within (10) minutes time frame and advise the caller of the time frame in which the aircraft would be available to respond. The requesting agency shall resume responsibility for making the decision to wait for the aircraft or to contact another air ambulance provider.
- 21.5. Air ambulance providers shall comply with LYCARs specifications for flight following and position plotting by a provider Center and shall be equipped with communication equipment and staffed by a properly trained Air Medical Communication Staff (ACS) to receive and coordinate all calls as provided for by LYCARs, if providing fixed-wing service this requirement may be met by filling and ATC flight plan.
- 21.6. An air ambulance provider shall comply with LYCARs Part CAT and:
 - 21.6.1 Maintain a preventive maintenance programme.
 - 21.6.2 Maintain records of maintenance schedules and inspection of the aircraft.
 - 21.6.3 Maintain required calibration and maintenance records of medical equipment maintained on the aircraft.
- 21.7. An air ambulance provider shall manage and dispose the medical remnants as prescribed in the Ministry of Health Regulations and its amendments.
- 21.8. A certified provider should use a replacement aircraft on a temporary basis if an approved aircraft is out of service, the temporary replacement aircraft must meet the requirements of this AC and the pertinent LYCARs. In this case the provider must notify the Director General in writing at least 24 hours before.
- 21.9. Air ambulance provider shall comply with part CAT operation of aircraft and:
 - 21.9.1 Do not transport more patients, , and other persons that cannot be safely secured by means of seatbelts or similar devices in the aircraft during flight.
 - 21.9.2 Have fixed-wing aircraft pressurized if flight is more than 6000 mean sea level.

22. Agreements Requirements.

A certified service provider entering mutual agreement with other licensed air ambulance service the agreement shall address:

- 22.1. The type of mutual aid assistance to be provided.
- 22.2. Response, personnel, including levels of training or education and provisions for joint service training or education if appropriate.

- 22.3. Response aircraft including unit identifier and station or location from which the aircraft shall operate.
 - 22.4. A plan of action for the mutual aid agreement including dispatch and notification procedures.
 - 22.5. Radio and other communication procedures between the air ambulance providers and with whom the provider has mutual aid agreements.
 - 22.6. On-scene coordination and scene control including medical direction if several agencies respond to same incident.
 - 22.7. Exchange of patient information, responds and reports as allowed by law.
 - 22.8. The effective dates and process of amendment or termination, and
 - 22.9. Provider frequency for personnel when away from the aircraft.
- 23. OPERATIONS MANUAL** (In addition to the standard Operations Manual, the following should be considered or included where appropriate)
- 23.1. The operations manual must be adapted to include policy/procedures related to air ambulance/EMS operations. The appropriate portions of the manual must be available in each aircraft and at each flight operations location.
 - 23.2. The following air ambulance/EMS-related guidance should be included in that manual as applicable for aircraft type—
 - 23.2.1 Names of the air ambulance/EMS management personnel that have authority to act for the AOC holder;
 - 23.2.2 Communications procedures for the air ambulance flight watch; (if applicable)
 - 23.2.3 Special ground handling requirements;
 - 23.2.4 Approved method of restraining a stretcher or incubator, patient and any medical equipment transported;
 - 23.2.5 Stretcher or Incubator installation;
 - 23.2.6 Patient orientation relative to the aircraft axis;
 - 23.2.7 Operational procedures as applicable to each type of aircraft;
 - 23.2.8 Medical attendant's duties and responsibilities;
 - 23.2.9 Procedures for required coordination between medical personnel and pilots.
 - 23.2.10 Assignment of person responsible to restraint stretcher or incubator, patient and any required medical equipment in the aircraft;
 - 23.2.11 Assignment of a pilot to assist passengers in the cabin in the event of an emergency evacuation or in-flight incident involving fire or smoke in the cabin, or any incident threatening the safety of the aircraft or its occupant if a cabin attendant is not carried;
 - 23.2.12 Assignment of a crew member to ensure the safety of passengers and other persons approaching and exiting a helicopter when the rotors are turning;
 - 23.2.13 Refueling procedures for normal and emergency situations while patients are in the aircraft.
 - 23.2.14 Procedures to ensure the following are conducted prior to flight;
 - (a) Pre-flight briefing to include information on seat belts, emergency exits, main door operation, life-jackets, passenger safety card location, and use of cabin light switches;

- (b) A visual check to ensure adequacy of stretcher or incubator installation and restraint, as well as patient restraint;
- (c) A visual check to ensure any required medical equipment is adequately restrained;
- (d) Procedures respecting completion of pre-takeoff and pre-landing cabin checks by a crew member;
- (e) Procedures respecting the stowage of carry-on baggage, equipment and cargo;

23.2.15

Evacuation procedures should be established for—

- (a) The evacuation of patient removed from stretcher;
- (b) The evacuation of patient whose injuries prevent his/her release from stretcher.
- (c) Criteria shall be established for each aircraft type to determine if a patient and stretcher can easily be evacuated from each exit on that aircraft; and
- (d) Evacuation of incubator.

Section 7 - Training

24. General.

This subpart outlines training requirements for all Emergency Medical Service (EMS) personnel including flight crewmembers and medical personnel.

25. Flight Crewmember.

Because of circumstances in which Emergency Medical Service (EMS) work is accomplished, aircraft may be frequently assigned to fly in less than ideal weather conditions; i.e., night, low ceiling and/ or low visibility, and into remote areas. The pilot of rotor wing and fixed wing air ambulance aircraft must have special requirements in addition to the requirement of LYCARs Part FCL, and the provider approved training manual.

25.1. Rotor wing pilots:

The rotor- wing pilot in command (P/C) shall possess commercial rotor craft certificate and a minimum of 1500 rotor craft flight hours as PIC, and shall:

- 25.1.1 Be trained and educated in Accordance with LYCARs part CAT and AC air ambulance operations specifications.
 - 25.1.2 Have a minimum of 25 hours as PIC in the specific aircraft type prior to performing emergency medical services mission.
 - 25.1.3 Have 25 hours local area orientation which shall include mission specific night orientation of at of at least 2 hours flight time and
 - 25.1.4 Be specifically trained and experienced in day and night flying the terrain and conditions unique to the flight program.
- #### 25.2. Fixed-wing aircraft pilots:
- The fixed -wing pilot shall possess airline transport license (ATPL) and:
- 25.2.1 Be trained in accordance with operators LYCARs Air Operations Part CAT & AC-OPS 006-R02 operations specifications and
 - 25.2.2 Have 500 hours as PIC in the specific fixed-wing aircraft type prior to performing emergency medical services missions.
- #### 25.3.
- All pilots should undergo regular recurrent training to ensure they will be familiar with all instrument flight procedures authorized on the operator's operations specifications. In addition, be proficient in non-precision approach procedures.
- #### 25.4.
- A training programme should be prepared that will address the possibility of a forced landing in a remote area and procedures relevant to the evacuation of patient in extreme conditions related to forced or precautionary landing.
- #### 25.5.
- Training should also address procedures to be followed in the event of a fire or smoke in the cabin while either airborne or on the ground and meet the needs of the patient during and after evacuation.
- #### 25.6.
- Cockpit Resource Management (CRM) basic course, and then recurrent course.
- #### 25.7.
- Dangerous Goods Course.

26. Medical Personnel.

Refer to Section 3 Paragraph 11

27. Ground Crew and Other Ground Personnel.

Emergency Medical Services operation call for special training requirements, i.e., ground crew and personnel other than crewmembers, should address at least the following:

- 27.1. Air Medical Communication Staff (AMCS), shall have documented training appropriate to the mission of the provider that shall as a minimum addresses the following:
 - 27.1.1 LYCARs pertinent to Air Ambulance operations.
 - 27.1.2 Air Medical Radio Communications.
 - 27.1.3 Medical Terminology.
 - 27.1.4 Flight utilization and coordination.
 - 27.1.5 Navigation and weather interpretation.
 - 27.1.6 Flight following, and
 - 27.1.7 Emergency procedures.
- 27.2. Loading and unloading of aircraft.
- 27.3. Positioning and parking the aircraft, and directing ambulance & ground equipment.
- 27.4. Coordination between maintenance crew and medical crew regarding the correct procedures to follow when using fixed oxygen equipment.
- 27.5. Supplemental training programme on servicing and maintenance of on board medical equipment.
- 27.6. Maintenance Resource Management (MRM), Dispatch Resource Management (DRM) and Air Medical Resource Management(AMRM) courses.

28. Aircraft Evacuation.

The Training programme should consider a Practical Evacuation Exercise for all personnel using emergency exits.

29. Maintenance Personnel.

- 29.1. Maintenance personnel should receive all the training required under Part CAT.
- 29.2. Maintenance personnel should perform their inspection before the loading or after the unloading of the patient.
- 29.3. Although the aircraft may appear clean and sanitary, the maintenance personnel should be aware that there may be contaminants aboard. The maintenance personnel should exercise good judgment and use caution to prevent the possibility of contracting and infectious disease.

30. Medical Equipment.

Medical Equipment installed on aircraft operated by Libyan air ambulance service Operator is governed by the LYCAA Applicable regulations are:

- LYCAR PART-21: Design
- *Medical Equipment installation modifies the original design of an aircraft and must be performed by an approved PART-21 organisation This installation results in a supplemental type certificate approval (STC) drawings, safety analysis, ground test, flight tests, additional inspections The STC is then registered on the European approved STC list.*
- *Medical Supplement Type Certificate (STC) defines maintenance and operational procedures of the medical equipment (Manual, checklist, regular inspections).*