

**LIBERIA
CIVIL AVIATION REGULATIONS**

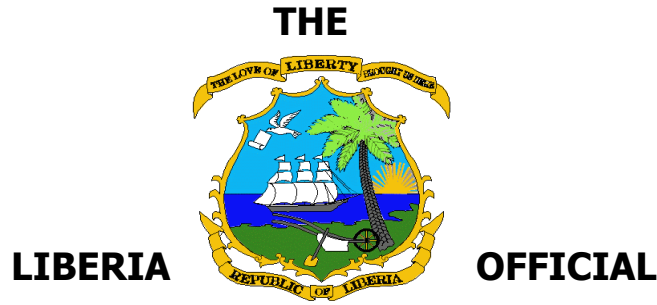


**PART 9
AIR OPERATOR CERTIFICATION AND ADMINISTRATION**

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EXTRAORDINARY

The Government of the Republic of Liberia announces that the Liberia Civil Aviation Authority, pursuant to its mandate under the Liberia Civil Aviation Act of 2019, and specifically consistent with Subchapter XII, Section 1218 (1), has issued on August 11, 2021 its Regulation N0. LCAA/LCAR/001/2021, herein under:

CONCERNING LIBERIA CIVIL AVIATION REGULATIONS

BY ORDER OF THE PRESIDENT

**AMB. DEE-MAXWELL SAAH KEMAYAH, SR.
MINISTER OF FOREIGN AFFAIRS**

MINISTRY OF FOREIGN AFFAIRS

MONROVIA, LIBERIA



AUTHORITY TO PROMULGATE CIVIL AVIATION REGULATIONS

IN EXERCISE OF THE POWERS CONFERRED ON THE DIRECTOR GENERAL OF LIBERIA CIVIL AVIATION AUTHORITY UNDER THE LIBERIA CIVIL AVIATION ACT OF 2019 THESE REGULATIONS ARE MADE.

DATE:13th July 2021

SIGNATURE:



Hon. Moses Y. Kollie
DIRECTOR GENERAL

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INTRODUCTION

Part 9 of the Liberia Civil Aviation Regulations sets forth the requirements for persons or entities to be granted an Air operator certificate by LCAA. Part 9 includes regulations concerning flight operations management, maintenance requirements, security management, and dangerous goods management and shipping. The regulations in this Part address the standards in ICAO Annex 18, Amendment 12 and the air operator requirements of ICAO Annex 6, Parts I Amendment 43 and Part III Amendment 22.

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PART 9— AIR OPERATOR CERTIFICATION AND ADMINISTRATION

9.1 GENERAL

9.1.1 SCOPE

- (a) This Part prescribes the requirements for the original certification and continued validity of air operator certificate (AOC) issued by LCAA.

9.1.2 APPLICABILITY

- (a) Part 9 applies to the carriage by air of passengers, cargo or mail for remuneration or hire by persons or organization whose principal place of business or permanent residence is located in LCAA.
- (b) Except where specifically noted, Part 9 applies to all commercial air transport operations by AOC holders for which Liberia is the State of the Operator under the definitions provided in ICAO Annex 6 and Part 1 of these regulations.

9.1.3 DEFINITIONS

- (a) For the purpose of Part 9, the following definitions shall apply:
 - (1) **Accountable Manager.** The person acceptable to the Authority who has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the Authority, and any additional requirements defined by the operator. The accountable manager may delegate in writing to another person within the organisation the day-to-day management, but not the overall approval management responsibility.
 - (2) **Acceptance checklist.** A document used to assist in carrying out a check on the external appearance of packages of dangerous goods and their associated documents to determine that all appropriate requirements have been met.
 - (3) **Aircraft Operating Manual.** A manual, acceptable to the State of the Operator, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems, and other material relevant to the operation of the aircraft.

Note. The aircraft operating manual is part of the operations manual.
 - (4) **Aircraft Technical Log.** Documentation for an aircraft that includes the continuing airworthiness record for the aircraft and a record for each flight made by the aircraft. The aircraft technical log is comprised of a journey records section and a maintenance section.
 - (5) **Air Operator Certificate (AOC).** A certificate authorising an operator to carry out specified commercial air transport operations.

- (6) **Airworthiness Release.** The air operator's aircraft are released for service following maintenance by a person specifically authorised by the air operator rather than by an individual or maintenance organisation on their own behalf.

Note: An airworthiness release is not the same as a maintenance release or a maintenance return to service as described in Parts 5 and 6. Regarding the airworthiness release, in effect, the person signing the release acts in the capacity of an authorised agent for the operator and is certifying that the maintenance covered by the release was accomplished according to the air operator's continuous maintenance programme. Responsibility for each step of the accomplished maintenance is borne by the person signing for that step and the airworthiness release certifies the entire maintenance work package.

This arrangement in no way reduces the responsibility of licensed aircraft maintenance technicians (AMT) or maintenance organisations for maintenance functions or tasks they perform or supervise.

The air operator is obligated to designate, by name or occupational title, each licensed AMT or maintenance organisation authorised to execute the airworthiness release. In addition, the air operator should designate when an airworthiness release is required. Normally, a release is required following inspections prescribed by the air operator's operations specifications and maintenance activities involving inspections, and any other significant maintenance. A copy of the airworthiness release must be given to the pilot in command before the aircraft commences operations.

- (7) **Cabin crew member.** A crew member who performs, in the interest of safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft, but who shall not act as a flight crew member.

Note: Cabin crew may or not be licensed by the Authority.

- (8) **Cargo aircraft.** Any aircraft carrying goods or property but not passengers. In this context the following are not considered to be passengers:
- (i) A crewmember.
 - (ii) An operator's personnel permitted by, and carried in accordance with, the instructions contained in the Operations Manual.
 - (iii) An authorised representative of an Authority.
 - (iv) A person with duties in respect of a particular shipment on board.
- (9) **Commercial air transport operation.** An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.
- (10) **Configuration deviation list (CDL).** A list established by the organisation responsible for the type design with the approval of the State of Design which identifies any external parts of an aircraft type which may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance correction.
- (11) **Consignment.** One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.

- (12) **Crew member.** A person assigned by an operator to duty on an aircraft during a flight duty period.
- (13) **Dangerous goods.** Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the ICAO Technical Instructions (see definition below) or which are classified according to those Instructions.
- (14) **Dangerous goods accident.** An occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage.
- (15) **Dangerous goods incident.** An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises an aircraft or its occupants is deemed to constitute a dangerous goods incident.
- (16) **Dangerous goods transport document.** A document specified by the ICAO Technical Instructions for the Safe Transportation of Dangerous Goods by Air. It is completed by the person who offers dangerous goods for air transport and contains information about those dangerous goods. The document bears a signed declaration indicating that the dangerous goods are fully and accurately described by their proper shipping names and UN numbers (if assigned) and that they are correctly classified, packed, marked, labelled and in a proper condition for transport.

Note: See definition of Technical Instructions below.

- (17) **Directly in Charge.** A person assigned to a position in which he or she is responsible for the work of a shop or station that performed maintenance, preventive maintenance, or modifications, or other functions affecting aircraft airworthiness.
- (18) **Equivalent system of maintenance.** An AOC holder may conduct maintenance activities through an arrangement with an AMO or may conduct its own maintenance, preventive maintenance, or alterations, so long as the AOC holder's maintenance system is approved by the Authority and is equivalent to that of an AMO, except that the approval for return to service of an aircraft/aeronautical product shall be made by an appropriately licensed aviation maintenance technician or aviation repair specialists in accordance with Part 2, as appropriate.
- (19) **Exception.** A provision in ICAO Annex 18 which excludes a specific item of dangerous goods from the requirements normally applicable to that item.
- (20) **Flight crew member.** A licensed crew member charged with duties essential to the operation of an aircraft during a duty period.

- (21) **Flight safety document system.** A set of interrelated documentation established by the operator, compiling and organising information necessary for flight and ground operations, and comprising, as a minimum, the operations manual and the operator's maintenance control manual.
- (22) **Freight container.** See unit load device.
- (23) **Freight container in the case of radioactive material transport.** An article of transport equipment designed to facilitate the transport of packaged goods, by one or more modes of transport without intermediate reloading. It must be of a permanent enclosed character, rigid and strong enough for repeated use, and must be fitted with devices facilitating its handling, particularly in transfer between aircraft and from one mode of transport to another. A small freight container is that which has either an overall outer dimension less than 1.5 m, or an internal volume of not more than 3m³. Any other freight container is considered to be a large freight container.
- (24) **Handling agent.** An agency which performs on behalf of the operator some or all of the latter's functions including receiving, loading, unloading, transferring or other processing of passengers or cargo.
- (25) **Holdover time.** The estimated time de-icing/anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft. Holdover time begins when the final application of de-icing or anti-icing fluid commences and expires when the de-icing or anti-icing fluid applied to the aircraft loses its effectiveness.
- (26) **Human factors principles.** Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.
- (27) **Incompatible.** Describing dangerous goods, which if mixed, would be liable to cause a dangerous evolution of heat or gas or produce a corrosive substance.
- (28) **Instrument meteorological condition (IMC).** Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.
- (29) **Interchange agreement.** A leasing agreement which permits an air carrier to dry lease and take or relinquish operational control of an aircraft at an aerodrome.
- (30) **Operator's Maintenance Control Manual.** A document which describes the operator's procedures necessary to ensure that all scheduled and unscheduled maintenance is performed on the operator's aircraft on time and in a controlled and satisfactory manner.

- (31) **AMO Procedures Manual.** A document endorsed by the head of the maintenance organization which details the maintenance organisation's structure and management responsibilities, scope of work, description of facilities, maintenance procedures and quality assurance or inspection systems.
- (32) **Maintenance release.** A document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner in accordance with the appropriate airworthiness requirements.
- (33) **Operational control.** The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of safety of the aircraft and the regularity and efficiency of the flight.
- (34) **Operational flight plan.** The operator's plan for the safe conduct of the flight based on consideration of aircraft performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes/heliports concerned.
- (35) **Operations manual.** A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.
- (36) **Operator.** The person, organization or enterprise engaged in or offering to engage in an aircraft operation.
- (37) **Overpack.** An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.
- (38) **Package.** The complete product of the packing operation consisting of the packaging and its contents prepared for transport.
- (39) **Packaging.** Receptacles and any other components or materials necessary for the receptacle to perform its containment function.
- (40) **Passenger aircraft.** An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorized representative of an appropriate national authority or a person accompanying a consignment or other cargo.
- (41) **Proper shipping name.** The name to be used to describe a particular article or substance in all shipping documents and notifications and, where appropriate, on packaging.
- (42) **Quality assurance.** Quality assurance, as distinguished from quality control, involves activities in the business, systems, and technical audit areas. A set of predetermined, systematic actions which are required to provide adequate confidence that a product or service satisfies quality requirements.

- (43) **Quality control.** The regulatory inspection process through which actual performance is compared with standards, such as the maintenance of standards of manufactured aeronautical products, and any difference is acted upon.
- (44) **Quality system.** The organisational structure, responsibilities, procedures, processes and resources for implementing quality management.
- (45) **Safety management system (SMS).** A systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures.
- (46) **Serious injury.** An injury which is sustained by a person in an accident and which:
- (i) Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received;
 - (ii) Results in a fracture of any bone (except simple fractures of fingers, toes or nose);
 - (iii) Involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage;
 - (iv) Involves injury to any internal organ;
 - (v) Involves second or third degree burns, or any burns affecting more than 5% of the body surface; or
 - (vi) Involves verified exposure to infectious substances or injurious radiation.
- (47) **State of Origin.** The State in which dangerous goods were first loaded on an aircraft.
- (48) **Technical instructions.** The latest effective edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc. 9284-AN/905), including the supplement and any addendum, approved and published by decision of the Council of the ICAO. The term "Technical Instructions" is used in this Part.
- (49) **Training to proficiency.** The process of the check airman administering each prescribed manoeuvre and procedure to a pilot as necessary until it is performed successfully during the training period.
- (50) **UN number.** The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods to identify a substance or a particular group of substances.
- (51) **Unit load device.** Any type of freight container, aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo.

- (52) **Visual Meteorological Conditions.** Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.
- (53) **Dry lease.** The lease of an aircraft without with its crew, operated under the AOC of the lessee (custody and the operational and commercial control of the lessee) using the lessee's airline designator code and traffic rights;
- (54) **Wet lease.** A lease of an aircraft with at least the flight crew, operated under the AOC of the lessor, with commercial control of the lessee and using the lessee's airline designator code and traffic rights;
- (55) **Damp lease.** A wet lease of an aircraft where the aircraft is operated under the AOC of the lessor, with the flight crew and possibly part of the cabin crew being provided by the lessor, and part or all of the cabin crew provided by the lessee;

9.1.4 ABBREVIATIONS

- (a) The following abbreviations are used in Part 9.
 - (1) **AC** – Advisory Circular
 - (2) **ACAS** – airborne collision avoidance system
 - (3) **AD** – Airworthiness Directive
 - (4) **AFM** – Aircraft Flight Manual
 - (5) **AMO** – Approved Maintenance Organisation
 - (6) **AMT** – aircraft maintenance technician/engineer/mechanic
 - (7) **AOC** – Air Operator Certificate
 - (8) **AOM** – Aircraft Operating Manual
 - (9) **ATC** – air traffic control
 - (10) **ATPL** – Air Transport Pilot License
 - (11) **ATS** – air traffic service
 - (12) **CAT I** – Category I
 - (13) **CAT II** – Category II
 - (14) **CAT III** – Category III
 - (15) **CDL** – Configuration Deviation List
 - (16) **DH** – Decision Height
 - (17) **EDTO** – Extended Diversion Time Operation
 - (18) **EFB** – electronic flight bag
 - (19) **EVS** – enhanced vision system
 - (20) **FDAP** – flight data analysis programme
 - (21) **FDR** – flight data recorder
 - (22) **FOO** – flight operations officer
 - (23) **FRMS** – fatigue risk management system
 - (24) **HUD** – head-up display
 - (25) **ICAO** – International Civil Aviation Organization
 - (26) **IFR** – Instrument Flight Rules
 - (27) **IMC** – Instrument Meteorological Conditions
 - (28) **MCM** – Maintenance Control Manual
 - (29) **MEL** – Minimum Equipment List
 - (30) **OM** – Operations Manual

- (31) **PBN** – performance-based navigation
- (32) **PIC** – Pilot-In-Command
- (33) **RFFS** – Rescue and Fire Fighting Service
- (34) **RNP** – required navigation performance
- (35) **RVR** – Runway Visual Range
- (36) **RVSM** – Reduced Vertical Separation Minimum
- (37) **SMS** – Safety Management System
- (38) **SOP** – standard operating procedure
- (39) **ULD** – unit load device
- (40) **UN** – United Nations
- (41) **VFR** – Visual Flight Rules
- (42) **VMC** – Visual Meteorological Conditions

9.1.5 **EXEMPTION AUTHORITY**

- (a) The Authority may, upon consideration of the circumstances of a particular operator, issue an exemption providing relief from specified sections of this Part, provided that the Authority finds that the circumstances presented warrant the exemption and that a level of safety will be maintained equal to that provided by the rule from which the exemption is sought.
- (b) The Authority may terminate or amend an exemption at any time.
- (c) A request for exemption shall be made in accordance with the requirements of Part 1.
- (d) Each AOC holder that receives an exemption shall have a means of notifying the appropriate management and personnel of the exemption.

9.2 **CERTIFICATION OF AN AIR OPERATOR AND CONTINUED VALIDITY**

9.2.1 **APPLICABILITY**

- (a) This subpart prescribes the requirements for the certification of an air operator and the continued validity of the AOC issued by LCAA.

9.2.2 **CERTIFICATION**

9.2.2.1 **Compliance with an air operator certificate**

- (a) No person may operate as a certificated operator without, or in violation of, an AOC and associated operations specifications issued under this part.
- (b) No person or organization may operate an aircraft in commercial air transport unless that operator holds an AOC for the operations being conducted.
- (c) No person may operate an aircraft in commercial air transport operations which are not authorised by the terms and conditions of its AOC.
- (d) Each AOC holder shall carry a certified true copy of the air operator certificate and a copy of the operations specifications relevant to the aircraft type, issued in conjunction with the certificates on board its aircraft.

- (e) The certificate and the associated operations specifications shall be issued by the Authority in English language.
- (f) Each AOC holder shall, at all times, continue in compliance with the AOC terms, conditions of issuance, and maintenance requirements in order to hold that certificate.
- (g) Failure to comply may result in the revocation or suspension of the AOC.

9.2.2.2 **Content of Air Operator Certificate**

- (a) The AOC issued to an air operator by LCAA will consist of two documents:
 - (1) A one-page certificate for public display signed by the Authority; and
 - (2) An Operations specifications signed by the Authority and containing the terms and conditions applicable to the AOC holder's certificate.
- (b) The AOC certificate will contain the following items:
 - (1) The State of the Operator and the issuing authority;
 - (2) The Air Operator Certificate number and its expiration date;
 - (3) The operator name, trading name (if different), and address of the principal place of business
 - (4) Telephone, facsimile, and email;
 - (5) The location, in a controlled document carried on board, where the contact details of operational management can be found; and
 - (6) The date of issue and the name, signature and title of the Authority representative.
- (c) The operations specifications will contain the following items:
 - (1) The Issuing Authority contact details;
 - (2) The operator name, trading name (if different), and AOC number;
 - (3) The date of issue and signature of the Authority representative;
 - (4) The make, model, and series of each aircraft in the operator's fleet;
 - (5) Types and areas of operation; and
 - (6) The special limitations and specific approvals.

Note: If the specific approvals and special limitations are identical for two or more models, these models may be grouped in a single list.

- (d) The operations specifications associated with the Air Operator Certificate shall contain the authorisations, conditions and limitations issued by the Authority in accordance with the standards which are applicable to the operations and maintenance conducted by the AOC holder.
- (e) Air operator certificates and their associated operations specifications shall follow the layouts of IS: 9.2.2.2 (d) and (e).

9.2.2.3 **Advertising**

- (a) No person or organization may advertise as certificated air operator under this part until the Liberia Civil Aviation Authority has issued an AOC and associated operations specifications to that person or organization.
- (b) No certificated air operator may make any statement, either in writing or orally, about itself that is false or is designed to mislead any person.
- (c) Whenever the advertising of a certificated air operator indicates that it is certificated under this part, the advertisement shall clearly state the AOC's number.

9.2.2.4 **Application for an Air Operator Certificate**

- (a) An application for an AOC shall be made in a form and manner prescribed by the Authority; and
 - (1) Containing any information, the Authority requires the applicant to submit;
 - (2) Applicants for an initial certificate shall provide the authority with documentation demonstrating how they will comply with the requirements established in this part.
- (b) Each applicant shall submit an application for an initial issue of an AOC at least 90 days before the date of intended operation.
- (c) At the time of application, the applicant shall provide all information and manuals required under this Part, and the safety management system documentation required by LCAR part 1 and any additional information the Authority requires the applicant to submit.

9.2.2.5 **Issuance or denial of an Air Operator Certificate**

- (a) The issue of an AOC by Liberia will be dependent upon the operator demonstrating compliance with the requirements of this part and the relevant safety management requirements of Part 19 of these regulations, and any additional information required by the Authority.
- (b) The Authority may issue an AOC if, after evaluation of the application, the Authority finds that the applicant:
 - (1) Is a citizen of Liberia;
 - (2) A corporation lawfully organised and doing business under the laws of Liberia
 - (3) Has its principal place of business and its registered office, if any, located in Liberia;
 - (4) Meets the applicable regulations and standards for the holder of an AOC;
 - (5) Is properly and adequately equipped for safe operations in commercial air transport and maintenance of its aircraft; and
 - (6) Has demonstrated an adequate organization, method of control and supervision of flight operations, training programme as well as ground

handling and maintenance arrangements consistent with the nature and extent of the operations specified.

- (7) Holds the economic authority issued by Liberia under the provisions of the Liberia Civil Aviation Act of 2019;
 - (8) Has paid any prescribed fees.
- (d)** The Authority may deny the issuance of an AOC if the Authority finds that:
- (1) The applicant is not properly or adequately equipped or is not able to conduct safe operations in commercial air transport, or is not able to maintain its aircraft;
 - (2) The applicant previously held an AOC which was revoked; or
 - (3) A person who contributed to the circumstances causing the revocation process of an AOC obtains a substantial ownership or is employed in a position required by this regulation.

9.2.2.6 **Duration and renewal of an Air Operator Certificate**

- (a)** An AOC, or any portion of an AOC, issued by the Authority is effective for 12 months unless:
- (1) The Authority amends, suspends, revokes or otherwise terminates the certificate;
 - (2) The AOC holder surrenders the certificate to the Authority; or
 - (3) The AOC holder suspends operations for more than 60 days. or
 - (4) Authority imposes limitations to the AOC.
- (b)** An operator shall submit an application for renewal of the AOC:
- (1) In a form and manner prescribed by the Authority; and
 - (2) Containing any information, the Authority requires the applicant to submit.
 - (3) at least 60 days before the end of the existing period of validity.
- (c)** If a request for renewal is not made within this period, the AOC holder shall follow the application procedures for initial issuance as prescribed by the Authority.

9.2.3 **CONTINUED VALIDITY OF AN AOC**

- (a)** Unless an AOC has previously been surrendered, superseded, suspended, revoked or has expired by virtue of exceeding any expiration date that may be specified in the certificate, the continued validity of the AOC issued by Liberia shall depend on:
- (1) The operator maintaining the requirements of the original certification, as amended, under the supervision of LCAA; and
 - (2) The operator remaining in compliance with the requirements of this Part and the relevant safety management requirements of Part 1 of these regulations, and any additional information required by the Authority;
 - (3) The Authority being granted access to the organisation's facilities to determine continued compliance with this regulation;

- (4) The certificate not being surrendered or revoked; and
- (5) The payment of any charges prescribed by the Authority.

9.2.3.1 Access for inspection

- (a) At any time or place, the Authority may conduct an inspection or test to determine whether an AOC holder certificated under this part is in continued compliance with Civil Aviation Safety Act, as amended, the applicable regulations, the AOC, or the AOC holder's operations specifications.
- (b) Each AOC holder shall:
 - (1) Grant the Authority unrestricted and uninterrupted access, at any place and any time, without restriction to and cooperation with any of its organisations, facilities and aircraft;
 - (2) Ensure that the Authority is granted access to and cooperation with any organisation or facilities that it has contracted for services associated with commercial air transport operations and maintenance for services; and
 - (3) Grant the Authority free and uninterrupted access to the flight deck of the aircraft during flight operations.
- (c) Each AOC holder shall provide to the Authority a forward observer's seat on each of the AOC holder's aircraft from which the flight crew's actions and conversations may be easily observed.

Note 1: The suitability of the seat location and the ability to monitor crew member actions, conversations and radio communications will be determined by the Authority.

Note 2: Guidance on dangerous goods inspections and enforcement is located in the ICAO Doc 9284SU, Supplement to the Technical Instructions for the Safe Transport of Goods by Air (Part S-5, Chapter 1 and Part S-7, Chapters 5 and 6).

9.2.3.2 conducting audits and inspections

- (a) The Authority will conduct ongoing surveillance of the AOC holder to ensure continued eligibility to hold its AOC and associated operations specifications.
- (b) The AOC holder shall allow the Authority to conduct tests and inspections, at any time or place, to determine whether an AOC holder is complying with the applicable laws, regulations and specific approvals, conditions, and limitations issued to the AOC holder.
- (c) The AOC holder shall make available at its principal base of operations:
 - (1) All portions of its current Air Operator Certificate;
 - (2) All portions of its Operations Manual and Maintenance Control Manual; and
 - (3) A current list that includes the location and individual positions responsible for each record, document and report required to be kept by the AOC holder under the applicable aviation law, regulations or standards.
- (d) Failure by any AOC holder to make available to the Authority upon request, all portions of the AOC, Operations Manual and Maintenance Control Manuals and

any required record, document or report is grounds for suspension of all or part of the AOC.

- (e) Inspections will be conducted at least annually.
- (f) After an inspection is made, the AOC holder will be notified, in writing, of any deficiencies found during the inspection.
- (g) The findings shall be classified as follow:
 - (1) A level 1 finding is any significant non-compliance applicable requirements of this regulation, with organization procedure manuals or with the term of an approval, certificate, specialized operation authorization or with the content of a declaration which lowers the safety or seriously hazards the safety.
 - (2) A level 2 finding is any non-compliance with applicable requirements of this regulation, with organization procedure manuals or with the term of an approval, certificate, specialized operation authorization or with the content of a declaration which could lower the safety and hazard the safety.
- (h) After receipt of notification of findings according to paragraph (f), the AOC holder shall:
 - (1) Identify the root cause of the non-compliance;
 - (2) Define a corrective action plan; and
 - (3) Demonstrate corrective action to the satisfaction of the authority within a period agreed with the authority.
- (i) When during oversight or by other means evidence is found showing non-compliance with the requirements of Part 9, the authority shall take the following actions:
 - (1) For level 1 findings, immediate action shall be taken by the authority to revoke, limit or suspend in whole or in part, depending upon the extent of the level 1 finding, the AOC approval, until successful corrective action has been taken by the operator.
 - (2) For level 2 findings, the corrective action period granted by the authority shall be appropriate to the nature of the finding but in any case initially shall not be more than three months. In certain circumstances and subject to the nature of the finding the authority may extend the three-month period subject to a satisfactory corrective action plan agreed by the authority.
- (j) Where AOC holder fails to submit an acceptable corrective action plan, or to perform the corrective action within the time period accepted or extended by the authority, the finding shall be raised to a level 1 finding and action taken as laid down in (h)(1).

9.2.3.3 **Suspension or Revocation**

- (a) The Authority may suspend or revoke an AOC certificate if it is established that a certificate holder has not met, or no longer meets the requirements of Part 9.
- (b) The holder of an AOC certificate that expires or is surrendered, suspended, or revoked, shall return it to the Authority within 5 working days of expiration, surrender or receipt from the Authority of notice of suspension or revocation.

9.2.3.4 **Amendment of an air operator certificate**

- (a) The Authority may amend any AOC if —
 - (1) The Authority determines that safety in commercial air transport and the public interest require the amendment; or
 - (2) The AOC holder applies for an amendment, and the Authority determines that safety in commercial air transport and the public interest allow the amendment.
- (b) If the Authority stipulates in writing that an emergency exists requiring immediate amendment of the AOC in the public interest with respect to safety in commercial air transport, such an amendment is effective without stay on the date the AOC holder receives notice.
- (c) An AOC holder may appeal an amendment, but shall operate in accordance with it, unless it is subsequently withdrawn.
- (d) Amendments proposed by the Authority, other than emergency amendments, become effective 30 days after notice to the AOC holder, unless the AOC holder appeals the proposal in writing prior to the effective date. The filing of an appeal stays the effective date until the appeal process is completed.
- (e) Amendments proposed by the AOC holder shall be made at least 30 days prior to the intended date of any operation under that amendment.
- (f) No person may perform a commercial air transport operation for which an AOC amendment is required, unless it has received notice of the approval from the Authority.

9.2.3.5 **Compliance with Laws, Regulations and Procedures**

- (a) An operator shall ensure that all employees when abroad know that they must comply with the laws, regulations and procedures of those States in which operations are conducted.
- (b) An operator shall ensure that all pilots are familiar with the laws, regulations and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the aerodromes / heliports to be used and the air navigation facilities relating thereto. The operator shall ensure that other members of the flight crew are familiar with such of these laws, regulations and procedures as are pertinent to the performance of their respective duties in the operation of the aircraft.
- (c) An operator or a designated representative shall have responsibility for operational control.
- (d) If an emergency situation which endangers the safety of the aeroplane or persons necessitates the taking of action which involves a violation of local regulations or procedures, the pilot-in-command shall notify the appropriate local authority without delay. If required by the State in which the incident occurs, the pilot-in-command shall submit a report on any such violation to the appropriate authority of such State; in that event, the pilot-in-command shall also submit a copy of it to the State of the Operator. Such reports shall be submitted as soon as possible and normally within ten days

- (e) Operators shall ensure that pilots-in-command have available on board the aircraft all the essential information concerning the search and rescue services in the area over which the aircraft will be flown.
- (f) Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for Radiotelephony communications as prescribed in Part 2.
- (g) Responsibility for operational control shall be delegated only to the pilot-in-command and to a flight operations officer/flight dispatcher if an operator's approved method of control and supervision of flight operations requires the use of flight operations officer/flight dispatcher personnel.
- (h) If an emergency situation which endangers the safety of the aeroplane or persons becomes known first to the flight operations officer/flight dispatcher, action by that person shall include, where necessary, notification to the appropriate authorities of the nature of the situation without delay, and requests for assistance if required.

9.3 AOC ADMINISTRATION

9.3.1 APPLICABILITY

- (a) This subpart prescribes the requirements for the administration of an AOC holder, including the AOC holder's organizational structure, policy and procedures, facilities, management personnel, aircraft to be used, quality system, SMS, record keeping and documents systems, and operational or emergency demonstrations.

9.3.2 GENERAL

9.3.2.1 Main Base of Operations

- (a) Each AOC holder that is not authorised to conduct maintenance under its AOC certificate shall maintain a principal base of operations.
- (b) Each AOC holder that is authorised to conduct maintenance under its AOC shall maintain a principal base of operations and maintenance.
- (c) An AOC holder may establish a main operation base and a main maintenance base at the same location or at separate locations.
- (d) Each AOC holder shall provide written notification of intent to the Authority at least 30 days before it proposes to establish or change the location of either base.

9.3.2.2 Management Personnel Required for Commercial Air Transport Operations

- (a) Each AOC holder shall appoint an accountable manager, acceptable to the Authority, who has corporate authority for ensuring that all flight operations and maintenance activities can be financed and carried out to the standards required by this part.
- (b) The appointment of the accountable manager requires the prior approval of the authority.
- (c) The accountable manager shall:
 - (1) ensure that all necessary resources are available to accomplish all activities in accordance with this regulation to support the operator approval;

- (2) establish and promote the safety and quality policy;
 - (3) demonstrate a basic understanding of this Part.
- (d)** When conducting commercial air transport operations, the organization shall nominate a person or group of persons, acceptable to the Authority, whose responsibilities include ensuring that the AOC holder is in compliance with these regulations.
- (1) The person or persons nominated as manager shall represent the management structure of the AOC, and be responsible for all functions specified in this part.
 - (2) Nominated managers shall be directly responsible to an accountable manager.
 - (3) The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft or component maintenance and demonstrate a working knowledge of this Part.
 - (4) Procedures shall make clear who deputises for any particular person in the case of lengthy absence of the said person.
- (e)** In accordance with paragraph (b), the AOC holder shall have qualified personnel, with proven competency in civil aviation, available and serving full-time in the following positions or their equivalent:
- (1) Director of Operations;
 - (2) Chief pilot (training manager);
 - (3) Director of Safety (safety manager);
 - (4) Director of Maintenance;
 - (5) Chief Inspector; and
 - (6) Director of Ground Operations.

Note: "Competency in civil aviation" means that a person shall have a technical qualification and management experience acceptable to the Authority for the position served.

Note: The Chief Inspector is responsible for quality control, as opposed to quality assurance and is not to be confused with the quality manager under the quality system.

- (f)** The Authority may approve positions or numbers of positions, other than those listed in paragraph (b) of this section, if the AOC holder is able to show that it can perform the operations with the highest degree of safety under the direction of fewer or different categories of management personnel due to:
- (1) The type of operation involved;
 - (2) The number and type of aircraft used; and
 - (3) The areas of operation.
- (g)** Additional requirements for management personnel are prescribed in IS: 9.3.2.2.
- (h)** The persons who serve in the positions required or approved under this subsection and any person in a position to exercise control over operations conducted under the AOC shall:

- (1) Be qualified through training, experience, and expertise;
 - (2) Discharge their duties to meet applicable legal requirements and to maintain safe operations; and
 - (3) To the extent of their responsibilities, have a full understanding of the following materials with respect of the AOC holder's operation:
 - (i) Aviation safety standards and safe operating practices;
 - (ii) These Regulations;
 - (iii) The AOC holder's operations specifications;
 - (iv) All appropriate maintenance and airworthiness requirements of this Part; and
 - (v) The manuals required by this Part.
- (i) Each AOC holder shall:
- (1) State in the general policy provisions of the operations manual the duties, responsibilities and authority of the positions required by this subsection;
 - (2) List in the operations manual the names and business addresses of the persons assigned to those positions; and
 - (3) Notify the Authority within 10 days of any change in personnel or any vacancy in any position listed in paragraph (b) of this subsection.

9.3.2.3 **Quality System**

- (a) Each AOC holder shall establish a quality system and designate a quality manager to monitor compliance with, and adequacy of, procedures required to ensure safe operational practices and airworthy aircraft. Compliance monitoring shall include a feedback system to the accountable manager to ensure corrective action as necessary.
- (b) Each AOC holder shall ensure that the quality system includes a quality assurance programme that contains procedures designed to verify that all operations are being conducted in accordance with all applicable requirements, standards and procedures.
- (c) The quality system, and the quality manager, shall be acceptable to the Authority.
- (d) Each AOC holder shall describe its quality system in relevant documentation, as prescribed in IS 9.3.2.3.
- (e) Notwithstanding paragraph 9.3.2.3(a) of this subsection, the Authority may accept the nomination of two quality managers, one for operations and one for maintenance, provided that the AOC holder has designated one Quality Management Unit to ensure that the quality system is applied uniformly throughout the entire operation.

- (f) Where the AOC holder is also an AMO, the AOC holder's quality system may be combined with the requirements of an AMO and submitted for acceptance to the Authority and, for aircraft not registered in Liberia, to the State of Registry.
- (g) The quality system shall include a feedback system to the designated management person or group of persons directly responsible for the quality system and ultimately to the accountable manager that ensures, as necessary, proper and timely corrective action is taken in response to reports resulting from the independent audits.
- (h) The AOC's quality system shall be sufficient to review all procedures, as described in the manuals and in accordance with an approved programme once a year.
- (i) The AOC's quality system shall indicate when audits are due, when completed, and establish a system of audit reports, which can be seen by visiting Authority staff on request. The audit system shall clearly establish a means by which audit reports containing observations about non-compliance or poor standards are communicated to the accountable manager.

9.3.2.4 **Submission and Revision of Policy and Procedure Manuals**

- (a) Each manual required by this part shall:
 - (1) Include instructions and information necessary to allow the personnel concerned to perform their duties and responsibilities with a high degree of safety;
 - (2) Be in a form that is easy to revise;
 - (3) Contain a system which allows personnel to determine the current revision status of each manual;
 - (4) Have the date of the last revision on each page concerned;
 - (5) Not be contrary to any applicable LCAA regulation or the AOC holder's operations specifications; and
 - (6) include references to appropriate civil aviation regulations.
- (b) Each holder of a manual required by this Part shall keep it up to date with the amendments or revisions supplied by the operator.
- (c) No person may cause the use of any policy or procedure for flight operations or airworthiness functions prior to coordination with the Authority.
- (d) The AOC holder shall submit each proposed policy or procedure to the Authority at least 30 days prior to the date of intended implementation. When immediate amendments or revisions are required in the interest of safety, they may be published and applied immediately, provided that any approval required has been applied for.

9.3.2.5 **Retention of records**

- (a) The operator shall establish a system of record-keeping that allows adequate storage and reliable traceability of all activities developed, covering in particular all the elements indicated in paragraph (b).
- (b) Each AOC holder shall retain the following records for the period specified in IS: 9.3.2.5.
 - (1) Flight crew records, including:
 - (i) Flight, duty, and rest time;
 - (ii) License and medical certificate;
 - (iii) Ground and flight training (all types);
 - (iv) Route and aerodrome/heliport qualification training;
 - (v) Dangerous goods training;
 - (vi) Security training; and
 - (vii) Proficiency and qualification checks (all types).
 - (2) Cabin crew records, including:
 - (i) Flight, duty, and rest time;
 - (ii) License, if applicable;
 - (iii) Ground and flight training (all types) and qualification checks;
 - (iv) Dangerous goods training;
 - (v) Security training; and
 - (vi) Competency checks.
 - (3) AOC holder personnel records, including:
 - (i) Training and qualification of other personnel for whom an approved training programme is required;
 - (ii) License, if required, and medical certificate, if required; and
 - (iii) Proficiency or competency checks, if required.
 - (4) Flight preparation forms, including:
 - (i) Completed load manifests.
 - (ii) Mass and balance reports.
 - (iii) Dispatch releases.
 - (iv) Flight plans.
 - (v) Passenger manifests.
 - (vi) Weather reports.
 - (5) Aircraft technical logbook, including:

- (i) Journey records section.
 - (ii) Continuing airworthiness records section.
 - (iii) Flight recorder records.
 - (A) Cockpit voice recordings; and
 - (B) Flight data records.
 - (6) Fuel and oil records, for each flight.
 - (7) Aircraft continuing airworthiness records, including:
 - (i) The total time in service (hours, calendar time, and cycles, as appropriate) of the aircraft and all life-limited parts;
 - (ii) The current status of compliance with all mandatory continuing airworthiness information;
 - (iii) Appropriate details of modifications and repairs to the aircraft and aeronautical products;
 - (iv) The total time in service (hours, calendar time, and cycles, as appropriate) since the last overhaul of the aircraft or aeronautical products subject to a mandatory overhaul life; and
 - (v) Detailed maintenance records to show all requirements for approval to return to service have been met.
 - (8) Other records, including:
 - (i) Operational flight plan;
 - (ii) Quality system records.
 - (iii) Dangerous goods transport documents.
 - (iv) Dangerous goods acceptance checklists.
 - (v) Records on cosmic and solar radiation dosage, if the AOC holder operates aircraft that fly above 15 000 m.
 - (vi) Other records as may be required by the Authority.
- (c)** For the records identified in paragraphs (a)(1), (2) and (3) of this subsection, the AOC holder shall maintain:
- (1) Current records which detail the qualifications and training of all its personnel, and contract personnel, involved in the operational control, flight operations, ground operations and maintenance of the air operator; and
 - (2) Records for those personnel's performing crew member or flight operations officer duties in sufficient detail to determine whether the personnel meet the experience and qualification requirements for duties in commercial air transport operations.
- (d)** Each AOC holder shall maintain records in a manner, acceptable to the Authority, that ensures readability, security and integrity of the records at all times.

9.3.2.6 **Cockpit Voice Recorder and Flight Data Recorder Records**

- (a) Each AOC holder shall retain:
- (1) The most recent flight data recorder calibration, including the recording medium from which this calibration is derived; and
 - (2) The flight data recorder correlation for one aircraft of any group of aircraft operated by the AOC holder—
 - (i) That are of the same type;
 - (ii) On which the model flight recorder and its installation are the same; and
 - (iii) On which there is no difference in type design with respect to the original installation of instruments associated with the recorder.

Note: The flight data recorder calibration and the flight data recorder correlation will be kept as part of the maintenance records for aircraft and its components.

- (b) In the event of an accident or incident requiring immediate notification of the Authority, the AOC holder shall remove and keep recorded information from the cockpit voice recorder and flight data recorder for at least 60 days or, if requested by the Authority, for a longer period.

9.3.2.7 **Aircraft Operated by the AOC Holder**

- (c) The AOC holder shall list in its operations specifications the aircraft make, model and series with the following list of authorizations, conditions and limitations:
- (1) Issuing authority contact details;
 - (2) Operator name and AOC number;
 - (3) Date of issue and signature of the Authority representative;
 - (4) Aircraft make, model and series;
 - (5) Types and areas of operations, and
 - (6) The Special limitations and specific approvals issued.
- (d) Each AOC holder shall apply to the Authority for an amendment to its operations specification in advance of any intended change of aircraft.
- (e) Aircraft of another certificate holder operated under an interchange agreement shall be incorporated to the operations specifications as required by paragraph 9.3.2.7 (a) above.

9.3.2.8 **Aircraft Technical Log**

- (a) Each AOC holder shall have an aircraft technical log that is carried on the aircraft that contains a journey records section and an aircraft continuing airworthiness records section.
- (b) The journey records section is further described in subsection 9.4.5 and the aircraft continuing airworthiness record section is further described in subsection 9.5.1.9.

Note 1: The aircraft technical log may be computerized. The journey records section and the continuing airworthiness record section may be combined.

Note 2: See IS: 9.3.2.8 for two examples of an aircraft technical log entry.

9.3.2.9 Company Procedures Indoctrination

- (a) No person may serve in an AOC holder's employ, nor may any AOC holder use a person in its employ unless that person has completed the approved company indoctrination curriculum, appropriate to that person's duties and responsibilities.
- (b) The indoctrination curriculum shall include training in knowledge and skills related to human performance, including co-ordination with other AOC personnel.

Note: Indoctrination, initial, recurrent, and other training required for crew members and flight operations officers/ dispatchers is contained in Part 8.

9.3.2.10 Safety Management System

- (a) An AOC holder shall implement a safety management system acceptable to the Authority as outlined in LCAR Part 1: 1.7.

Note 1: Guidance on defining safety performance is contained in ICAO Doc 9859 Safety Management Manual.

Note 2: The framework for the implementation and maintenance of a safety management system is contained in ICAO Doc 9859 Safety Management Manual, Appendix 4.

Note 3: The framework for a State Safety Programme (SSP) is contained in ICAO Annex ICAO Annex 6 Part 1; 8.7.3.4: Appendix 7, Attachment I

9.3.2.11 Flight data analysis programme

- (a) An AOC holder operating an aeroplane with a maximum certificated take-off mass of more than 27,000 kg shall establish and maintain a flight data analysis program for the use and guidance of operational personnel as part of its safety management system.
- (b) An AOC holder that operates aeroplanes with a maximum certificated take-off mass of more than 20,000 kg should establish and maintain a flight data analysis program as part of its safety management system.
- (c) An AOC holder that operates helicopters with a maximum certificated take-off mass of more than 7,000 kg or having a passenger seating configuration of more than 9 and fitted with a flight data recorder should establish and maintain a flight data analysis program as part of its safety management system.
- (d) An AOC holder may contract the operation of a flight data analysis program to another party while retaining overall responsibility for the maintenance of such a program.
- (e) Until 6 November 2019, the AOC's holder flight data analysis program shall be non-punitive and shall contain adequate safeguards to protect the source(s) of the data.
- (f) As of 7 November 2019, the AOC's holder flight data analysis program shall contain adequate safeguards to protect the source(s) of the data in Accordance with Appendix 3 to Annex 19.

Note 1 – Guidance on the establishment of flight data analysis programmes is included in ICAO Doc 10000, Manual on Flight Data Analysis Programmes.

Note 2 – Provisions on the protection of safety data, safety information, and related sources are contained in ICAO Annex 19, Appendix 3.

9.3.2.12 **Flight Safety Document System**

- (a) An AOC holder shall establish a flight safety documents system, approved by the Authority, for the use and guidance of operational personnel, as part of its safety management system.
- (b) An AOC holder's flight safety documents system shall contain the minimum elements of the outline prescribed in the IS: 9.3.2.12.

9.3.2.13 **Contracted activities**

- (a) Contracted activities include all activities within the operator's scope of approval that are performed by another organization either itself certified to carry out such activity or if not certified, working under the operator's approval.
- (b) The operator shall ensure that when contracting or purchasing any part of its activity, the contracted or purchased service or product conforms to the applicable requirements.
- (c) When the certified operator contracts any part of its activity to an organization that is not itself certified in accordance with this Part to carry out such activity, the contracted organization shall work under the approval of the operator.
- (d) The contracting organization shall ensure that the competent authority is given access to the contracted organization, to determine continued compliance with the applicable requirements.
- (e) The operator shall develop policies and procedure for third parties that perform work on its behalf.

9.3.2.14 **Aircraft tracking system — Aeroplanes**

- (a) By 8 November 2018 at the latest, the operator shall establish and maintain, as part of the system for exercising operational control over the flights, an aircraft tracking system, which includes the flights eligible to paragraph (b) when performed with the following aeroplanes:
 - (1) aeroplanes with an MTOW of more than 27 000 kg, with an passenger seating capacity of more than 19, and first issued with an individual C of A before 16 December 2018, which are equipped with a capability to provide a position additional to the secondary surveillance radar transponder;
 - (2) all aeroplanes with an MTOW of more than 27 000 kg, with an passenger seating capacity of more than 19, and first issued with an individual C of A on or after 16 December 2018; and
 - (3) all aeroplanes with an MTOW of more than 45 500 kg and first issued with an individual
 - (4) C of A on or after 16 December 2018.

- (b) lights shall be tracked by the operator from take-off to landing, except when the planned route and the planned diversion routes are fully included in airspace blocks where:
 - (1) ATS surveillance service is normally provided which is supported by ATC surveillance systems locating the aircraft at time intervals with adequate duration; and
 - (2) the operator has provided to competent air navigation service providers necessary contact information.

9.3.2.15 Location of an aircraft in distress — Aeroplanes

- (a) The following aeroplanes shall be equipped with robust and automatic means to accurately determine, following an accident where the aeroplane is severely damaged, the location of the point of end of flight:
 - (1) all aeroplanes with an MTOW of more than 27 000 kg, with a passenger seating capacity of more than 19 and first issued with an individual C of A on or after 1 January 2021; and
 - (2) all aeroplanes with an MTOW of more than 45 500 kg and first issued with an individual C of A on or after 1 January 2021.

9.3.3 AIRCRAFT

9.3.3.1 Authorized Aircraft

- (a) No person may operate an aircraft in commercial air transport unless that aircraft has an appropriate current airworthiness certificate, is in an airworthy condition, and meets the applicable airworthiness requirements for these operations, including those related to identification and equipment.
- (b) No person may operate any specific type of aircraft in commercial air transport until it has completed satisfactory initial certification, which includes the issuance of an AOC listing that type of aircraft.
- (c) No person may operate additional or replacement aircraft of a type for which it is currently authorized unless it can show that each aircraft has completed an evaluation process for inclusion in the AOC holder's fleet.

9.3.3.2 Leasing Agreement

- (a) Any lease agreement concerning aircraft used by an operator certified in accordance with this Part shall be subject to prior approval by the authority.

9.3.3.3 Dry Leasing of Aircraft (Dry-Lease out)

- (a) An AOC holder may be approved by the Authority to dry lease an aircraft for the purpose of commercial air transportation provided that the following conditions are met:
 - (1) The AOC holder provides the Authority with a copy of the dry lease agreement to be executed;

- (2) The AOC holder has operational control of the aircraft during the period of the lease;
 - (3) Dispatch and/or flight watch functions are performed by the AOC holder;
 - (4) The flight and cabin crewmembers are trained, qualified and scheduled by the AOC holder; and
 - (5) The maintenance arrangements are acceptable to the Authority.
- (b)** The dry lease agreement shall be explicit concerning the:
- (1) Entity that has operational control, with the authority for initiating and terminating flights;
 - (2) Responsibility for crew training, qualification and scheduling;
 - (3) Maintenance and servicing of aircraft, including the Maintenance program that will be used;
 - (4) Minimum Equipment List that will be used;
- (c)** The operator certified in accordance with this Part intending to dry lease-out one of its aircraft shall apply for prior approval by the authority. The application shall be accompanied by copies of the intended lease agreement or description of the lease provisions, except financial arrangements, and all other relevant documentation.

9.3.3.4 **Dry Leasing of Foreign Registered Aircraft (Dry Lease In)**

- (a)** An AOC holder may dry-lease a foreign aircraft for commercial air transport as authorized by the Authority.
- (b)** No person may be authorized to operate a foreign registered aircraft unless—
- (1) There is in existence a current agreement between the Authority and the State of Registry that, while the aircraft is operated by Liberia AOC holder, the operations regulations of LCAA are applicable;
 - (2) There is in existence a current agreement between the Authority and the State of Registry that—
 - (i) While the aircraft is operated by the AOC holder, the airworthiness regulations of the State of Registry are applicable; or,
 - (ii) If the State of Registry agrees to transfer some or all of the responsibility for airworthiness to the Authority under Article 83 bis of the Chicago Convention, the airworthiness regulations of LCAA shall apply to the extent agreed upon by the Authority and the State of Registry.
 - (iii) The agreement acknowledges that the Authority shall have free and uninterrupted access to the aircraft at any place and any time.
- (c)** An applicant for the approval of the dry lease-in of an aircraft registered in a foreign country shall demonstrate to the authority that:
- (1) an operational need has been identified that cannot be satisfied through leasing an aircraft registered in Liberia;

- (2) the duration of the dry lease-in does not exceed six months in any 12 consecutive month period; and
 - (3) compliance with the applicable requirements of this Part is ensured.
- (d) Additional requirements for dry leasing of foreign-registered aircraft are prescribed in IS: 9.3.3.4.

9.3.3.5 **Wet-Leasing (Wet Lease In)**

- (a) No person or organization may conduct wet-lease operations on behalf of another air operator except in accordance with the applicable laws and regulations of the country in which the operation occurs and the restrictions imposed by the Authority.
- (b) No person may allow another AOC holder to conduct wet-lease operations on its behalf unless—
 - (1) That air operator holds an AOC or its equivalent from a Contracting State that authorizes those operations; and
 - (2) The AOC holder advises the Authority of such operations and provides a copy of the AOC under which the operation was conducted.
- (c) The AOC holder proposing to engage in a wet leasing arrangement shall provide the following information to the Authority:
 - (1) A copy of the wet lease to be executed;
 - (2) names of the parties to the agreement and the duration of the agreement;
 - (3) make, model, and series of each aircraft involved in the agreement;
 - (4) The kind of operation;
 - (5) The expiration date of the lease agreement;
 - (6) A statement specifying the party deemed to have operational control; and
- (d) The wet lease agreement shall be explicit concerning the:
 - (1) Entity that has operational control, with the authority for initiating and terminating flights;
 - (2) Responsibility for crew training, qualification and scheduling;
 - (3) Maintenance and servicing of aircraft, including the Maintenance program that will used;
 - (4) Minimum Equipment List that will be used;
 - (5) Responsibility for maintenance release and airworthiness of aircraft
- (e) The applicant for the approval of the wet lease-in of an aircraft of a third country operator shall demonstrate to the authority that:
 - (1) the third country operator holds a valid AOC issued in accordance with ICAO Annex 6;
 - (2) the safety standards of the third country operator with regard to continuing airworthiness and air operations are equivalent to the applicable requirements established by these Regulations; and

- (3) the aircraft has a standard C of A issued in accordance with ICAO Annex 8.

(f) Additional requirements for wet leasing aircraft are specified in See IS: 9.3.3.5.

9.3.3.6 **Wet lease-out**

- (a) Prior to the wet lease-out of an aircraft, the operator certified in accordance with this Part shall notify the authority.

9.3.3.7 **Damp Leasing**

- (a) No person shall conduct damp-lease operations on behalf of another air operator except in accordance with the applicable laws and regulations of the country in which the operation occurs and the restrictions imposed by the Authority.
- (b) No person shall allow another entity or air operator to conduct damp-lease operations on its behalf unless:
 - (1) That air operator holds an AOC or its equivalent from a Contracting State that authorizes those operations; and
 - (2) The AOC holder advises the Authority of such operations and provides a copy of the AOC under which the operation is to be conducted.
 - (3) The operational control and the qualification of the crew are in compliance with the requirements of the lessor's AOC and or operations policies for the duration of the lease.
 - (4) The State of the lessor has Safety oversight.
- (c) The crew combination shall be specified in the contract or agreement.
- (d) Additional requirements for damp leasing of aircrafts are specified in IS: 9.3.3.7.

9.3.3.8 **Aircraft Interchange**

- (a) No person may interchange aircraft with another AOC holder without the approval of the Authority.
- (b) See IS: 9.3.3.8 for requirements pertaining to aircraft interchange agreements approved by the Authority.

9.3.3.9 **Code-share Agreements**

- (a) An operator certified in accordance with this Part shall enter into a code-share agreement with a third country operator only after:
 - (1) having verified that the third country operator complies with the applicable ICAO standards; and
 - (2) having provided the authority with documented information enabling the authority to determine compliance with paragraph (1).
- (b) When implementing the code-share agreement the operator shall monitor and regularly assess the ongoing compliance of the third country operator with the applicable ICAO standards.

9.3.3.10 **Emergency Evacuation Demonstration**

- (a) No person may use an aircraft type and model in commercial air transport passenger-carrying operations unless it has first conducted, for the Authority, an actual full capacity emergency evacuation demonstration for the configuration in 90 seconds or less.
- (b) The actual full capacity emergency evacuation demonstration may not be required, if the AOC holder provides a written petition for deviation with evidence that—
 - (1) A satisfactory full capacity emergency evacuation for the aircraft to be operated was demonstrated during the aircraft type certification or during the certification of another air operator; and
 - (2) There is an engineering analysis, which shows that an evacuation is still possible within the 90-second standard, if the AOC holder's aircraft configuration differs with regard to number of exits or exit type or number of cabin crew members or location of the cabin crew members.
- (c) If a full capacity demonstration is not required, no person may use an aircraft type and model in commercial air transport passenger-carrying operations unless it has first demonstrated to the Authority that its available personnel, procedures and equipment could provide sufficient open exits for evacuation in 15 seconds or less.
- (d) No person may use a land aeroplane in extended overwater operations unless it has first demonstrated to the Authority that it has the ability and equipment to efficiently carry out its ditching procedures.
- (e) No person shall use a helicopter in overwater operations in a hostile environment unless it has first demonstrated to the Authority that it has the ability and equipment to efficiently carry out its ditching procedures. Sea state shall be an integral part of ditching information.
- (f) Additional requirements concerning emergency evacuation demonstrations are prescribed IS: 9.3.3.10.

9.3.3.11 **Demonstration Flights and special demonstration flights**

- (a) No person may operate an aircraft type in commercial air transport unless it first conducts satisfactory demonstration flights or special demonstration flights for the Authority in that aircraft type.
- (b) No person may operate an aircraft in a designated special area, or using a specialized navigation system, unless it conducts a satisfactory demonstration flight for the Authority.
- (c) Demonstration flights or special demonstration flights required by paragraphs (a) and (b) shall be conducted in accordance with the regulations applicable to the type of operation and aircraft type used.
- (d) The Authority may authorize deviations from this section if the Authority finds that special circumstances make full compliance with this section unnecessary.
- (e) The number of hours and type of demonstration flights shall be conducted in accordance with IS: 9.3.3.11.

9.3.4 FACILITIES AND OPERATIONS SCHEDULES

9.3.4.1 Facilities

- (a) Each AOC holder shall maintain operational and airworthiness support facilities at the main operating base, appropriate for the area and type of operation.
- (b) Each AOC holder shall arrange appropriate ground handling facilities at each airport used to ensure the safe servicing and loading of its flights.
- (c) Each AOC holder shall not commence a flight unless it has been ascertained by every reasonable means available that the ground and/or water facilities available and directly required on such flight, for the safety operation of the aircraft and the protection of the passengers, are adequate for type of operation under which the flight is to be conducted and are adequately operated for this purpose.

Note. "Reasonable means" is intended to denote the use, at the point of departure, of information available to the operator either through official information published by the aeronautical information services or readily available from other sources.

- (d) Each AOC holder shall ensure that any inadequacy of facilities observed in the course of operations is reported to the authority responsible without delay.
- (e) Each AOC holder shall, as part of its safety management system, assess the level of rescue and firefighting service (RFFS) protection available at any aerodrome intended to be specified in the operational flight plan in order to ensure that an acceptable level of protection is available for the aircraft intended to be used.
- (f) Each AOC holder shall include in its operations manual information related to the level of RFFS protection that is deemed acceptable.

Note: ICAO Annex 6, Part I: Attachment J contains guidance on assessing an acceptable level of RFFS protection at aerodromes.

9.3.4.2 Operations Schedules

- (a) In establishing flight operations schedules, each AOC holder conducting scheduled operations shall allow enough time for the proper servicing of aircraft at intermediate stops, and shall consider the prevailing winds en route and cruising speed for the type of aircraft. This cruising speed may not be more than that resulting from the specified cruising output of the engines.

9.4 AOC FLIGHT OPERATIONS MANAGEMENT

9.4.1 APPLICABILITY

- (a) This Subpart provides those certification requirements that apply to management of flight operations personnel and their functions.

9.4.2 OPERATIONS MANUAL

- (a) The operator shall establish an OM, approved by the Authority, in the accordance of the requirements of this part, contain all necessary instructions, information and procedures for all aircraft operated and for operations personnel to perform their duties.

- (b) The operations manual and its revisions shall be compliant with the approved flight manual and be amended as necessary.
- (c) Each AOC holder shall issue to the crewmembers and persons assigned operational control functions, an Operations Manual acceptable to the Authority.
- (d) The Operations Manual shall contain the overall (general) company policies and procedures regarding the flight operations it conducts.
- (e) Each AOC holder shall prepare and keep current an Operations Manual which contains the AOC policies and procedures for the use and guidance of its personnel.
- (f) Each AOC holder shall issue the Operations Manual, or pertinent portions, together with all amendments and revisions to all personnel that are required to use it.
- (g) No AOC holder may provide for use by its personnel in commercial air transport any Operations Manual or portion of this manual which has not been reviewed and found acceptable or approved for the AOC holder by the Authority.
- (h) Each AOC holder shall ensure that the contents of the Operations Manual includes at least those subjects designated by the Authority that are applicable to the AOC holder's operations.
- (i) An AOC holder shall incorporate in the operations manual such mandatory material as the Authority may require.
- (j) The Operations Manual shall contain the specific areas listed below, and may be issued in separate parts.
 - (1) Part A - General, as prescribed in IS: 9.4.2,
 - (2) Part B - Aircraft Operating Information, as prescribed in paragraph 9.4.4 and IS: 9.4.4
 - (3) Part C - Route Guide - Areas, Routes and Aerodromes, as prescribed in paragraph 9.4.20 and IS: 9.4.20.
 - (4) Part D - Training, as prescribed in paragraph 9.4.3, and IS: 9.4.3.

9.4.3 TRAINING PROGRAM MANUAL

- (a) Each AOC holder shall ensure that all operations personnel are properly instructed in their duties and responsibilities and the relationship of such duties to the operation as a whole.
- (b) Each AOC holder shall have a training program manual approved by the Authority containing the general training, checking, and record keeping policies.
- (c) Each AOC holder shall have approval of the Authority prior to using a training curriculum for the purpose of qualifying a crewmember, or person performing operational control functions, for duties in commercial air transport.
- (d) Each AOC holder shall submit to the Authority any revision to an approved training program, and shall receive written approval from the Authority before that revision can be used.
- (e) The training program manual shall conform to the outline in IS: 9.4.3.

9.4.4 AIRCRAFT OPERATING MANUAL

- (a) Each AOC holder or applicant shall submit proposed aircraft operating manuals for each type and variant of aircraft operated, containing the normal, abnormal and emergency procedures relating to the operation of the aircraft for approval by the Authority.
- (b) Each Aircraft Operating Manual shall be based upon the aircraft manufacturer's data for the specific aircraft type and variant operated by the AOC holder and shall include specific operating parameters, details of the aircraft systems, and of the check lists to be used applicable to the operations of the AOC that are approved by the Authority. The design of the manual shall observe human factors principles.
- (c) The Aircraft Operating Manual shall be issued to the flight crewmembers and persons assigned operational control functions to each aircraft operated by the AOC.
- (d) The operator should issue operating instructions and provide information on aircraft climb performance with all engines operating to enable the pilot-in-command to determine the climb gradient that can be achieved during the take-off and initial climb phase for the existing take-off conditions and intended take-off technique. This information should be based on the aircraft manufacturer's or other data, acceptable to the State of the Operator, and should be included in the operations manual.
- (e) The Aircraft Operating Manual may conform to the outline contained in IS: 9.4.4.

9.4.5 AIRCRAFT TECHNICAL LOG ENTRIES-JOURNEY RECORDS SECTION

- (a) Each AOC holder shall use an aircraft technical log containing a journey records section which includes the following information for each flight: (See 9.4.9 for maintenance records section of the aircraft technical log).
 - (1) Aircraft nationality and registration;
 - (2) Date;
 - (3) Names of crewmembers;
 - (4) Duty assignments of crewmembers;
 - (5) Place of departure;
 - (6) Place of arrival;
 - (7) Time of departure;
 - (8) Time of arrival;
 - (9) Hours of flight;
 - (10) Nature of flight (private, aerial work, scheduled, non-scheduled);
 - (11) Incidents, observations, if any; and
 - (12) Signature of person in charge.

- (b) Entries in the journey logbook shall be made currently and in ink or indelible pencil.
- (c) Completed journey log books shall be retained to provide a continuous record of the last 2 years operations.

9.4.6 DESIGNATION OF PIC COMMERCIAL AIR TRANSPORT

- (a) The AOC holder shall, for each commercial air transport operation, designate in writing one pilot as the PIC.

9.4.7 REQUIRED CABIN CREW MEMBERS

- (a) The AOC holder shall schedule the minimum number of required cabin crew members on board passenger-carrying flights based on seating capacity or the number of passengers carried, in order to effect a safe and expeditious evacuation of the aeroplane, and the necessary functions to be performed in an emergency or a situation requiring emergency evacuation. The operator shall assign these functions for each type of aeroplane.
- (b) The PIC shall ensure that the minimum number of required cabin crew members are on board passenger-carrying flights.
- (c) The number of cabin crew members shall not be less than the minimum prescribed by the Authority in the AOC holder's operations manual or the following, whichever is greater:
 - (1) For a seating capacity of 20 to 50 passengers: 1 cabin crew member; and
 - (2) One additional cabin crew member for each unit, or part of a unit, of 50 passenger seat capacity.
- (d) When passengers are on board a parked aircraft, the minimum number of cabin crew members shall be one-half that required for the flight operation, but never less than one cabin crew member (or another person qualified in the emergency evacuation procedures for the aircraft) since there is no operations involving refueling/defueling.

Note: Where one-half would result in a fractional number, it is permissible to round down to the next whole number.

- (e) The AOC holder shall assign the necessary functions to be performed by the cabin crew in an emergency or in a situation requiring emergency evacuation, for each type of aircraft.
- (f) For operations where more than one cabin crew member is assigned, the operator shall nominate one cabin crew member to be responsible to the pilot-in-command.

Note: Where one-half would result in a fractional number, it is permissible to round down to the next whole number.

9.4.8 CARRIAGE OF SPECIAL SITUATION PASSENGERS

- (a) No AOC holder may allow the transportation of special situation passengers except—
 - (1) As provided in the AOC holder's Operations Manual procedures; and
 - (2) With the knowledge and concurrence of the PIC.

Note: Each State should consult its National laws or other regulations when developing regulations for the carriage of persons with physical or mental disabilities or inadmissible passengers, deportees or persons in custody.

- (b) Special situation passengers shall not be allocated, nor occupy, seats that permit direct access to emergency exits or where their presence could:
 - (1) impede crew members in their duties;
 - (2) obstruct access to emergency equipment; or
 - (3) impede the emergency evacuation of the aircraft.

9.4.9 CREW MEMBER CHECKING AND STANDARDIZATION PROGRAM

- (a) Each AOC holder shall have a program of checking and standardization of crew members approved by the Authority.
- (b) An AOC holder shall check pilots' proficiency on those maneuvers and procedures that are prescribed by the Authority for pilot proficiency checks, which shall include emergency procedures and, where applicable, instrument flight rules.

Note 1: A standardized process is defined to address the operator unique fleet differences and compliance methods.

Note 2: See Part 8 for specific checking requirements.

9.4.10 FLIGHT CREW MEMBER EMERGENCY DUTIES

- (a) The AOC holder shall, for each type of aircraft, assign to all flight crew members the necessary functions they are to perform in an emergency or in a situation requiring emergency evacuation.
- (b) Annual training in accomplishing these functions shall be contained in the operator's training programme and shall include instruction in the use of all emergency and life-saving equipment required to be carried, and drills in the emergency evacuation of the aeroplane.

9.4.11 TRAINING TO PROFICIENCY: PILOTS

- (a) An AOC holder may train its pilots to proficiency on those maneuvers and procedures in the area prescribed by the authority for pilot proficiency checks, during every other proficiency check following the initial check.

Note - Implementing Standard: See IS: 9.3.11 for requirements pertaining to aircraft simulator training used in a proficiency check

9.4.12 COCKPIT CHECK PROCEDURE (CHECKLISTS)

- (a) Each AOC holder shall issue to the flight crews and make available on each aircraft, the checklist procedures approved by the Authority appropriate to for the type and variant of aircraft.
- (b) Each AOC holder shall ensure that approved procedures include each item necessary for flight crew members to check for safety before starting engines, taking off, or landing, and for engine and systems abnormalities and emergencies.

- (c) Each AOC holder shall ensure that the checklist procedures are designed so that a flight crew member will not need to rely upon his memory for items to be checked.
- (d) Each AOC holder shall make the approved procedures readily useable in the cockpit of each aircraft and the flight crew shall be required to follow them when operating the aircraft.
- (e) The design and utilization of checklists shall observe Human Factors principles and take into account the latest relevant documentation from the aircraft manufacturer.

Note: Checklists are part of the Aircraft Operating Manual, which is a part of the Operations Manual of the AOC and is approved by the Authority.

9.4.13 MINIMUM EQUIPMENT LIST AND CONFIGURATION DEVIATION LIST

- (a) The operator shall establish an MEL or equivalent document, taking account of the following:
 - (1) the document shall provide for the operation of the aircraft, under specified conditions, with particular instruments, items of equipment or functions inoperative at the commencement of the flight;
 - (2) the document shall be prepared for each individual aircraft, taking account of the operator's relevant operational and maintenance conditions; and
 - (3) the MEL shall be based on the Master Minimum Equipment List (MMEL), if available, and shall not be less restrictive than the MMEL; developed on the basis of the current version of an MMEL and approved by the Authority.
- (b) The MEL and any amendment thereto shall be approved by the authority.
- (c) The operator shall amend the MEL after any applicable change to the MMEL within the acceptable timescales.
- (d) Each AOC holder shall provide for the use of the flight crew members, maintenance personnel and persons assigned operational control functions during the performance of their duties, an MEL.
- (e) Where the Authority is not the State of Registry, the Authority shall ensure that the MEL does not affect the aircraft's compliance with the airworthiness requirements applicable in the State of Registry
- (f) Each AOC holder may provide for the use of flight crew members, maintenance personnel and persons assigned operational control functions during the performance of their duties a Configuration Deviation List (CDL) specific to the aircraft type if one is provided and approved by the State of Design.
- (g) An AOC Holder operation manual shall contain those procedures acceptable to the Authority for operations in accordance with the CDL requirements.

9.4.14 PERFORMANCE PLANNING MANUAL

- (a) Each AOC holder shall provide for the use of the flight crew members and persons assigned operational control functions during the performance of their duties, a performance planning manual acceptable to the Authority.

- (b) The performance planning manual shall be specific to the aircraft type and variant and shall contain adequate performance information to accurately calculate the performance in all normal phases of flight operation.

Note: See ICAO Annex 6, Part I, Attachment C and ICAO Annex 6, Part III, Attachment A for guidance on preparing the performance planning manual.

9.4.15 PERFORMANCE DATA CONTROL SYSTEM

- (a) Each AOC holder shall have a system approved by the Authority for obtaining, maintaining and distributing to appropriate personnel current performance data for each aircraft, route and airport that it uses.
- (b) The system approved by the Authority shall provide current obstacle data for departure and arrival performance calculations.

9.4.16 AIRCRAFT LOADING AND HANDLING MANUAL

- (a) Each AOC holder shall provide for the use of the flight crew members, ground handling personnel and persons assigned operational control functions during the performance of their duties, an aircraft handling and loading manual acceptable to the Authority.
- (b) This manual shall be specific to the aircraft type and variant and shall contain the procedures and limitations for servicing and loading of the aircraft.

Note: Depending on the size and scope of the AOC operations, the aircraft loading and handling manual may be either a standalone document or contained in the Aircraft Flight Manual.

9.4.17 MASS AND BALANCE DATA CONTROL SYSTEM

- (a) Each AOC holder shall have a system approved by the Authority for obtaining, maintaining and distributing to appropriate personnel current information regarding the mass and balance of each aircraft operated.

9.4.18 CABIN CREW MEMBER MANUAL

- (a) The AOC holder shall issue to the cabin crew members and provide to passenger agents during the performance of their duties, a cabin crew member manual acceptable to the Authority.
- (b) The cabin crew member manual shall contain those operational policies and procedures applicable to cabin crew members and the carriage of passengers.
- (c) The AOC holder shall issue to the cabin crew members, a manual specific to the aircraft type and variant which contains the details of their normal, abnormal and emergency procedures and the location and operation of emergency equipment.

Note: This manual may be combined into one manual for use by the cabin crew members.

9.4.19 PASSENGER BRIEFING CARDS

- (a) Each AOC holder shall carry on each passenger carrying aircraft, in convenient locations for the use of each passenger, printed cards supplementing the oral briefing and containing—
- (1) Diagrams and methods of operating the emergency exits;

- (2) Other instructions necessary for use of the emergency equipment, and
 - (3) Information regarding the restrictions and requirements associated with sitting in an exit seat row.
- (b) Each AOC holder shall ensure that each card contains information that is pertinent only to the type and variant of aircraft used for that flight.
- (c) See IS: 9.4.19 for specific information to be included on passenger information cards regarding exit row seating.

9.4.20 AERONAUTICAL DATA CONTROL SYSTEM

- (a) Each AOC holder shall have a system approved by the Authority for obtaining, maintaining and distributing to appropriate personnel current aeronautical data for each route and aerodrome that it uses.
- (b) specific aerodrome information to be contained in the aeronautical data control system prescribed in IS: 9.4.20.

9.4.21 ROUTE GUIDE- AREAS, ROUTES AND AERODROMES

- (a) Each AOC holder shall provide for the use of the flight crew members and persons assigned operational control functions during the performance of their duties, information on areas, routes aerodromes, and heliports as well as aeronautical charts approved by the Authority.
- (b) The AOC holder shall keep the route guide and aeronautical charts current and appropriate for the proposed types and areas of operation to be conducted by the AOC holder. This information may be issued as part of the operations manual or may be separate.
- (c) Each route guide shall contain at least the information outlined in IS: 9.4.21.

9.4.22 WEATHER REPORTING SOURCES

- (a) Each AOC holder shall use sources approved the Authority for the weather reports and forecasts used for decisions regarding flight preparation, routing and terminal operations.
- (b) For passenger carrying operations, the AOC holder shall have an approved system for obtaining forecasts and reports of adverse weather phenomena that may affect safety of flight on each route to be flown and airport to be used.
- (c) A list of weather reporting sources approved by the Authority reports satisfactory for flight planning or for controlling flight movement are prescribed in IS 9.4.22.

9.4.23 DEICING AND ANTI-ICING PROGRAM

- (a) Each AOC holder planning to operate an aircraft in conditions where frost, ice, or snow may reasonably be expected to adhere to the aircraft shall—
- (1) Use only aircraft adequately equipped for such conditions;
 - (2) Ensure flight crew is adequately trained for such conditions; and
 - (3) Have an approved ground deicing and anti-icing program.

- (b) Detailed requirements pertaining to the AOC holder's de-icing and anti-icing program are prescribed in IS 9.4.23.

9.4.24 FLIGHT SUPERVISION AND MONITORING SYSTEM

- (a) Each AOC holder shall have an adequate system approved by the Authority for proper dispatch and monitoring of the progress of the flights.
- (b) The AOC holder's dispatch and monitoring system shall have enough dispatch centers, adequate for the operations to be conducted, located at points necessary to ensure adequate flight preparation, dispatch and in-flight contact with the flight operations.
- (c) Each AOC holder shall provide enough qualified flight operations officers at each dispatch centre to ensure proper operational control of each flight.
- (d) An AOC holder conducting charter operations may arrange to have flight following facilities provided by persons other than its employees, but, in such a case, the AOC holder shall continue to be primarily responsible for operational control of each flight.
- (e) Each AOC holder conducting charter operations using a flight following system shall show that the system has adequate facilities and personnel to provide to the following persons the information necessary for the initiation and safe conduct of each flight:
 - (1) The flight crew of each aircraft; and
 - (2) The persons designated by the AOC holder to perform the function of operational control of the aircraft.
- (f) Each AOC holder conducting charter operations shall show that the personnel required to perform the function of operational control are able to perform their duties.
- (g) See 9.4.24 for detailed requirements pertaining to the AOC holder's flight monitoring system.

9.4.25 FATIGUE RISK MANAGEMENT SYSTEM

- (a) For the purpose of managing fatigue-related safety risks, an AOC holder shall establish either:
 - (1) flight time, flight duty period, duty period and rest period limitations that are within the prescriptive fatigue management regulations in 8.12; or
 - (2) a Fatigue Risk Management System (FRMS) in compliance with 8.11.2(e); or
 - (3) an FRMS in compliance with 8.11.2(e) for part of its operations and the requirements of 8.12 for the remainder of its operations.
- (b) Where the operator adopts prescriptive fatigue management regulations for part or all of its operations, the CAA may approve, in exceptional circumstances, variations to these regulations on the basis of a risk assessment provided by the operator. Approved variations shall provide a level of safety equivalent to, or better than, that achieved through the prescriptive fatigue management regulations.

- (c) The Authority shall approve an operator's FRMS before it may take the place of any or all of the prescriptive fatigue management regulations. An approved FRMS shall provide a level of safety equivalent to, or better than, the prescriptive fatigue management regulations.
- (d) Operators using an FRMS must adhere to the following provisions of the FRMS approval process that allows the CAA to ensure that the approved FRMS meets the requirements of 8.11.2(c).
 - (1) Establish maximum values for flight times and/or flight duty period(s) and duty period(s), and minimum values for rest periods that shall be based upon scientific principles and knowledge, subject to safety assurance processes.
 - (2) Adhere to CAA mandates to decrease maximum values and increase in minimum values in the event that the operator's data indicates these values are too high to too low, respectively; and
 - (3) Provide justification to the CAA for any increase in maximum values or decrease in minimum values based on accumulated FRMS experience and fatigue-related data before such changes will be approved by the CAA.
- (e) Operators implementing an FRMS to manage fatigue-related safety risks shall, as a minimum:
 - (1) Incorporate scientific principles and knowledge within the FRMS;
 - (2) Identify fatigue-related safety hazards and the resulting risks on an ongoing basis;
 - (3) Ensure that the remedial actions, necessary to effectively mitigate the risks associated with the hazards, are implemented promptly;
 - (4) Provide for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions; and
 - (5) Provide for continuous improvement to the overall performance of the FRMS.
- (f) See detailed IS: 9.4.25 requirements pertaining to FRMS.

9.4.26 COMMUNICATIONS FACILITIES

- (a) Each AOC holder's flights shall be able to have two-way radio communications with all ATC facilities along the routes and alternate routes to be used.
- (b) For passenger carrying operations, each AOC holder shall be able to have rapid and reliable radio communications with all flights over the AOC's entire route structure under normal operating conditions. This radio communication system shall be independent from the ATC system.
- (c) Each AOC holder engaged in international air navigation shall at all times have available for immediate communication to rescue coordination centers, information on the emergency and survival equipment carried on board any of their aeroplanes including, as applicable —
 - (1) The number, color and types of life rafts and pyrotechnics;
 - (2) Details of emergency water and medical supplies; and

- (3) The type and frequencies of the emergency portable radio equipment.

9.4.27 ROUTES AND AREAS OF OPERATION

- (a) An AOC holder may conduct operations only along such routes and within such areas for which—
 - (1) Ground facilities and services, including meteorological services, are provided which are adequate for the planned operation;
 - (2) The performance of the aircraft intended to be used is adequate to comply with minimum flight altitude requirements;
 - (3) The equipment of the aircraft intended to be used meets the minimum requirements for the planned operation;
 - (4) Appropriate and current maps and charts are available;
 - (5) If two-engine aircraft are used, adequate airports are available within the time/distance limitations; and
 - (6) If single-engine aircraft are used, surfaces are available which permit a safe forced landing to be executed.
- (b) No person may conduct commercial air transport operations on any route or area of operation unless those operations are in accordance with any restrictions imposed by the Authority.

9.4.28 NAVIGATIONAL ACCURACY

- (a) Each AOC holder shall ensure, for each proposed route or area, that the navigational systems and facilities it uses are capable of navigating the aircraft—
 - (1) Within the degree of accuracy required for ATC; and
 - (2) To the aerodromes in the operational flight plan within the degree of accuracy necessary for the operation involved.
- (b) In situations without adequate navigation systems reference, the Authority may authorize day VFR operations that can be conducted safely by pilotage because of the characteristics of the terrain.
- (c) Except for those navigational aids required for routes to alternate airports, the Authority will list in the AOC holder's operations specifications nonvisual ground aids required for approval of routes outside of controlled airspace.
- (d) Non-visual ground aids are not required for night VFR operations on routes that the certificate holder shows have reliably lighted landmarks adequate for safe operation.
- (e) Operations on route segments where the use of celestial or other specialized means of navigation is required shall be approved by the Authority.

Note 1: The operations specifications layout depicted in Annex 6, Appendix 6, paragraph 3 shall be followed. The bottom row of the ICAO layout provides for “other” authorisations, approvals and remarks. Other authorisations or data may require the preparation of multiple pages to prepare based on the complexity of the AOC holder’s operation. It would be appropriate for the Authority to list in the AOC holder’s operations specifications as “other” authorisations, the nonvisual ground aids required for approval of routes outside of controlled airspace.

Note 2: See ICAO Doc 9613, Performance-based Navigation Manual, for information on the implementation and operational approval process for operations in areas where performance-based navigation is prescribed.

9.4.29 MINIMUM SAFE ALTITUDES

- (a) An AOC holder shall establish minimum flight altitudes for those routes flown for which minimum flight altitudes have been established by the State flown over or the responsible State, provided that they shall not be less than those established by that State.
- (b) The AOC holder shall specify the method by which it intends to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established by the responsible State.
- (c) The Authority will approve such method only after careful consideration of the probable effects of the following factors on the safety of the operation in question:
 - (1) The accuracy and reliability with which the position of the aircraft can be determined;
 - (2) The inaccuracies in the indications of the altimeters used;
 - (3) The characteristics of the terrain (e.g. sudden changes in elevation);
 - (4) The probability of encountering unfavourable meteorological conditions (e.g. severe turbulence and descending air currents);
 - (5) Possible inaccuracies in the aeronautical charts;
 - (6) Airspace restrictions; and
 - (7) Rules of the Air (ICAO Annex 2)
 - (8) Any rules of the air applicable to the country being overflown.

9.4.30 AERODROME OPERATING MINIMA

- (a) The AOC holder shall establish the aerodrome/heliport operating minima for each aerodrome/heliport to be used for commercial air transport operations involving take-off, approach to landing and landing in accordance with a method of determination approved by the Authority.
- (b) Such minima shall not be lower than any that may be established for such aerodromes/heliport by the State in which the aerodrome/heliport is located, except when specifically approved by that State.
- (c) The method of determination shall take full account of the:
 - (1) Type, performance and handling characteristics of the aircraft;
 - (2) Composition of the flight crew, their competence and experience;

- (3) Dimensions and characteristics of the runways which may be selected for use;
- (4) Adequacy and performance of the available visual and non-visual ground aids
- (5) Equipment available on the aircraft for the purpose of navigation and/or control of the flight path during the approach to landing and the missed approach;
- (6) Obstacles in the approach and missed approach areas and the obstacle clearance altitude/height for the instrument approach procedures;
- (7) Means used to determine and report meteorological conditions; and
- (8) Obstacles in the climb-out areas and necessary clearance margins.

9.4.31 AIRCRAFT TRACKING

- (a)** The AOC holder shall establish an aircraft tracking capability to track aeroplanes throughout its areas of operation.

Note: Guidance on aircraft tracking capabilities is contained in ICAO Cir 347, Aircraft Tracking Implementation Guidelines.

- (b)** The AOC holder shall track the position of an aeroplane through automated reporting at least every 15 minutes for the portion(s) of the in-flight operation(s) under the following conditions:

- (1) The aeroplane has a maximum certificated take-off mass of over 27 000 kg and a seating capacity greater than 19; and
- (2) Where an ATS unit obtains aeroplane position information at greater than 15-minute intervals.

Note: See ICAO Annex 11, Chapter 2, for coordination between the AOC holder and ATS provisions regarding position report messages.

- (c)** The AOC holder shall track the position of an aeroplane through automated reporting at least every 15 minutes for the portion(s) of the in-flight operation(s) planned in an oceanic area under the following conditions:

Note: For the purpose of aircraft tracking, "oceanic area" is the airspace that overlies waters outside the territory of a State.

- (1) The aeroplane has a maximum certificated take-off mass of over 45 500 kg and a seating capacity greater than 19; and
- (2) Where an ATS unit obtains aeroplane position information at greater than 15-minute intervals.

Note: See ICAO Annex 11, Chapter 2, for coordination between the AOC holder and ATS provisions regarding position report messages.

- (d)** Notwithstanding the provisions in paragraphs 9.4.28(b) and (c) of this subsection, the Authority may, based on the results of an approved risk assessment process implemented by the AOC holder, allow for variations to automated reporting intervals. The process shall demonstrate how risks to the operation resulting from such variations may be managed and shall include at least the following:

- (1) The capability of the AOC holder's operational control systems and processes, including those for contacting ATS units;

- (2) The overall capability of the aeroplane and its systems;
- (3) The available means to determine the position of, and to communicate with, the aeroplane;
- (4) The frequency and duration of gaps in automated reporting;
- (5) Human factors consequences resulting from changes to flight crew procedures; and
- (6) Specific mitigation measures and contingency procedures

Note: Guidance on development, implementation, and approval of the risk assessment process that allows for variations to the need for automatic reporting and the required interval, including variation examples, is contained in ICAO Cir 347, Aircraft Tracking Implementation Guidelines.

- (e)** The AOC holder shall establish procedures, approved by the Authority, for the retention of aircraft tracking data to assist search and rescue in determining the last known position of the aircraft.

Note: See 9.2.2 of this part for AOC holder responsibilities when using third parties for the conduct of aircraft tracking under this subsection.

9.5 AOC CONTINUING AIRWORTHINESS REQUIREMENTS

9.5.1 CONTINUING AIRWORTHINESS

9.5.1.1 Applicability

- (a)** This Subpart provides those certification and maintenance requirements that apply to an AOC holder utilizing an AMO or an equivalent system.

9.5.1.2 Continuing Airworthiness Responsibility

- (a)** Each AOC holder shall ensure the airworthiness of the aircraft and the serviceability of both operational and emergency equipment by ensuring the—
- (1) accomplishment of pre-flight inspections;
 - (2) correction of any defect and/or damage affecting safe operation of an aircraft to an approved standard, taking into account the MEL and CDL if available for the aircraft type;
 - (3) accomplishment of all maintenance in accordance with the operator's approved aircraft maintenance program;
 - (4) analysis of the effectiveness of the AOC holder's approved aircraft maintenance program;
 - (5) accomplishment of any operational directive, airworthiness directive and any other continuing airworthiness requirement made mandatory by State of Design and or the Authority; and
 - (6) accomplishment of modifications in accordance with an approved standard and, for non-mandatory modifications, the establishment of an embodiment policy.
- (b)** Each AOC holder shall ensure that the Certificate of Airworthiness for each aircraft operated remains valid in respect to:

- (1) The requirements in paragraph (a);
 - (2) The expiration date of the Certificate; and
 - (3) Any other maintenance condition specified in the Certificate.
- (c) Each AOC holder shall ensure that the requirements specified in paragraph (a) are performed in accordance with procedures approved by or acceptable to the Authority.
- (d) Each AOC holder shall ensure that the maintenance, preventive maintenance, and modification of its aircraft/aeronautical products are performed in accordance with its maintenance control manual and/or current instructions for continued airworthiness, and applicable aviation regulations.
- (e) Each AOC holder may make an arrangement with another person or entity for the performance of any maintenance, preventive maintenance, or modifications; but shall remain responsible of all work performed under such arrangement.
- (f) Each AOC holder shall have its aircraft maintained and released to service by either an AMO certificated under Part 6 or by an equivalent system. If an equivalent system to an AMO is used, the AOC holder shall ensure that the person signing the maintenance release is licensed in accordance with Part 2.

9.5.1.3 **Approval and Acceptance of AOC Maintenance Systems and Programs**

- (a) An AOC holder shall not operate an aircraft, except for pre-flight inspections, unless it is maintained and released to service as follows:
- (1) The operator shall not operate an aeroplane unless it is maintained and released to service by an AMO approved in accordance with Part 6 or under an equivalent either of which shall be acceptable to the State of Registry.
 - (2) When the State of Registry accepts an equivalent system, the person signing the approval for return to service shall be licensed in accordance with Part 2 of these regulations.
- (b) For the purpose of paragraph (a), for aircraft registered in Liberia, an AMO or an equivalent system of maintenance shall be approved by the Authority of the State of Registry, or if the AMO is located outside Liberia the AMO shall be approved by the state with jurisdiction and this approval accepted to the authority of the State of Registry.
- (c) For aircraft not registered in Liberia, an AMO or an equivalent system of maintenance will be approved by the State of Registry of the aircraft, and such approval will be accepted by the Authority.
- (d) An AOC holder shall not operate an aircraft, unless maintenance on the aircraft included engine, propeller and part is carried out and there is a maintenance release issued by:
- (1) an AMO or equivalent system of maintenance that is approved by the State of Registry in accordance with part 6 or is approved by another contracting state and is acceptable to the authority; or
 - (2) a person or organization in accordance with procedures that are authorized by the authority.

- (e) AOC holders who do not hold an AMO certificate or equivalent system shall make arrangements for the conduct of maintenance with an AMO approved by the State of Registry and accepted by the Authority.
- (f) When the Authority or the State of Registry accepts an equivalent system of maintenance, the persons designated to sign a maintenance release or airworthiness release shall be licensed in accordance with Part 2, as appropriate.

9.5.1.4 **Maintenance Control Manual**

- (a) The operator shall establish an MCM, approved by the Authority, in the accordance with the requirements of this part, contain all necessary instructions, information and procedures for maintenance control of all aircraft operated and for maintenance personnel to perform their duties.
- (b) The AOC holder shall incorporate in the MCM such mandatory material as required by the State of Operator or the State of Registry.
- (c) Each Liberia AOC holder shall provide to the Authority, and to the State of Registry of the aircraft, if different from the Authority, the AOC holder's maintenance control manual and subsequent amendments, for the use and guidance of maintenance and operational personnel concerned, containing details of the organization's structure including:
 - (1) The accountable manager and designated person(s) responsible for the maintenance system as required by 9.3.2.2.
 - (2) Procedures to be followed to satisfy the maintenance responsibility of 9.5.1.2, except where the AOC holder is certificated as an AMO, and has the quality functions of 9.3.2.3. Such procedures may be included in the AMO procedures manual.
 - (3) Procedures for the reporting of failures, malfunctions, and defects in accordance with 5.5.6, to the Authority, State of Registry and the State of Design within 72 hours of discovery; in addition, items that warrant immediate notification to the Authority by telephone/telex/fax, with a written follow-on report as soon as possible but no later than within 72 hours of discovery, are—
 - (i) Primary structural failure;
 - (ii) Control system failure;
 - (iii) Fire in the aircraft;
 - (iv) Engine structure failure; or
 - (v) Any other condition considered an imminent hazard to safety.
- (d) The AOC holder's maintenance control manual shall contain the following information which may be issued in separate parts—
 - (1) A description of the administrative agreements between the AOC holder and the AMO, or a description of the maintenance procedures and the procedures for completing and signing a maintenance release when maintenance is based on a system other than that of an AMO;
 - (2) A description of the procedures to ensure each aircraft they operate is in an airworthy condition;
 - (3) A description of the procedures to ensure the emergency equipment for each

- (4) The names and duties of the person or persons required to ensure that all maintenance manual;
 - (5) A reference to the maintenance program required in 9.4.12;
 - (6) A description of the methods for completion and retention of the operator's maintenance records required by 9.4.8;
 - (7) A description of the procedures for monitoring, assessing and reporting maintenance and operational experience for all aircraft over 5,700 kg maximum certificated take-off mass;
 - (8) A description of the procedures for obtaining and assessing continued airworthiness information and implementing any resulting actions considered necessary by the State of Registry for all aircraft over 5,700 kg maximum certificated take-off mass, from the organization responsible for the type design, ;
 - (9) A description of the procedures for implementing mandatory continuing airworthiness as required in 9.4.2(a)(5);
 - (10) A description of the procedures establishing and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance program in order to correct any deficiency in that program;
 - (11) A description of aircraft types and models to which the manual applies;
 - (12) A description of the procedures for ensuring that unserviceabilities affecting airworthiness are recorded and rectified; and
 - (13) A description of the procedures for advising the State of Registry of significant in-service occurrences.
- (e)** No person may provide for use of its personnel in commercial air transport any Maintenance Control Manual or portion of this manual which has not been reviewed and approved for the AOC holder by the Authority.
- (f)** The design of the manual control manual shall observe human factors principles.
- (g)** Copies of all amendments to the maintenance control manual shall be furnished promptly to all organizations or persons to whom the maintenance programme has been issued.
- (h)** See IS: 9.5.1.4 for an outline of specific subjects to be contained as appropriate in the AOC holder's maintenance control manual.

9.5.1.5 **Maintenance Management**

- (a)** The AOC holder certificated as an AMO, may carry out the requirements specified in paragraphs (a) (2), (3), (5) and (6) of section 9.4.1.2.
- (b)** If the AOC holder is not certificated as an AMO, the AOC holder shall meet its responsibilities under in 9.4.1.2 (a)(2),(3),(5)and (6) by using:
- (1) by using an equivalent system of maintenance approved or accepted by the Authority; or
 - (2) Through an arrangement with an AMO with a written maintenance contract agreed between the AOC holder and the contracting AMO detailing the required maintenance functions and defining the support of the quality functions approved or accepted by the Authority.

Note: ICAO Doc. 9670 contains a sample operations specification authorisation for contractual maintenance agreements.

- (c) Each AOC holder shall employ a person or group of persons, acceptable to the Authority, to ensure that all maintenance is carried out to an approved standard such that the maintenance requirements of 9.4.1.2 and the requirements of the AOC holder's maintenance control manual are satisfied, and to ensure the functioning of the quality system.
- (d) Each AOC holder shall provide suitable office accommodation at appropriate locations for the personnel specified in paragraph (c).
- (e) Each AOC holder shall establish for the maintenance of aircraft an SMS that is in accordance with 9.3.2.10 of this part and is acceptable to the Authority

9.5.1.6 **Reserved**

9.5.1.7 **Reserved**

9.5.1.8 **Continuing Airworthiness Records**

- (a) Each AOC holder shall ensure that a system has been established to keep, in a form acceptable to the Authority, the following records:
 - (1) The total time in service (hours, calendar time and cycles, as appropriate) of the aircraft and all life-limited components;
 - (2) The current status of compliance with all mandatory continuing airworthiness information;
 - (3) Appropriate details of modifications and repairs to the aircraft and its major components;
 - (4) The time in service (hours, calendar time and cycles, as appropriate) since last overhaul of the aircraft or its components subject to mandatory overhaul life;
 - (5) The current aircraft status of compliance with the maintenance program; and
 - (6) The detailed continuing airworthiness records to show that all requirements for signing of a maintenance release and airworthiness release have been met.
- (b) Each AOC holder shall ensure that the records in paragraph (a)(1) through (5) of this subsection shall be kept for a minimum of 90 days after the unit to which they refer has been permanently withdrawn from service, and the records in paragraph (a)(6) of this subsection shall be kept for a minimum of 1 year after the signing of the maintenance release and/or airworthiness release.
- (c) Each AOC holder shall ensure that in the event of temporary change of operator, the records specified in paragraph (a) of this subsection shall be made available to the new operator.
- (d) Each AOC holder shall ensure that when an aircraft is permanently transferred from one operator to another operator, the records specified in paragraph (a) of this subsection are also transferred.

Note 1: The title of the subsection will change to Continuing Airworthiness Records as of 05 November 2020.

Note 2: All mentions of maintenance in this subsection will change to continuing airworthiness as of 05 November 2020.

Note 3: Guidance regarding electronic aircraft continuing airworthiness records is included in ICAO Doc 9760, Airworthiness Manual.

Note 4: In the context of ICAO Annex 6, Part I: 8.4.3, a judgement on what should be considered as a temporary change of operator will need to be made by the State of Registry in the light of the need to exercise control over the records, which will depend on access to them and the opportunity to update them.

- (e) Records kept and transferred in accordance with subsection 9.4.1.8 shall be maintained in a form and format that ensures readability, security and integrity of the records at all times.

Note 1: The form and format of the records may include, for example, paper records, film records, electronic records or any combination thereof.

Note 2: Guidance regarding electronic aircraft continuing airworthiness records is included in the Airworthiness Manual (Doc 9760).

9.5.1.9 **Aircraft Technical Log entries— continuing airworthiness Record Section**

- (a) An AOC holder shall ensure that every aircraft registered in Liberia used for commercial air transport maintains a technical logbook.
- (b) Each AOC holder shall use an aircraft technical log which includes an aircraft continuing airworthiness record section containing the following information for each aircraft:

Note: See 9.3.1.5 for journey records section of the aircraft technical log.

- (1) Information about each previous flight necessary to ensure continued flight safety.
- (2) The current aircraft maintenance release and/or an airworthiness release.
- (3) The current inspection status of the aircraft, to include inspections due to be performed on an established schedule and inspections that are due to be performed that are not on an established schedule, except that the Authority may agree to the maintenance statement being kept elsewhere.
- (4) The current maintenance status of the aircraft, to include maintenance due to be performed on an established schedule and out of phase maintenance that is due to be performed that is not on an established schedule except that the Authority may agree to the maintenance statement being kept elsewhere.
- (5) Particulars of any defect experienced on the aircraft;
- (6) All deferred defects that affect the operation of the aircraft;
- (7) The fuel and oil quantities on arrival and quantities uplifted in each tank;
- (8) Any necessary guidance instructions on maintenance support arrangements.

Note: Defects which are not airworthiness items may be deferred to a later date for rectification. (airworthiness items may only be deferred in accordance with the provisions of the MEL/CDL). When this is done, there must be a method of recording such a deferral, and normally the aircraft technical log has a section solely for this purpose. Some operators have a system of classifying deferred defects so as to allow different lengths of time, either in hours flown, number of sectors, or on return to a maintenance base, until a defect must be rectified before further flight.

- (c) The aircraft technical log and any subsequent amendment shall be approved by the Authority.
- (d) Each person who takes action in the case of a reported or observed failure or malfunction of an aircraft/ aeronautical product, that is critical to the safety of flight shall make, or have made, a record of that action in the maintenance section of the aircraft technical log.
- (e) Each AOC holder shall have a procedure for keeping adequate copies of required records to be carried aboard, in a place readily accessible to each flight crewmember and shall put that procedure in the AOC holder's operations manual.

9.5.1.10 **Release to Service**

- (a) No AOC holder shall operate an aircraft unless it has both a maintenance release, if maintenance has been performed prior to the flight, and a valid airworthiness release, as follows:
 - (1) Maintenance Release:
 - (i) Until 04 November 2020, an AOC holder shall not operate an aircraft unless it is maintained and released to service by an organisation approved in accordance with Part 6, or under an equivalent system, either of which shall be acceptable to the State of Registry.
 - (ii) An AOC holder using an AMO shall not operate an aircraft after release under subparagraph (i) unless a Certificate of Release to Service has been prepared in accordance with the AOC maintenance control manual procedures and a logbook entry in the continuing airworthiness records section of the aircraft technical log has been made.
 - (iii) An AOC holder using an equivalent system shall not operate an aircraft after release under subparagraph (i) unless a logbook entry in the continuing airworthiness records section of the aircraft technical log is prepared or caused to be prepared by an appropriately licensed and rated individual in accordance with Part 2, as appropriate. This maintenance release shall be made in accordance with the AOC maintenance control manual procedures.
 - (iv) The AOC holder shall ensure that the PIC of the aircraft has reviewed the maintenance section of the aircraft technical log and determined that any maintenance performed has been appropriately documented.
 - (2) Airworthiness Release
 - (i) An AOC holder shall not operate an aircraft unless the PIC is in possession of a valid airworthiness release to indicate that any maintenance, preventive maintenance or inspections performed on the aircraft have been satisfactorily performed and appropriately documented.

9.5.1.11 **Modifications and Repairs**

- (a) All modifications and repairs shall comply with airworthiness requirements acceptable to the State of Registry. Procedures shall be established to ensure that the substantiating data supporting compliance with the airworthiness requirements are retained. However, in the case of a major repair or major modification, the work shall have been done in accordance with technical data approved by the Authority or approved by the State of design and accepted by the authority.
- (b) An AOC holder may be authorized to perform maintenance, preventive maintenance, and modifications of any aircraft, airframe, aircraft engine, propeller, appliance, component, or part thereof, under the AOC provided:
 - (1) It is performed under a maintenance system, acceptable to the State of Registry, that is equivalent to that of an Approved Maintenance Organisation (AMO) established in accordance with Part 6, and
 - (2) It is performed in accordance with the approved AOC's operations specifications
- (c) An AOC holder using a maintenance system acceptable to the State of Registry and equivalent to that of an AMO that wishes to approve for return to service major repairs or major modifications to an aircraft registered in Liberia shall use a current and valid licensed AMT with an airframe and powerplant rating and shall be qualified in accordance with Part 2.
- (d) Each AOC holder shall, promptly upon its completion, prepare a report of each major modification or major repair of an airframe, aircraft engine, propeller, or appliance of an aircraft that it operates.
- (e) The AOC holder shall submit a copy of each report of a major modification to the Authority, and shall keep a copy of each report of a major repair available for inspection.
- (f) The Authority issuing an approval/acceptance for the design of a modification, of a repair or of a replacement part shall do so on the basis of satisfactory evidence that the aircraft is in compliance with airworthiness requirements used for the issuance of the Type Certificate, its amendments or later requirements when determined by the State.

Note: See ICAO Doc 9760, Chapter 5, for guidance on modifications and repairs.

9.5.1.12 **Aircraft Maintenance Program**

- (a) The AOC holder shall provide, for the use and guidance of maintenance and operational personnel concerned, a maintenance programme approved by the State of Registry containing the information prescribed by the Authority.
- (b) Each AOC holder's aircraft maintenance programme and any subsequent amendment shall be submitted to the State of Registry for approval; acceptance by the Authority will be conditioned upon prior approval by the State of Registry, or where appropriate, upon the AOC holder complying with recommendations provided by the State of Registry.

- (c) The AOC holder operating aircraft that are required by the State of Design or by the Authority to have a reliability program, shall maintain such a reliability program regardless of the number of aircraft operated. Such programs shall be based on accepted industry standards. The reliability program shall be described in the AOC holder's maintenance control manual and shall include monthly reports.
- (d) Each AOC holder shall ensure that each of its aircraft is maintained in accordance with the AOC holder's approved maintenance program as required by 9.5.1.3 which shall include:

 - (1) Maintenance tasks and the intervals in which these are to be performed, taking into account the anticipated utilisation of the aircraft;
 - (2) When applicable, a continuing structural integrity program;
 - (3) Procedures for changing or deviating as required by 9.5.1.12 (d)(1) and (d)(2) of this subparagraph; and
 - (4) When applicable, condition monitoring and reliability programme for aircraft systems, components, and engines.
- (e) Maintenance tasks that are specified as mandatory as a condition of approval of the type design shall be identified as such.
- (f) The maintenance program should be based on maintenance program information made available by the State of Design or by the organization responsible for the type design, and any additional applicable experience.
- (g) No AOC holder may provide for use of its personnel in commercial air transport a Maintenance Program or portion thereof which has not been reviewed and approved for the AOC holder by the Authority.
- (h) Approval by the Authority of an AOC holder's maintenance program and any subsequent amendments shall be noted in the AOC operations specifications certificate pursuant to 9.2.2.2(c).
- (i) The design and application of the maintenance program shall observe Human Factors principles.
- (j) Each AOC holder shall have an inspection program and a program covering other maintenance, preventive maintenance, and modifications to ensure that:

 - (1) Maintenance, preventive maintenance, and modifications performed by it, or by other persons, are performed in accordance with the AOC holder's maintenance control manual;
 - (2) Each aircraft released to service is airworthy and has been properly maintained for operation.
- (k) The Authority may amend any specifications issued to an AOC holder to permit deviation from those provisions of this Subpart that would prevent the return to service and use of airframe components, powerplants, appliances, and spare parts thereof because those items have been maintained, altered, or inspected by persons employed outside Liberia who do not hold a Liberia technician's license. Each AOC holder who is granted authority under this deviation shall provide for surveillance of facilities and practices to assure that all work performed on these parts is accomplished in accordance with the AOC holder's maintenance control manual.

- (l) Copies of all amendments to the maintenance program shall be furnished promptly to all organizations or persons to whom the maintenance program has been issued.

9.5.1.13 **Reliability Program**

- (a) The reliability programme shall ensure that the aircraft maintenance programme tasks are effective and their periodicity is adequate.
- (b) A maintenance programme for each aeroplane shall contain when applicable, condition monitoring and reliability programme descriptions for aircraft systems, components and powerplants.
- (c) A reliability programmes shall be developed for the aircraft maintenance program if the maintenance program is based upon maintenance steering groups (MSG) logic or those that include condition monitored components or that does not contain overhaul time periods for all significant system components.
- (d) A reliability programmes need not be developed for aircraft not considered as large aircraft or that contain overhaul time periods for all significant aircraft system components.
- (e) A reliability programme may result in the escalation or deletion of maintenance tasks, as well as de-escalation or addition of maintenance tasks.
- (f) A reliability programme shall provide an appropriate means of monitoring the effectiveness of the maintenance programme.

9.5.1.14 **Authority to Perform and Approve Maintenance, Preventive Maintenance, and Modifications**

- (a) An AOC holder which is not certificated as an AMO may perform and approve maintenance, preventive maintenance, or modifications of any aircraft, airframe, aircraft engine, propeller, appliance, or component, or a part thereof for return to service, if approved by the authority of the State of Registry, as provided in its maintenance programme and maintenance control manual accepted by the State of Operator.
- (b) An AOC holder may make arrangements with an appropriately rated AMO for the performance of maintenance, preventive maintenance, or modifications of any aircraft, airframe, aircraft engine, propeller, appliance, or component, or part thereof as provided in its maintenance programme and maintenance control manual. As of 05 November 2020, the activities listed shall be performed by an AMO approved by the State of Registry or approved by another Authority that is accepted by the State of Registry.
- (c) An AOC holder which is not certificated as an AMO shall use an appropriately licensed and rated individual in accordance with Part 2, as appropriate, to approve for return to service any maintenance, preventive maintenance, or modifications of any aircraft, airframe, aircraft engine, propeller, or appliance after performing or supervising in accordance with technical data approved by the State of Registry. As of 05 November 2020, the activities listed shall be performed by a person licensed by the State of Registry.

9.5.1.15 **Required Inspection Personnel**

- (a) No person may use any person to perform required inspections unless the person performing the inspection is appropriately certificated, properly trained, qualified and authorized to do so.
- (b) No person may allow any person to perform a required inspection unless, at that time, the person performing that inspection is under the supervision and control of an inspection's unit.
- (c) No person shall perform a required inspection if he performed the item of work required to be inspected.
- (d) Each certificated holder shall maintain, or shall determine that each person with whom it arranges to perform its required inspections, maintains a current listing of persons who have been trained, qualified and authorized to conduct required inspections.
 - (1) The persons shall be identified by name, occupational title, and the inspections they are authorized to perform.
 - (2) The AOC holder (or person with whom it arranges to perform its required inspections) shall give written authorization to each person so authorized, describing the extent of his responsibilities, authorizations and inspection limitations.
 - (3) The list shall be made available for inspection by the Authority on request.

9.5.1.16 **License Requirements for a Technician - AOC Holder Using Equivalent System**

- (a) Each person who is directly in charge of maintenance, preventive maintenance, or modification, of any aircraft, airframe, aircraft engine, propeller, appliance, or component, or part thereof and each person performing required inspections and approving for return to service the maintenance performed shall be an appropriately licensed and rated technician or repair specialist in accordance with Part 2, as appropriate, and acceptable to the Authority. As of 05 November 2020, the activities listed shall be performed by a person licensed by the State of Registry.
- (b) A person who is directly in charge shall be on site but need not physically observe and direct each worker constantly, but shall be available for consultation and decision on matters requiring instruction or decision from higher authority than that of the persons performing the work.

Note: A person "directly in charge" is each person assigned to a position in which he is responsible for the work of a shop or station that performs maintenance, preventive maintenance, modifications, or other functions affecting aircraft airworthiness.

9.5.1.17 **Rest and Duty Limitations for Persons Performing Maintenance Functions on AOC Holder Aircraft**

- (a) No person may assign, nor shall any person perform maintenance functions for aircraft certificated for commercial air transport, unless that person has had a minimum rest period of 8 hours prior to the beginning of duty.
- (b) No person may schedule a person performing maintenance functions for aircraft certificated for commercial air transport for more than 12 consecutive hours of duty.
- (c) In situations involving unscheduled aircraft unserviceability, persons performing maintenance functions for aircraft certificated for commercial air transport may be continued on duty for:
 - (1) Up to 16 consecutive hours; or
 - (2) 20 hours in 24 consecutive hours.
- (d) Following unscheduled duty periods, the person performing maintenance functions for aircraft shall have a mandatory rest period of 10 hours.
- (e) The AOC holder shall relieve the person performing maintenance functions from all duties for 24 consecutive hours during any 7 consecutive day period.

9.5.1.18 **occurrence Reporting**

- (a) The operator shall report to the authority, and to any other organisation required by the State of the operator to be informed, any accident, serious incident and occurrence as defined in Annex 13.
- (b) Without prejudice to point (a) the AOC holder shall report to the Authority and the aircraft type certificate holder any incident, malfunction, technical defect, exceeding of technical limitations, occurrence that would highlight inaccurate, incomplete or ambiguous information contained in technical data or any condition of the aircraft or aircraft component identified by the AOC holder's maintenance organisation that could or has seriously hazard the aircraft and that has not resulted in an accident or serious incident.
- (c) Where relevant, the operator shall produce a follow-up report to provide details of actions it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified. This report shall be produced in a form and manner established by the authority.
- (d) Without prejudice to Part 13 the reports referred in paragraphs (a), (b) and (c) shall be made on the form and manner prescribed by the Authority and contain all pertinent information about the condition known to the AOC holder.

9.6 AOC SECURITY MANAGEMENT

Note: See ICAO Doc 9811, Manual on the Implementation of the Security Provisions of Annex 6 for a discussion of implementation of ICAO Annex 6 security standards.

9.6.1 APPLICABILITY

- (a) This subpart provides those certification requirements that apply to the AOC holder's protection of aircraft, facilities and personnel from unlawful interference.
- (b) The rules set forth in this Subpart apply to both international and domestic commercial operations (air services).

9.6.2 SECURITY REQUIREMENTS

- (a) Each AOC holder shall ensure that all appropriate personnel are familiar with, and comply with, the relevant requirements of the national security programmes of the State of the operator.

9.6.3 SECURITY TRAINING PROGRAMS

- (a) Each AOC holder shall establish, maintain and conduct approved security training programmes which enable the operator's personnel to take appropriate action to prevent acts of unlawful interference such as sabotage or unlawful seizure of aircraft and to minimise the consequences of such events should they occur.
- (b) As a minimum, the security training programme shall include the following elements:
 - (1) Determination of the seriousness of any occurrence;
 - (2) Crew communication and coordination;
 - (3) Appropriate self-defence responses;
 - (4) Use of non-lethal protective devices assigned to crew members whose use is authorised by LCAA;
 - (5) Understanding of behaviour of terrorists so as to facilitate the ability of crewmembers to cope with hijacker behaviour and passenger responses,
 - (6) Live situational training exercises regarding various threat conditions;
 - (7) Flight crew compartment procedures to protect the aircraft;
 - (8) Aircraft search procedures and guidance on least-risk bomb locations where practicable; and
 - (9) Crew preventative measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aircraft.

Note: If the AOC is responsible for aerodrome screening of passengers, baggage and cargo, then screening training must be included in the security training programme.

- (c) The operator shall also establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aeroplane so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

9.6.4 REPORTING ACTS OF UNLAWFUL INTERFERENCE

- (a) Following an act of unlawful interference on board an aircraft, the PIC or, in his or her absence, the AOC holder, shall submit, without delay, a report of such an act to the designated local authority and the Authority in the State of the operator.

9.6.5 AIRCRAFT SEARCH PROCEDURE CHECKLIST

- (a) Each AOC holder shall ensure that all aircraft carry a checklist of the procedures to be followed for that type aircraft in searching for a bomb in case of suspected sabotage and for inspecting aeroplanes for concealed weapons, explosives, or other dangerous devices when a well-founded suspicion exists that the aircraft may be the object of an act of unlawful interference.
- (b) The Aircraft Search Procedure checklist shall be supported by guidance on the appropriate course of action to be taken should a bomb or suspicious object be found and information on the least-risk bomb location specific to the aircraft.

9.6.6 SECURITY OF THE FLIGHT CREW COMPARTMENT DOORS, IF INSTALLED

- (a) The flight crew compartment door on aircraft operated for the purpose of carrying passengers shall be capable of being locked from within the compartment in order to prevent unauthorised access.
- (b) Each AOC holder shall have an approved means by which the cabin crew can discreetly notify the flight crew in the event of suspicious activity or security breaches in the cabin.
- (c) The AOC holder shall not operate an aircraft unless it equipped with an approved flight crew compartment door in accordance with the requirements in Part 7.
- (d) The AOC holder shall ensure that the flight crew compartment door is kept closed and locked from the time all external doors are closed following embarkation until any such door is opened for disembarkation, except when necessary to permit access and egress by authorised persons.
- (e) All passenger-carrying aeroplanes should be equipped with an approved flight crew compartment door, where practicable, that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorised persons. This door should be capable of being locked and unlocked from either pilot's station.
 - (1) The door should be closed and locked from the time all external doors are closed following embarkation until any such door is opened for disembarkation, except when necessary to permit access and egress by authorised persons; and
 - (2) Means should be provided for monitoring from either pilot's station the entire door area outside the flight crew compartment to identify persons requesting entry and to detect suspicious behaviour or potential threat.

9.6.7 FLIGHT CREW COMPARTMENT DOORS, LARGE AEROPLANES— SECURITY

- (a) All aeroplanes certificated with a maximum certificated take-off mass in excess of 45 500 kg or with a passenger seating capacity greater than 60 shall be equipped with an approved flight crew compartment door that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorised persons. This door should be capable of being locked and unlocked from either pilot's station.
- (1) The door shall be closed and locked from the time all external doors are closed following embarkation until any such door is opened for disembarkation, except when necessary to permit access and egress by authorised persons; and
 - (2) Means shall be provided for monitoring from either pilot's station the entire door area outside the flight crew compartment to identify persons requesting entry and to detect suspicious behaviour or potential threat.

9.6.8 CARRIAGE OF WEAPONS

- (a) Where an operator accepts the carriage of weapons removed from passengers, the aeroplane should have provision for stowing such weapons in a place so that they are not accessible to any person during flight time.

9.6.9 MISCELLANEOUS

- (a) The AOC holder should provide specialized means for attenuating and directing the blast for use at the least-risk bomb location.

9.7 AOC DANGEROUS GOODS MANAGEMENT

Note 1: Subpart 1.6 of these regulations includes safety management provisions for air operators. Further guidance is contained in ICAO Doc 9859, Safety Management Manual (SMM).

Note 2: The carriage of dangerous goods is included in the scope of the operator's SMS.

9.7.1 APPLICABILITY

- (a) This subpart provides those certification requirements that apply to the management and transport of dangerous goods by air.
- (b) The rules set forth in this Subpart apply to both international and domestic commercial air transport operations.

9.7.2 APPROVAL TO TRANSPORT DANGEROUS GOODS

- (a) No AOC holder may transport dangerous goods unless given specific approval to do so by the Authority in accordance with this sub-part and Part 15.

9.7.3 SCOPE

- (a) Each AOC holder shall comply with the provisions contained in the ICAO Doc 9284, Technical Instructions for the Safe Transport of Dangerous Goods By Air

hereinafter referred to as “Technical Instructions”, on all occasions when dangerous goods are carried, irrespective of whether the flight is wholly or partly within or wholly outside the territory of Liberia.

- (b) Where dangerous goods are to be transported outside the territory of Liberia, the AOC holder shall review and comply with the appropriate variations noted by contracting states contained in Attachment 3 to the Technical Instructions.
- (c) Articles and substances which would otherwise be classified as dangerous goods are excluded from the provisions of this subpart, to the extent specified in the Technical Instructions, provided they are:
 - (1) Required to be aboard the aircraft for operating reasons;
 - (2) Carried as catering or cabin service supplies;
 - (3) Carried for use in flight as a veterinary aid or as a humane killer for an animal; or
 - (4) Carried for use in flight for medical aid for a patient, provided that:
 - (i) Gas cylinders have been manufactured specifically for the purpose of containing and transporting that particular gas;
 - (ii) Drugs, medicines and other medical matter are under the control of trained personnel during the time when they are in use in the aircraft;
 - (iii) Equipment containing wet cell batteries is kept and, when necessary secured, in an upright position to prevent spillage of the electrolyte; and
 - (iv) Proper provision is made to stow and secure all the equipment during take-off and landing and at all other times when deemed necessary by the PIC in the interests of safety; or
 - (v) They are carried by passengers or crew members.
- (d) Articles and substances intended as replacements for those described in paragraph (b)(1) of this subsection shall be transported on an aircraft as specified in the Technical Instructions.

9.7.4 LIMITATIONS ON THE TRANSPORT OF DANGEROUS GOODS

- (a) Each AOC holder shall take all reasonable measures to ensure that articles and substances that are specifically identified by name or generic description in the Technical Instructions as being forbidden for transport under any circumstances are not carried on any aircraft.
- (b) Each AOC holder shall take all reasonable measures to ensure that articles and substances or other goods that are identified in the Technical Instructions as being forbidden for transport in normal circumstances or infected live animals are transported only when—
 - (1) They are exempted by the States concerned under the provisions of the Technical Instructions; or

- (2) The Technical Instructions indicate they may be transported under an approval issued by the State of Origin.

9.7.5 CLASSIFICATION

- (a) Each AOC holder shall ensure that articles and substances are classified as dangerous goods as specified in the Technical Instructions.

9.7.6 PACKAGING

- (a) Each AOC holder shall ensure that dangerous goods are packed as specified in the Technical Instructions.
- (b) Packaging used for the transport of dangerous goods shall:
 - (1) Be of good quality and shall be constructed and securely closed so as to prevent leakage which might be caused in normal conditions of transport, by changes in temperature, humidity or pressure, or by vibration.
 - (2) Be suitable for the contents. Packaging in direct contact with dangerous goods shall be resistant to any chemical or other action of such goods.
 - (3) Meet the material and construction specifications in the Technical Instructions.
 - (4) Be tested in accordance with the provisions of the Technical Instructions.
- (c) Packaging for which retention of a liquid is a basic function, shall be capable of withstanding, without leaking, the pressure stated in the Technical Instructions.
- (d) Inner packaging shall be so packed, secured or cushioned as to prevent their breakage or leakage and to control their movement within the outer packaging(s) during normal conditions of air transport. Cushioning and absorbent materials shall not react dangerously with the contents of the packaging.
- (e) No packaging shall be reused until it has been inspected and found free from corrosion or other damage. Where packaging is reused, all necessary measures shall be taken to prevent contamination of subsequent contents.
- (f) If because of the nature of their former contents, uncleaned empty packaging may present a hazard, they shall be tightly closed and treated according to the hazard they constitute.
- (g) No harmful quantity of a dangerous substance shall adhere to the outside of packages.

9.7.7 LABELING AND MARKING

- (a) Each AOC holder shall ensure that packages, overpacks and freight containers are labeled as specified in the Technical Instructions.
- (b) Each AOC holder shall ensure that packages, overpacks and freight containers are marked with:
 - (1) the proper shipping name of its contents;
 - (2) the UN number, when assigned, and
 - (3) other such markings as may be specified in the Technical Instructions.

- (c) Each AOC holder shall ensure that packaging manufactured to a specification contained in the Technical Instructions shall be so marked in accordance with the Technical Instructions.
- (d) Where dangerous goods are carried on a flight which takes place wholly or partly outside the territory of Liberia, the AOC holder shall ensure that labeling and marking are in the English language in addition to any other language requirements.

9.7.8 DANGEROUS GOODS TRANSPORT DOCUMENT

- (a) Each AOC holder shall ensure that, except when otherwise specified in the Technical Instructions, dangerous goods are accompanied by a dangerous goods transport document.
- (b) Where dangerous goods are carried on a flight which takes place wholly or partly outside the territory of Liberia, the AOC holder shall ensure that the English language is used for the dangerous goods transport document in addition to any other language requirements.

9.7.9 ACCEPTANCE OF DANGEROUS GOODS

- (a) No AOC holder may accept dangerous goods for transport until the package, overpack or freight container has been inspected in accordance with the acceptance procedures in the Technical Instructions.
- (b) Each AOC holder, or its handling agent, shall use an acceptance check list which—
 - (1) Shall allow for all relevant details to be checked; and
 - (2) Shall be in such form as will allow for the recording of the results of the acceptance check by manual, mechanical or computerized means.
- (c) Each designated postal operator shall have the procedure for controlling the introduction of dangerous goods in mail into air transport approved by the Authority where the mail is accepted.

Note 1: In accordance with the Universal Postal Union Convention, dangerous goods are not permitted in mail, except as provided for in the Technical Instructions.

Note 2: The UPU has established procedures to control the introduction of dangerous goods into air transport through the postal services (see the Universal Postal Union Parcel Post Regulations and Letter Post Regulations).

Note 3: Guidance for approving the procedures established by designated postal operators to control the introduction of dangerous goods into air transport may be found in the Supplement to the Technical Instructions, Part S-1, Chapter 3.

9.7.10 INSPECTION FOR DAMAGE, LEAKAGE OR CONTAMINATION

- (a) Each AOC holder shall ensure that:
 - (1) Packages, overpacks and freight containers are inspected for evidence of leakage or damage immediately prior to loading on an aircraft or into a unit load device, as specified in the Technical Instructions.
 - (2) A unit load device is not loaded on an aircraft unless it has been inspected as required by the Technical Instructions and found free from any evidence of leakage from, or damage to, the dangerous goods contained therein.

- (3) Leaking or damaged packages, overpacks or freight containers are not loaded on an aircraft.
- (4) Any package of dangerous goods found on an aircraft and which appears to be damaged or leaking is removed or arrangements made for its removal by an appropriate authority or organization.
- (5) After removal of any leaking or damaged goods, the remainder of the consignment is inspected to ensure it is in a proper condition for transport and that no damage or contamination has occurred to the aircraft or its load.
- (6) Packages, overpacks and freight containers are inspected for signs of damage or leakage upon unloading from an aircraft or from a unit load device and, if there is evidence of damage or leakage, the area where the dangerous goods were stowed is inspected for damage or contamination.

9.7.11 REMOVAL OF CONTAMINATION

- (a) Each AOC holder shall ensure that—
 - (1) Any contamination found as a result of the leakage or damage of dangerous goods is removed without delay; and
 - (2) An aircraft which has been contaminated by radioactive materials is immediately taken out of service and not returned until the radiation level at any accessible surface and the non-fixed contamination are not more than the values specified in the Technical Instructions.

9.7.12 LOADING RESTRICTIONS AND STOWAGE OF DANGEROUS GOODS

- (a) Each AOC holder shall ensure that packages and overpacks containing dangerous goods and freight containers containing radioactive materials are loaded and stowed in accordance with the Technical Instructions.
 - (1) Passenger Cabin and Flight Deck. Each AOC holder shall ensure that dangerous goods are not carried in an aircraft cabin occupied by passengers or on the flight deck, unless otherwise specified in the Technical Instructions.
 - (2) Cargo Compartments. Each AOC holder shall ensure that dangerous goods are loaded, segregated, stowed and secured on an aircraft as specified in the Technical Instructions.
 - (3) Dangerous Goods Designated for Carriage Only on Cargo Aircraft. Each AOC holder shall ensure that packages of dangerous goods bearing the “Cargo Aircraft Only” label are carried on a cargo aircraft and loaded as specified in the Technical Instructions, and in a manner that a crew member or other authorized person can see, handle and, where size and weight permit, separate such packages from other cargo in flight.
- (b) Packages containing dangerous goods shall be separated when stowing as follows:
 - (1) Those packages that might react dangerously with other packages shall not be stowed next to each other or in a position that might allow interaction between them in the event of a leakage.

- (2) Those packages containing toxic and infectious substances shall be stowed in accordance with the Technical Instructions.
 - (3) Those packages containing radioactive materials shall be stowed so that they are separated from persons, live animals and undeveloped film, and secured in flight in accordance with the Technical Instructions.
- (c) The AOC holder shall protect and secure any dangerous goods in such a manner that will prevent any movement in flight that might change the orientation of the packages.

9.7.13 PROVISION OF INFORMATION

- (a) The operator shall ensure that all personnel, including third-party personnel, involved in the acceptance, handling, loading and unloading of cargo are informed of the operator's operational approval and limitations with regard to the transport of dangerous goods.
- (b) *Information to Ground personnel.* Each AOC holder shall ensure that:
- (1) Information is provided to enable ground personnel to carry out their duties with regard to the transport of dangerous goods, including the actions to be taken in the event of incidents and accidents involving dangerous goods; and
 - (2) Where applicable, the information referred to in paragraph (a)(1) is also provided to the handling agent.
- (c) *Information to Passengers.* Each AOC holder shall ensure that information is promulgated as required by the Technical Instructions so that passengers are warned as to the types of goods which they are forbidden from transporting aboard an aircraft.
- (d) *Information to Shippers.* Each AOC holder shall ensure that information is promulgated as required by the Technical Instructions so that shippers of dangerous goods are provided with the information as required by the Technical Instructions to enable them to carry out their responsibilities with regard to the transport of dangerous goods and the action to be taken in the event of emergencies arising involving dangerous goods.
- (e) *Information to Acceptance Points Personnel.* Each AOC holder and, where applicable, the handling agent shall ensure that notices are provided at acceptance points for cargo giving information about the transport of dangerous goods, including the actions to be taken in the event of emergencies arising involving dangerous goods.
- (f) *Information to Crew Members.* Each AOC holder shall ensure that information is provided in the Operations Manual to enable crew members to carry out their responsibilities in regard to the transport of dangerous goods, including the actions to be taken in the event of emergencies arising involving dangerous goods.
- (g) *Information to the PIC.* Each AOC holder shall ensure that the PIC is provided, as early as practicable before the departure of the flight, with written information, as specified in the Technical Instructions.

- (h) *Information in the Event of an In-Flight Emergency.* If an in-flight emergency occurs, the PIC shall, as soon as the situation permits, inform the appropriate air traffic services unit, for the information of the aerodrome authorities, of any dangerous goods on board the aircraft, as provided for in the Technical Instructions.
- (i) *Information in the Event of an Aircraft Incident or Accident.* Each AOC holder which is involved in an aircraft accident or incident shall—
 - (1) As soon as possible, inform the appropriate authority of the State in which the aircraft accident or incident occurred of any dangerous goods carried; and
 - (2) On request, provide any information required to minimize the hazards created by any dangerous goods carried.

9.7.14 DANGEROUS GOODS TRAINING PROGRAMME AND MANUAL

- (a) Each AOC holder, whether or not the AOC holder is approved to transport dangerous goods, shall establish and maintain a training programs approved by the Authority, as required by the Technical Instructions and demonstrate to the authority that adequate training has been given to all personnel.
- (b) Each AOC holder not holding a permanent approval to carry dangerous goods shall ensure that the following personnel have received training to carry out their duties in respect of dangerous goods, in accordance with Part 15:
 - (1) Staff who are engaged in general cargo handling
 - (2) Crew members, passenger handling staff, and security staff employed by the AOC holder who deal with the screening of a passengers and their baggage.
- (c) Each AOC holder holding a permanent approval to carry dangerous goods shall ensure that the following personnel have received initial and recurrent training and are qualified to carry out their duties in accordance with Part 15:
 - (1) Staff who are engaged in the acceptance of dangerous goods
 - (2) Staff who are engaged in ground handling, storage and loading
 - (3) Staff who are engaged in general cargo handling
 - (4) Personnel engaged in general cargo handling
 - (5) Flight crew members
 - (6) Passenger handling personnel;
 - (7) Security personnel employed by the operator who deal with the screening of passengers and their baggage; and crew members other than flight crew members
- (d) An AOC holder shall provide dangerous goods training manuals which contain adequate procedures and information to assist personnel in identifying packages marked or labelled as containing hazardous materials including:
 - (1) Instructions on the acceptance, handling, and carriage of hazardous materials.

- (2) Instructions governing the determination of proper shipping names and hazard classes.
- (3) Packaging, labelling, and marking requirements.
- (4) Requirements for shipping papers, compatibility requirements, loading, storage, and handling requirements.
- (5) Restrictions.
- (e) At a minimum, the dangerous goods training program shall include the items as listed in 8.10.1.10 of these regulations.
- (f) The AOC holder shall provide such information in the OM as will enable the flight crew to carry out its responsibilities with regard to the transport of dangerous goods and shall provide instructions as to the action to be taken in the event of emergencies arising involving dangerous goods.

9.7.15 DANGEROUS GOODS INCIDENT AND ACCIDENT REPORTS

- (a) Each AOC holder shall report dangerous goods incidents and accidents to the Authority within 72 hours of the event, unless exceptional circumstances prevent this.
- (b) Each AOC holder shall report undeclared or misdeclared dangerous goods discovered in cargo or passenger's baggage to the Authority within 72 hours of the discovery, unless exceptional circumstances prevent this.

9.7.16 SHIPPER'S RESPONSIBILITIES

- (a) No person shall offer a package, overpack or freight container containing dangerous goods for shipment by air unless that person has, in accordance with the Technical Instructions, ensured that the dangerous goods are:
 - (1) Properly, classified, packed; labelled and in the proper condition for transport by air in accordance with the relevant regulations; and
 - (2) Accompanied by a properly executed dangerous goods transport document.
- (b) In completing the dangerous goods transport document for the AOC holder, the shipper shall, in accordance with the Technical Instructions and any other regulations of Liberia:
 - (1) Declare that the dangerous goods are fully and accurately described by their proper shipping names;
 - (2) Declare that the dangerous goods are classified, packed, marked and labelled and in the proper condition for transport;
 - (3) Complete the form in both the language of Liberia and in English when the dangerous goods are to be carried either wholly or partly outside Liberia; and
 - (4) Sign the form.

9.7.17 DANGEROUS GOODS SECURITY PROVISIONS

- (a) Each shipper, operator and other individuals engaged in the transport of dangerous goods by air shall establish security measures, consistent with these regulations, to minimize theft or misuse of dangerous goods that may endanger persons, property or the environment.

9.7.18 DANGEROUS GOODS POLICIES AND PROCEDURES

- (a) Each AOC holder not holding a permanent approval to carry dangerous goods shall established dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of Annex 18, the Technical Instructions and this part to allow operator personnel to:
- (1) identify and reject undeclared dangerous goods, including COMAT classified as dangerous goods; and
 - (2) report to the Authority and the State in which it occurred any:
 - (i) occasions when undeclared dangerous goods are discovered in cargo or mail; and
 - (ii) dangerous goods accidents and incidents.
- (b) To obtain the approval to transport dangerous goods, the operator shall in addition to paragraph (a) establish policies and procedures to ensure the safe handling of dangerous goods at all stages of air transport, containing information and instructions on:
- (1) the operator's policy to transport dangerous goods;
 - (2) the requirements for acceptance, handling, loading, unloading, stowage and segregation of dangerous goods, including COMAT classified as dangerous goods as cargo on board an aircraft; and;
 - (3) actions to take in the event of an aircraft accident or incident when dangerous goods are being carried;
 - (4) the response to emergency situations involving dangerous goods;
 - (5) the removal of any possible contamination;
 - (6) the duties of all personnel involved, especially with relevance to ground handling and aircraft handling;
 - (7) inspection for damage, leakage or contamination;
 - (8) dangerous goods accident and incident reporting to the appropriate authorities of the State of the Operator and the State of Origin any occasions when dangerous goods are discovered to have been carried:
 - (i) when not loaded, segregated, separated or secured in accordance with the Technical Instructions, Part 7, Chapter 2; and
 - (ii) without information having been provided to the pilot-in-command;
 - (9) providing the pilot-in-command with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo.

- (c) An operator shall establish procedures to ensure that all reasonable measures are taken to prevent dangerous goods from being carried on board inadvertently.

9.8 CARGO COMPARTMENT SAFETY

9.8.1 TRANSPORT OF ITEMS IN THE CARGO COMPARTMENT

- (a) The AOC holder shall establish policy and procedures for the transport of items in the cargo compartment, which include the conduct of a specific safety risk assessment. The risk assessment shall include at least the:
- (1) Hazards associated with the properties of the items to be transported;
 - (2) Capabilities of the operator;
 - (3) Operational considerations (e.g., area of operations, diversion time);
 - (4) Capabilities of the aeroplane and its systems (e.g., cargo compartment fire suppression capabilities);
 - (5) Containment characteristics of ULDs;
 - (6) Packing and packaging;
 - (7) Safety of the supply chain for items to be transported; and
 - (8) Quantity and distribution of dangerous goods items to be transported.

Note 1: Additional operational requirements for the transport of dangerous goods are contained in 9.7 of this part.

Note 2: Guidance on the hazards associated with the transport of items in the cargo compartment, the conduct of a specific safety risk assessment in accordance with ICAO Doc 9859, Safety Management Manual (SMM), and the responsibilities for the transport of dangerous goods, is contained in ICAO Doc 10102, Cargo Compartment Operational Safety Manual [working title].

9.8.2 FIRE PROTECTION

- (b) The elements of the cargo compartment(s) fire protection system as approved by the State of Design or State of Registry, and a summary of the demonstrated cargo compartment fire protection certification standards, shall be provided in the AFM or other documentation supporting the operation of the aeroplane.
- (c) The AOC holder shall establish policy and procedures that address the items to be transported in the cargo compartment. These shall ensure to a reasonable certainty that in the event of a fire involving those items, it can be detected and sufficiently suppressed or contained by the elements of the aeroplane design associated with cargo compartment fire protection, until the aeroplane makes a safe landing.

Note: Guidance on the elements of cargo compartment fire protection and associated demonstrated standards and guidance on policy and procedures that address the items to be transported in the cargo compartment are provided in ICAO Doc 10102, Cargo Compartment Operational Safety Manual [working title].

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LIBERIA CIVIL AVIATION FLIGHT SAFETY STANDARDS REGULATIONS

Part 9 — IMPLEMENTING STANDARDS

For ease of reference the number assigned to each implementing standard corresponds to its associated regulation. For example IS: 9.1.7 would reflect a standard required in subsection 9.1.7.

IS 9.2.2.2(d) CONTENTS OF AIR OPERATOR CERTIFICATE

- (a) The AOC and its associated operations specifications shall contain the minimum information required in paragraphs (c) and (d) respectively, in a standardized format.
- (b) The air operator certificate and its associated operations specifications shall define the operations for which an operator is authorized.
- (c) The AOC shall be based on the following template:

 AIR OPERATOR CERTIFICATE		
¹	[State of the Operator] ² [Issuing Authority] ³	1. CERTIFICATE NUMBER:
AOC#: ⁴ Expiry Date: ⁵	Operator Name: ⁶ DBA Trading Name: ⁷ Operator address: ⁸	Operational Points of Contact: ¹⁰ Contact details, at which operational management can be contacted without undue delay, are listed in _____ ¹¹
	Telephone: ⁹ Fax: E-mail:	
This certificate certifies that _____ ¹² is authorized to perform commercial air operations, as defined in the attached operations specifications, in accordance with the Operations Manual and the _____ ¹³ .		
Date of issue ¹⁴ :	Name and Signature ¹⁵ : Title:	

Notes:

1. For use of the State of the Operator.
2. Replace by the name of the State of the Operator.
3. Replace by the identification of the issuing authority of the State of the Operator.
4. Unique AOC number, as issued by the State of the Operator.
5. Date after which the AOC ceases to be valid (dd-mm-yyyy).
6. Replace by the operator's registered name.
7. Operator's trading name, if different. Insert "DBA" before the trading name (for "doing business as").
8. Operator's principal place of business address.
9. Operator's principal place of business telephone and fax details, including the country code. E-mail to be provided if available.
10. The contact details include the telephone and fax numbers, including the country code, and the e-mail address (if available) at which operational management can be contacted without undue delay for issues related to flight operations, airworthiness, flight and cabin crew competency, dangerous goods and other matters, as appropriate.
11. Insert the controlled document, carried on board, in which the contact details are listed, with the appropriate paragraph or page reference, e.g.: "Contact details are listed in the operations manual. Gen/Basic, Chapter 1, 1.1" or "...are listed in the operations specifications, page 1" or "...are listed in an attachment to this document."
12. Operator's registered name.
13. Insertion of reference to the appropriate civil aviation regulations.
14. Issuance date of the AOC (dd-mm-yyyy).
15. Title, name and signature of the authority representative. In addition, an official stamp may be applied on the AOC (identification of the issuing Authority of the State of the Operator).

- (d) For each aircraft model in the operator's fleet, identified by aircraft make, model and series, the following list of authorizations, conditions and limitations shall be included: issuing authority contact details, operator name and AOC number, date of issue and signature of the Authority representative, aircraft model, types and area of operations, special limitations and authorizations.

Note: If authorizations and limitations are identical for two or more models, these models may be grouped in a single list.

IS 9.2.2.2(e) CONTENTS OF OPERATIONS SPECIFICATIONS

- (a) The operations specifications layout shall be as follows:

Note: - The Minimum Equipment List (MEL) constitutes an integral part of the Operations Manual

OPERATIONS SPECIFICATIONS				
<i>(subject to the approved conditions in the Operations Manual)</i>				
Issuing Authority Contact Details¹				
Telephone:	Fax:	E-mail:		
_____	_____	_____		
AOC# ² :	Operator Name ³ :	Date ⁴ :	Signature:	
_____	_____	_____	_____	
DBA Trading Name:				

Aircraft Model ⁵ :				

Types of Operation: <input type="checkbox"/> Passengers				
<input type="checkbox"/> Cargo <input type="checkbox"/> Other ⁶ :				

Area of operation ⁷ :				

Special Limitations ⁸ :				

Special Authorizations:	Yes	No	Specific Approvals ⁹	Remarks
Dangerous Goods	<input type="checkbox"/>	<input type="checkbox"/>		
Low Visibility Operations				
Approach and Landing	<input type="checkbox"/>	<input type="checkbox"/>	CAT ¹⁰ : ____, RVR: ____m, DH: __ ft	
Take-off	<input type="checkbox"/>	<input type="checkbox"/>	RVR ¹¹ : ____m	
RVSM¹² <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>		
EDTO¹³ <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>	Threshold time ¹⁴ : ____ minutes Maximum Diversion Time ¹⁴ : __ minutes	
Navigation Specifications for PBN Operations¹⁵	<input type="checkbox"/>	<input type="checkbox"/>		16
Continuing Airworthiness¹⁶	X	X	17	
Other¹⁸	<input type="checkbox"/>	<input type="checkbox"/>		

Notes:

1. Telephone and fax contact details of the Authority, including the country code. E-mail to be provided if available.
2. Insertion of associated AOC number.
3. Insertion of the operator registered name and the operator trading name, if different. Insert “DBA” before the trading name (for “Doing business as”).

4. Issuance date of the operations specifications (dd-mm-yyyy) and signature of the Authority representative.
 5. Insertion of the Commercial Aviation Safety Team (CAST) ICAO designation of the aircraft make, model and series, or master series, if a series has been designated (e.g. Boeing-737-3K2 or Boeing-777-232). The CAST/ICAO taxonomy is available at: <http://www.intlaviationstandards.org/>.
 6. Other type of transportation to be specified (e.g. emergency medical service).
 7. Listing of geographical area(s) of authorized operation (by geographical coordinates or specific routes, flight information region or national or regional boundaries).
 8. Listing of applicable special limitations (e.g. VFR only, Day only, etc.).
 9. List in this column the most permissive criteria for each approval or the approval type (with appropriate criteria).
 10. Insertion of applicable instrument approach operation (CAT II, IIIA, IIIB and IIIC). Insertion of minimum RVR in meters and Decision Height in feet. One line is used per listed approach category.
 11. Insertion of approved minimum take-off RVR in meters. One line per approval may be used if different approvals are granted.
 12. List the airborne capabilities (i.e. automatic landing, HUD, EVS, SVS, CVS) and associated operational credit(s) granted
 13. Not Applicable (N/A) box may be checked only if the aircraft maximum ceiling is below FL290.
 14. If extended diversion time operations (EDTO) approval does not apply, select “N/A”. Otherwise a threshold time and maximum diversion time must be specified.
 15. The threshold distance may also be listed (in nm), as well as the engine type.
 16. Performance-based Navigation (PBN): one line is used for each PBN specifications authorization (e.g. RNAV 1, RNP 4), with appropriate limitations or conditions listed in the “Specific Approvals” and/or “Remarks” columns.
 17. Limitations, conditions and regulatory basis for operational approval associated with the Performance-based Navigation specifications (e.g. GNSS, DME/DME/IRU). Information on performance-based navigation, and guidance concerning the implementation and operational approval process, are contained in the Performance-based Navigation Manual (Doc 9613).
 18. Insert the name of the person/organization, responsible for ensuring that the continuing airworthiness of the aircraft is maintained and the regulations which require the work, i.e. within the AOC regulation or a specific approval (e.g. EC2042/2003, Part M, Subpart G).
 19. List the EFB functions with any applicable limitations.
 20. Other authorizations or data can be entered here, using one line (or one multi-line block) per authorization (e.g. special approach authorizations, NMPS, approved navigation performance, etc.).
- (b)** In addition to the items in (d) and (e) operations specifications may include other specific authorization, such as:
- (1)** Special aerodrome operations (e.g. short take-off and landing operations or land and hold short operations);
 - (2)** Special approach procedures (e.g. steep gradient approach, instrument landing system precision runway monitor approach, localizer-type directional aid precision runway monitor approach, RNP approach, etc.);
 - (3)** Single-engine passenger transport at night or in instrument meteorological (IMC) conditions;

- (4) Operations in areas with special procedures (e.g. operations in areas using different altimetry units or altimeter setting procedures).

IS: 9.3.2.2 MANAGEMENT PERSONNEL REQUIRED FOR COMMERCIAL AIR TRANSPORT OPERATIONS

- (a) Each AOC holder shall make arrangements to ensure continuity of supervision if operations are conducted in the absence of any required management personnel.
- (b) Required management personnel shall be contracted to work sufficient hours such that the management functions are fulfilled.
- (c) A person serving in a required management position for an AOC holder may not serve in a similar position for any other AOC holder, unless an exemption is issued by the Authority.
- (d) The minimum initial qualifications for a Director of Operations are—
- (1) An ATP license; and
 - (2) 3 years' experience as PIC in commercial air transport operations—
 - (i) Of large aircraft if the AOC holder operates large aircraft, or
 - (ii) Of either large or small aircraft if the AOC holder operates only small aircraft.
- (e) The minimum qualifications for a Chief Pilot are—
- (1) An ATP license with the appropriate ratings for at least one of the aircraft used in the AOC holder's operations; and
 - (2) 3 years' experience as PIC in commercial air transport operations—
 - (i) In large aircraft if the AOC holder operates large aircraft, or
 - (ii) In either large or small aircraft if the AOC holder operates only small aircraft.
- Note: The Authority may accept a commercial pilot license with instrument rating in lieu of the ATP license if the PIC requirements for the operations conducted require only a commercial certificate.*
- (f) The minimum entry qualifications for a Director of Maintenance are—
- (1) An Aviation Maintenance Technician (AMT) license with airframe and powerplant ratings;
 - (2) 3 years' experience in maintaining the same category and class of aircraft used by the AOC holder including 1 year in the capacity of returning aircraft to service; and
 - (3) 1-year supervisory experience maintaining the same category and class of aircraft used by the AOC holder.
- (g) The minimum entry qualifications for a Chief Inspector are—
- (1) An Aviation Maintenance Technician (AMT) license with airframe and powerplant ratings;
 - (2) 3 years' experience in maintaining the same category and class of aircraft used by the AOC holder including 1 year in the capacity of returning aircraft to service.
- (h) An AOC holder may employ a person who does not meet the appropriate airman qualification or experience if the Authority issues an exemption finding that that person has comparable experience and can effectively perform the required management functions.

IS: 9.3.2.3 QUALITY SYSTEM

- (a) In order to show compliance with 9.3.2.3, an AOC holder should establish its quality system in accordance with the instruction and information contained in the following paragraphs.

1.0. General.

1.1 Terminology.

- (a) The terms used in the context of the requirement for an AOC's quality system have the following meaning:

- (1) **Accountable Manager.** The person acceptable to the Authority who has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the Authority, and any additional requirements defined by the operator.
- (2) **Quality assurance.** Quality assurance, as distinguished from quality control, involves activities in the business, systems, and technical audit areas. A set of predetermined, systemic actions which are required to provide adequate confidence that a product or service satisfies quality requirements.

1.2 Quality Policy.

1.2.1 An operator shall establish a formal, written quality policy statement that is a commitment by the accountable manager as to what the quality system is intended to achieve. The quality policy should reflect the achievement and continued compliance with the [Model Regulations] together with any additional standards specified by the operator.

1.2.2 The accountable manager is an essential part of the operator's management organization. With regard to the text in 9.2.2.2(a), the term "accountable manager" is intended to mean the Chief Executive/President/Managing Director/General Manager, etc. of the operator's organization, who by virtue of his or her position has overall responsibility (including financial) for managing the organization.

1.2.3 The accountable manager will have overall responsibility for the operator's quality system, including the frequency, format and structure of the internal management evaluation activities as prescribed in paragraph 3.9 below.

1.3 Purpose of the Quality System.

1.3.1 The quality system should enable the operator to monitor compliance with these [Model Regulations], the operator's manual system, and any other standards specified by the operator, or the Authority, to ensure safe operations and airworthy aircraft.

1.4 Quality Manager.

1.4.1 The function of the quality manager to monitor compliance with, and the adequacy of, procedures required to ensure safe operational practices and airworthy aircraft as required by these [Model Regulations] may be carried out by more than one person by means of different, but complementary, quality assurance programs.

1.4.2 The primary role of the quality manager is to verify, by monitoring activity in the fields of flight operations, maintenance, crew training and ground operations, that the standards required by the Authority, and any additional requirements defined by the operator, are being carried out under the supervision of the relevant required management personnel.

1.4.3 The quality manager should be responsible for ensuring that the quality assurance program is properly established, implemented and maintained.

1.4.4 The quality manager should:

- (a) report to the accountable manager;
- (b) not be one of the required management personnel; and
- (c) have access to all parts of the operator's, and as necessary, any sub-contractor's organization.

1.4.5 In the case of small/very small operators, the posts of the Accountable Manager and quality manager may be combined.

2.0 Quality System.

2.1 Introduction.

2.1.1 The operator's quality system should ensure compliance with and adequacy of operational and maintenance activities requirements, standards, and operational procedures.

2.1.2 The operator should specify the basic structure of the quality system applicable to the operation.

2.1.3 The quality system should be structured according to the size and complexity of the operation to be monitored.

2.2 Scope.

2.2.1 As a minimum, the quality system should address the following:

- (a) The provisions of these [LCAA Regulations];
- (b) The operator's additional standards and operating practices;
- (c) The operator's quality policy;
- (d) The operator's organizational structure;
- (e) Responsibility for the development, establishment and management of the quality system;
- (f) Documentation, including manuals, reports and records;
- (g) Quality procedures;
- (h) Quality assurance program;
- (i) The required financial, material and human resources;
- (j) Training requirements.
- (k) Safety management system program;

2.2.2 The quality system should include a feedback system to the accountable manager to ensure that corrective actions are both identified and promptly addressed. The feedback system should also specify who is required to rectify discrepancies and non-compliance in each particular case, and the procedure to be followed if corrective action is not completed within an appropriate timescale.

2.3 Relevant Documentation.

2.3.1 Relevant documentation includes the relevant part of the operator's manual system.

2.3.2 In addition, relevant document should include the following:

- (a) Quality policy;
- (b) Terminology;
- (c) Specified operational standards;
- (d) A description of the organization;
- (e) The allocation of duties and responsibilities;
- (f) Operational procedures to ensure regulatory compliance;
- (g) The quality assurance program, reflecting:
 - (1) Schedule of the monitoring process;
 - (2) Audit procedures;
 - (3) Reporting procedures;
 - (4) Follow-up and corrective action procedures;
 - (5) Recording system;

- (6) The training syllabus; and
- (7) Document control

3.0 Quality Assurance Program.

3.1 Introduction.

3.1.1 The quality assurance program should include all planned and systematic actions necessary to provide confidence that all operations and maintenance are conducted in accordance with all applicable requirements, standards and operational procedures.

3.1.2 When establishing a quality assurance program, consideration should be given to at least the following:

- (a)** Quality inspection;
- (b)** Audit;
- (c)** Auditors;
- (d)** Auditor's independence
- (e)** Audit scope;
- (f)** Audit scheduling;
- (g)** Monitoring and corrective action;
- (h)** Management evaluation.

3.2 Quality Inspection.

3.2.1 The primary purpose of a quality inspection is to observe a particular event/action/document, etc. in order to verify whether established operational procedures and requirements are followed during the accomplishment of that event and whether the required standard is achieved.

3.2.2 Typical subject areas for quality inspections are:

- (a)** Actual flight operations;
- (b)** Ground deicing/anti-icing;
- (c)** Flight support services;
- (d)** Load control;
- (e)** Maintenance;
- (f)** Technical standards; and
- (g)** Training standards.

3.2.3 Typical methods for quality inspections for maintenance include:

- (a)** Product sampling - the part inspection of a representative sample of the aircraft fleet;
- (b)** Defect sampling - the monitoring of defect rectification performance;
- (c)** Concession sampling - the monitoring of any concession to not carry out maintenance on time;
- (d)** On time maintenance sampling - the monitoring of when (flying hours/calendar time/flight cycles, etc.) aircraft and their components are brought in for maintenance;
- (e)** Sample reports of unairworthy conditions and maintenance errors on aircraft and components.

3.3 Audit.

3.3.1 An audit is a systematic and independent comparison of the way in which an operation is being conducted against the way in which the published operational procedures say it should be conducted.

3.3.2 Audits should include at least the following quality procedures and processes:

- (a)** A statement explaining the scope of the audit;
- (b)** Planning and preparation;

- (c) Gathering and recording evidence; and
- (d) Analysis of the evidence.

3.3.3 Techniques that contribute to an effective audit are:

- (a) Interviews or discussions with personnel;
- (b) A review of published documents;
- (c) The examination of an adequate sample of records;
- (d) The witnessing of the activities that make up the operation; and
- (e) The preservation of documents and the recording of observations.

3.4. Auditors.

3.4.1 An operator should decide, depending upon the complexity of the operations, whether to make use of a dedicated audit team or a single auditor. In any event, the auditor or audit team should have relevant operational and/or maintenance experience.

3.4.2 The responsibilities of the auditors should be clearly defined in the relevant documentation.

3.5 Auditor's Independence.

3.5.1 Auditors should not have any day-to-day involvement in the area of the operation and/or maintenance activity that is to be audited. An operator may, in addition to using the services of full-time dedicated personnel belonging to a separate quality department, undertake the monitoring of specific areas or activities by the use of part-time auditors. An operator whose structure and size does not justify the establishment of full-time auditors, may undertake the audit function by the use of part-time personnel from within its own organization or from an external source under the terms of an agreement acceptable to the Authority. In all cases the operator should develop suitable procedures to ensure that persons directly responsible for the activities to be audited are not selected as part of the auditing team. Where external auditors are used, it is essential that any external specialist is familiar with the type of operation and/or maintenance conducted by the operator.

3.5.2 The operator's quality assurance program should identify the persons within the company who have the experience, responsibility and authority to:

- (a) Perform quality inspections and audits as part of ongoing quality assurance;
- (b) Identify and record any concerns or findings, and the evidence necessary to substantiate such concerns or findings;
- (c) Initiate or recommend solutions to concerns or findings through designated reporting channels;
- (d) Verify the implementation of solutions within specific timescales;
- (e) Report directly to the quality manager.

3.6 Audit Scope.

3.6.1 Operators are required to monitor compliance with the operational and maintenance procedures they have designed to ensure safe operations, airworthy aircraft and the serviceability of both operational and safety equipment. In doing so they should as a minimum, and where appropriate, monitor:

- (a) Organization;
- (b) Plans and company objectives;
- (c) Operational procedures;
- (d) Flight safety;
- (e) Operator certification (AOC/Operations specifications)
- (f) Supervision;
- (g) Aircraft performance;
- (h) All weather operations;
- (i) Communications and navigational equipment and practices;
- (j) Mass, balance and aircraft loading;

- (k) Instruments and safety equipment;
- (l) Manuals, logs, and records;
- (m) Flight and duty time limitations, rest requirements, and scheduling;
- (n) Aircraft maintenance/operations interface;
- (o) Use of the MEL;
- (p) Maintenance programs and continued airworthiness;
- (q) Airworthiness regulations management;
- (r) Maintenance accomplishment;
- (s) Defect deferral;
- (t) Flight crew;
- (u) Cabin crew;
- (v) Dangerous goods;
- (w) Security;
- (x) Training.

3.7 Audit Scheduling.

3.7.1 A quality assurance program should include a defined audit schedule and a periodic review cycle area by area. The schedule should be flexible, and allow unscheduled audits when trends are identified. Follow-up audits should be scheduled when necessary to verify that corrective action was carried out and that it was effective.

3.7.2 An operator should establish a schedule of audits to be completed during a specified calendar period. All aspects of the operation should be reviewed within every 12 month period in accordance with the program unless an extension to the audit period is accepted as explained below. An operator may increase the frequency of audits at its discretion but should not decrease the frequency without the agreement of the Authority. Audit frequency should not be decreased beyond a 24 month period interval.

3.7.3 When an operator defines the audit schedule, significant changes to the management, organization, operation, or technologies should be considered as well as changes to the regulatory requirements.

3.8 Monitoring and Corrective Action.

3.8.1 The aim of monitoring within the quality system is primarily to investigate and judge its effectiveness and thereby to ensure that defined policy, operational, and maintenance standards are continuously complied with. Monitoring activity is based upon quality inspections, audits, corrective action and follow-up. The operator should establish and publish a quality procedure to monitor regulatory compliance on a continuing basis. This monitoring activity should be aimed at eliminating the causes of unsatisfactory performance.

3.8.2. Any non-compliance identified as a result of monitoring should be communicated to the manager responsible for taking corrective action or, if appropriate, the accountable manager. Such non-compliance should be recorded, for the purpose of further investigation, in order to determine the cause and to enable the recommendation of appropriate corrective action.

3.8.3 The quality assurance program should include procedures to ensure that corrective actions are taken in response to findings. These quality procedures should monitor such actions to verify their effectiveness and that they have been completed. Organizational responsibility and accountability for the implementation of corrective action resides with the department cited in the report identifying the finding. The accountable manager will have the ultimate responsibility for resourcing the corrective active action and ensuring, through the quality manager, that the corrective action has re-established compliance with the standard required by the Authority, and any additional requirements defined by the operator.

3.8.4 Corrective action. Subsequent to the quality inspection/audit, the operator should establish:

- (a) The seriousness of any findings and any need for immediate corrective action;
- (b) The origin of the finding;
- (c) What corrective actions are required to ensure that the non-compliance does not recur;
- (d) A schedule for corrective action;
- (e) The identification of individuals or departments responsible for implementing corrective action;

- (f)** Allocation of resources by the accountable manager, where appropriate.
- 3.8.5** The quality manager should:
- (a)** Verify that corrective action is taken by the manager responsible in response to any finding of non-compliance;
 - (b)** Verify the corrective action includes the elements outlined in paragraph 3.8.4 above;
 - (c)** Monitor the implementation and completion of corrective action;
 - (d)** Provide management with an independent assessment of corrective action; implementation and completion;
 - (e)** Evaluate the effectiveness of corrective action through follow-up process.
- 3.9 Management Evaluation.**
- 3.9.1** A management evaluation is a comprehensive, systematic, documented review by the management of the quality system, operational policies and procedures, and should consider:
- (a)** The results of quality inspections, audits and any other indicators;
 - (b)** The overall effectiveness of the management organization in achieving stated objectives.
- 3.9.2** A management should identify and correct trends, and prevent, where possible, future non-conformities. Conclusions and recommendations made as a result of an evaluation should be submitted in writing to the responsible manager for action. The responsible manager should be an individual who has the authority to resolve issues and take action.
- 3.9.3** The accountable manager should decide upon the frequency, format and structure of internal management evaluation activities.
- 3.10 Recording.**
- 3.10.1** Accurate, complete and readily accessible records documenting the results of the quality assurance program should be maintained by the operator. Records are essential data to enable an operator to analyze and determine the root causes of non-conformity, so that areas of non-compliance can be identified and addressed.
- 3.10.2** The following records should be retained for a period of 5 years:
- (a)** Audit schedules;
 - (b)** Quality inspection and audit reports;
 - (c)** Responses to findings;
 - (d)** Corrective action reports;
 - (e)** Follow-up and closure reports; and
 - (f)** Management evaluation reports.
- 4.0 Quality Assurance Responsibility for Sub-Contractors.**
- 4.1 Sub-Contractors.**
- 4.1.1** Operators may decide to sub-contract out certain activities to external agencies for the provision of services related to areas such as:
- (a)** Ground deicing/anti-icing;
 - (b)** Maintenance;
 - (c)** Ground handling;
 - (d)** Flight support (including performance calculations, flight planning, navigation database and dispatch);
 - (e)** Training;
 - (f)** Manual preparation.
- 4.1.2** The ultimate responsibility for the product or service provided by the sub-contractor always remains with the operator. A written agreement should exist between the operator and the sub-contractor clearly defining the safety related

services and quality to be provided. The sub-contractor's safety related activities relevant to the agreement should be included in the operator's quality assurance program.

4.1.3 The operator should ensure that the sub-contractor has the necessary authorization/approval when required and commands the resources and competence to undertake the task.

5.0. Quality System Training.

5.1 General.

5.1.1 An operator should establish effective, well planned and resourced quality related briefing for all personnel.

5.1.2 Those responsible for managing the quality system should receive training covering:

- (a) An introduction to the concept of the quality system;
- (b) Quality management;
- (c) The concept of quality assurance;
- (d) Quality manuals;
- (e) Audit techniques;
- (f) Reporting and recording; and
- (g) The way in which the quality system will function in the company.

5.1.3 Time should be provided to train every individual involved in quality management and for briefing the remainder of the employees. The allocation of time and resources should be governed by the size and complexity of the operation concerned.

5.2 Sources of Training.

5.2.1 Quality management courses are available from the various [National] or International Standards Institutions, and an operator should consider whether to offer such courses to those likely to be involved in the management of quality systems. Operators with sufficient appropriately qualified staff should consider whether to carry out in-house training.

6.0 Organizations with 20 or Less Full-Time Employees.

6.1 Introduction.

6.1.1 The requirements to establish and document a quality system and to employ a quality manager apply to all operators. References to large and small operators elsewhere in these [Model Regulations] are governed by aircraft capacity (i.e. more or less than 20 seats) and by mass (i.e. greater or less than 10 tonnes maximum take-off mass). Such terminology is not relevant when considering the scale of an operation and the quality system required. In the context of quality systems therefore, operators should be categorized according to the number of full time staff employees.

6.2 Scale of Operation.

6.2.1 Operators who employ 5 or less full time staff are considered to be "very small" while those employing between 6 and 20 full time employees are regarded as "small" operators as far as quality systems are concerned. Full-time in this context means employed for not less than 35 hours per week excluding vacation periods.

6.2.2 Complex quality systems could be inappropriate for small or very small operators and the clerical effort required to draw up manuals and quality procedures for a complex system may stretch their resources. It is therefore accepted that such operators should tailor their quality systems to suit the size and complexity of their operation and allocate resources accordingly.

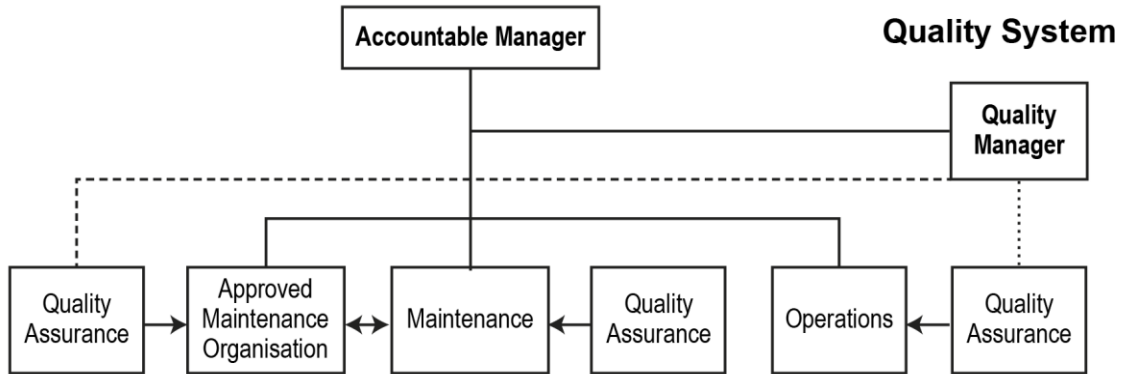
6.3 Quality System for Small/Very Small Operators.

6.3.1 For small and very small operators it may be appropriate to develop a quality assurance program that employs a checklist. The checklist should have a supporting schedule that requires completion of all checklist items within a specified timescale, together with a statement acknowledging completion of a periodic review by top management. An occasional independent overview of the checklist content and achievement of the quality assurance should be undertaken.

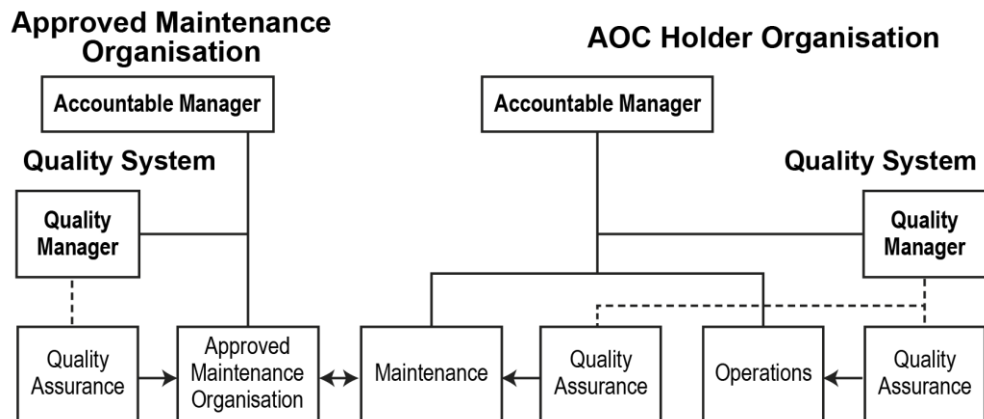
6.3.2 The "small" operator may decide to use internal or external auditors or a combination of the two. In these circumstances it would be acceptable for external specialists and or qualified organizations to perform the quality

Quality System —Organization Examples

- (a) The following diagrams illustrate two typical examples of Quality organizations.
- (1) Quality System within the AOC holder’s organization when the AOC holder also holds an approval for maintenance.



- (2) Quality Systems related to an AOC holder’s organization where aircraft maintenance is contracted out to an approved organization which is not integrated with the AOC holder.



Note: The Quality System and Quality Audit Program of the AOC holder should assure that the maintenance carried out by the approved organization is in accordance with requirements specified by the AOC holder.

IS: 9.3.2.5 RETENTION OF RECORDS

- (a) An operator shall ensure that the following information or documentation is retained for the periods shown in the table below.

Flight Crew Records	
Flight, duty and rest time	2 years
Licence and medical certificate	Until 12 months after the flight crew member has left the employ of the operator
Ground and flight training (all types)	Until 12 months after the flight crew member has left the employ of the operator
Route and aerodrome/heliport qualification training	Until 12 months after the flight crew member has left the employ of the operator
Dangerous good training	Until 12 months after the flight crew member has left the employ of the operator
Security training	Until 12 months after the flight crew member has left the employ of the operator
Proficiency and qualification checks (all types)	Until 12 months after the flight crew member has left the employ of the operator
Cabin Crew Records	
Flight, duty and rest time	2 years
Licence, if applicable	Until 12 months after the cabin crew member has left the employ of the operator
Ground and flight training (all types) and qualification checks	Until 12 months after the cabin crew member has left the employ of the operator
Dangerous good training	Until 12 months after the cabin crew member has left the employ of the operator
Security training	Until 12 months after the cabin crew member has left the employ of the operator
Competency checks	Until 12 months after the cabin crew member has left the employ of the operator

Records for other AOC Personnel	
Training/qualification of other personnel for whom an approved training programme is required in these regulations	Until 12 months after the personnel has left the employ of the operator
Licence, if required, and medical certificate if required	Until 12 months after the personnel has left the employ of the operator
Proficiency or competency checks, if required	Until 12 months after the personnel has left the employ of the operator
Flight Preparation Forms	
Completed load manifest	3 months after the completion of the flight
Mass and balance reports	3 months after the completion of the flight
Dispatch releases	3 months after the completion of the flight
Flight plans	3 months after the completion of the flight
Passenger manifests	3 months after the completion of the flight
Weather reports	3 months after the completion of the flight
Flight Recorder Records	
Cockpit voice recordings	Preserved after an accident or incident for 60 days or longer if requested by the Authority
Flight data recordings	Preserved after an accident or incident for 60 days or longer if requested by the Authority
Aircraft Technical Logbook	
Journey records section	2 years
continuing airworthiness records section	2 years

Continuing Airworthiness Records of the Aircraft	
Total time in service (hours, calendar time and cycles, as appropriate) of the aircraft and all life-limited components	3 months after the unit to which they refer has been permanently withdrawn from service
Current status of compliance with all mandatory continuing airworthiness information	3 months after the unit to which they refer has been permanently withdrawn from service
Appropriate details of modifications and repairs to the aircraft and its components	3 months after the unit to which they refer has been permanently withdrawn from service
Total time in service (hours, calendar time and cycles, as appropriate) since the last overhaul of the aircraft or its components subject to a mandatory overhaul life	3 months after the unit to which they refer has been permanently withdrawn from service
The detailed continuing airworthiness records to show all requirements for a maintenance release have been met	1 year after signing of the maintenance release
Other Records	
Operational flight plan	3 months after the completion of the flight
Quality system records	5 years
Dangerous goods transport document	6 months after the completion of the flight
Dangerous goods acceptance checklist	6 months after the completion of the flight
Records on cosmic and solar radiation dosage, if AOC holder operates aircraft that fly above 15 000 m (49 000 ft)	Until 12 months after the crew member has left the employ of the AOC holder
Fuel and Oil records	3 months after sample is taken

Note: See 9.4.5 s for details of the journey records section and 9.5.1.9 for details of the continuing airworthiness records section of the aircraft technical log.

- (b)** The AOC holder shall ensure that all records required to be completed under this Part are completed:
- (1) For qualification or airworthiness, prior to the use of the person, aircraft or component in commercial air transport operations.
 - (2) For all other records, as the necessary information is provided to the person designated to complete the record.

- ¹ Operator's name and address pre-printed or filled in by hand
- ² Must be filled for
 - Each day; and
 - Each flight crew
 -
- ³ Sheet number (e.g. yy-nn) must be pre-printed or printed by hand. All sheets must be identifiable and numbered according to a continuous system that offers the same security when hand printed as when pre-printed.
- ⁴ The commander's signature states that everything on this sheet is correct
- ⁵ For flights from A to A, a summary entry may be made. All other flights such as A to B etc., for each flight an entry must be made.
- ⁶ Such as Private, Commercial, Technical, Training, Sailplane towing, etc.
- ⁷ Number of landings if summary entry
- ⁸ Flight Preparation according to the Operations Manual (commander's initials) state that"
 - 1.Weight and Balance is within Limit
 - 2.Pre-flight check is done
 - 3.Technical status is checked and aeroplane accepted by the commander
 - 4.Passengers manifest/documentation performed
- ⁹ Total Fuel on board (state the units unless pre-printed)
- ¹⁰ Incidents/Occurrences/Observations Report (Operation, Technical, Others):
 - If no report needs to be made state "-NIL-"
 - If a report must be made state (mark) the type of report
 -
- ¹¹ Number each observation sequentially for each log sheet
- ¹² If de- or anti-icing has been applied, state time and amount and kind of fluid applied or other action take, e.g. mechanical removal of snow or ice, if oil has been filled, state the time and amount
- ¹³ Use the same number as the corresponding observation to link report and response.

Address of Operator:		Date:		CREW		LOAD		OIL		GROUND DEICING		Sheet Number 00000001													
		Aeroplane Type: Registration:		Name of Commander: Name and duty of crew member		No. of Pax: Mass (kg/lbs) Cargo: Take-off:		Refilled: Total:		Types of fluid: Mixture: Time of Deicing Commenced: Finished:		Last release: Total aeroplane hours: Total aeroplane landing: Next Maintenance Due: In hours: In landing:													
FLIGHT				PRE-FLIGHT				BLOCK TIME				AIRBORNE TIME				FUEL ON BOARD (LTRS/KG/LBS)									
Flight Nb:	From:	To:	No. of Ldg:	Name/Signature:	Off:	On:	Time:	Take-off:	Ldg:	Time:	Uplift:	Take-off:	Ldg:												
Defects													AMO Release to Service												
00000001-1													Agreement number: Date: Place: Time: Name: Signature:												
00000001-2													Agreement number: Date: Place: Time: Name: Signature:												
00000001-3													Agreement number: Date: Place: Time: Name: Signature:												
Item MEL				MEL DEFERRED DEFECT				Captain's Acceptance				Daily Check/Maintenance done:				Agreement number: Date: Place: Time: Name: Signature:									
Open Date				Category				Limit Date																	

IS: 9.3.2.12 FLIGHT SAFETY DOCUMENTS SYSTEM

- (a) The following outline addresses the major elements of an operator's flight safety documents system development process, with the aim of ensuring compliance with these Regulations.

1.0 Organization

- 1.1 A flight safety documents system shall be organized according to criteria, which ensure easy access to information, required for flight and ground operations contained in the various operational documents comprising the system and which facilitate management of the distribution and revision of operational documents.
- 1.2 Information contained in a flight safety documents system shall be grouped according to the importance and use of the information, as follows:
- (a) Time critical information, e.g., information that can jeopardize the safety of the operation if not immediately available;
 - (b) Time sensitive information, e.g., information that can affect the level of safety or delay the operation if not available in a short time period;
 - (c) Frequently used information;
 - (d) Reference information, e.g., information that is required for the operation but does not fall under b) or c) above; and
 - (e) Information that can be grouped based on the phase of operation in which it is used.
- 1.3 Time critical information shall be placed early and prominently in the flight safety documents system.
- 1.4 Time critical information, time sensitive information, and frequently used information shall be placed in cards and quick-reference guides.

2.0 Validation.

A flight safety documents system shall be validated before deployment, under realistic conditions. Validation shall involve the critical aspects of the information use, in order to verify its effectiveness. Interactions among all groups that can occur during operations shall also be included in the validation process.

3.0 Design

- 3.1 A flight safety documents system shall maintain consistency in terminology and in the use of standard terms for common items and actions.
- 3.2 Operational documents shall include a glossary of terms, acronyms and their standard definition, updated on a regular basis to ensure access to the most recent terminology. All significant terms, acronyms and abbreviations included in the flight documents system shall be defined.
- 3.3 A flight safety documents system shall ensure standardization across document types, including writing style, terminology, use of graphics and symbols, and formatting across documents. This includes a consistent location of specific types of information, consistent use of units of measurement and consistent use of codes.
- 3.4 A flight safety documents system shall include a master index to locate, in a timely manner, information included in more than one operational document.

Note: The master index must be placed in the front of each document and consist of no more than three levels of indexing. Pages containing abnormal and emergency information must be tabbed for direct access.

- 3.5 A flight safety documents system shall comply with the requirements of the operator's quality system, if applicable.

4.0 Deployment.

Operators shall monitor deployment of the flight safety documents system, to ensure appropriate and realistic use of the documents, based on the characteristics of the operational environment and in a way which is both

operationally relevant and beneficial to operational personnel. This monitoring shall include a formal feedback system for obtaining input from operational personnel.

5.0 Amendment.

5.1 Operators shall develop an information gathering, review, distribution and revision control system to process information and data obtained from all sources relevant to the type of operation conducted, including, but not limited to, the State of the Operator, State of design, State of Registry, manufacturers and equipment vendors.

Note: Manufacturers provide information for the operation of specific aircraft that emphasizes the aircraft systems and procedures under conditions that may not fully match the requirements of operators. Operators shall ensure that such information meets their specific needs and those of the local authority.

5.2 Operators shall develop an information gathering, review and distribution system to process information resulting from changes that originate within the operator, including:

- (a)** Changes resulting from the installation of new equipment;
- (b)** Changes in response to operating experience;
- (c)** Changes in an operator's policies and procedures;
- (d)** Changes in an operator certificate; and
- (e)** Changes for purposes of maintaining cross fleet standardization.

Note: Operators shall ensure that crew coordination philosophy, policies and procedures are specific to their operation.

5.3 A flight safety documents system shall be reviewed:

- (a)** on a regular basis (at least once a year);
- (b)** after major events (mergers, acquisitions, rapid growth, downsizing, etc.);
- (c)** after technology changes (introduction of new equipment); and
- (d)** after changes in safety regulations.

5.4 Operators shall develop methods of communicating new information. The specific methods shall be responsive to the degree of communication urgency.

Note: As frequent changes diminish the importance of new or modified procedures, it is desirable to minimize changes to the flight safety documents system.

5.5 New information shall be reviewed and validated considering its effects on the entire flight safety documents system.

5.6 The method of communicating new information shall be complemented by a tracking system to ensure currency by operational personnel. The tracking system shall include a procedure to verify that operational personnel have the most recent updates.

IS: 9.3.3.4 DRY LEASING OF FOREIGN REGISTERED AIRCRAFT (DRY-LEASE IN)

- (a) An AOC holder may dry lease an aircraft for the purpose of commercial air transportation from any AOC holder of a State which is signatory to the Chicago Convention provided that the following conditions are met:
- (1) The aircraft carries an appropriate airworthiness certificate issued, in accordance with ICAO Annex 8, by the State of Registry and meets the registration and identification requirements of that country.
 - (2) The aircraft is of a type design which complies with all of the requirements that would be applicable to that aircraft were it registered in Liberia, including the requirements which shall be met for issuance of a Liberia standard airworthiness certificate (including type design conformity, condition for safe operation, and the noise, fuel venting, and engine emission requirements).
 - (3) The aircraft is maintained according to an approved maintenance program.
 - (4) The aircraft is operated by Liberia-licensed airmen with additional license authorization by the State of Registry, employed by the AOC holder.
- (b) Each AOC holder shall provide the Authority with a copy of the dry lease to be executed.
- (c) Operational control of any dry leased aircraft rests with the AOC holder operating that aircraft.
- (d) The Authority will list the dry leased aircraft on the lessor AOC holder's operations specifications.
- (e) AOC holder engaged in dry leasing aircraft shall make the dry lease agreement explicit concerning the maintenance program and MEL to be followed during the term of the dry lease.

IS: 9.3.3.5 WET LEASING

- (a) Each AOC holder shall provide the Authority with a copy of the wet lease to be executed.
- (b) The Authority will determine which party to a wet lease agreement has operational control considering the extent and control of certain operational functions such as:
- (1) Initiating and terminating flights.
 - (2) Maintenance and servicing of aircraft.
 - (3) Scheduling crewmembers.
 - (4) Paying crewmembers.
 - (5) Training crewmembers.
- (c) Each AOC holder engaged in a wet leasing arrangement shall amend its operations specifications to contain the following information:

- (1) The names of the parties to the agreement and the duration of the agreement.
- (2) The make, model, and series of each aircraft involved in the agreement.
- (3) The kind of operation.
- (4) The expiration date of the lease agreement.
- (5) A statement specifying the party deemed to have operational control.
- (6) Any other item, condition, or limitation the Authority determines necessary.

IS: 9.3.3.7 DAMP LEASING

- (a) A damp lease involves a wet lease aircraft as described in IS: 9.3.3.5 where the aircraft shall be operated on the lessor's AOC with flight crew. However, all or part cabin crew shall be provided by lessee.
- (b) Under these arrangements, the responsibility for the airworthiness of the aircraft, the performance of maintenance, and signing of maintenance release shall remain with the lessor unless otherwise specified in the agreement. The airworthiness requirements for approval shall remain identical to that of a wet lease as stated in IS: 9.2.3.5

IS: 9.3.3.8 AIRCRAFT INTERCHANGE

- (a) Before operating under an interchange agreement, each AOC holder shall show that—
 - (1) The procedures for the interchange operation conform with safe operating practices;
 - (2) Required crew members and flight operations officers meet approved training requirements for the aircraft and equipment to be used and are familiar with the communications and dispatch procedures to be used;
 - (3) Maintenance personnel meet training requirements for the aircraft and equipment, and are familiar with the maintenance procedures to be used;
 - (4) Flight crew members and flight operations officers meet appropriate route and airport qualifications;
 - (5) The aircraft to be operated are essentially similar to the aircraft of the AOC holder with whom the interchange is effected; and
 - (6) The arrangement of flight instruments and controls that are critical to safety are essentially similar, unless the Authority determines that the AOC holder has adequate training programs to ensure that any potentially hazardous dissimilarities are safely overcome by flight crew familiarization.
- (b) Each AOC holder conducting an interchange agreement shall include the pertinent provisions and procedures of the agreement in its manuals.

- (c) The AOC holder shall amend their operations specifications to reflect an interchange agreement.
- (d) The AOC holder shall comply with the applicable regulations of the State of Registry of an aircraft involved in an interchange agreement while it has operational control of that aircraft.

IS: 9.3.3.10 EMERGENCY EVACUATION DEMONSTRATION

- (a) Each AOC holder shall conduct a partial emergency evacuation and ditching evacuation, observed by the Authority, that demonstrates the effectiveness of its crew member emergency training and evacuation procedures.
- (b) Prior to conducting an emergency evacuation demonstration, the AOC holder shall apply for and obtain approval from the Authority.
- (c) Cabin crew members used in the emergency evacuation demonstrations shall—
 - (1) Be selected at random by the Authority;
 - (2) Have completed the AOC holder's Authority-approved training program for the type and model of aircraft; and
 - (3) Have passed the drills and competence check on the emergency equipment and procedures.
- (d) To conduct the partial emergency evacuation demonstration, the AOC holder's assigned cabin crew members shall, using the AOC holder's line operating procedures—
 - (1) Demonstrate the opening of 50 percent of the required floor-level emergency exits and 50 percent of the required non-floor-level emergency exits (whose opening by a cabin crew member is defined as an emergency evacuation duty) and deployment of 50 percent of the exit slides, selected by the Authority; and
 - (2) Prepare for use those exits and slides within 15 seconds.
- (e) To conduct the ditching evacuation demonstration, the AOC holder's assigned cabin crew members shall—
 - (1) Demonstrate their knowledge and use of each item of required emergency equipment;
 - (2) Prepare the cabin for ditching within 6 minutes after the intention to ditch is announced;
 - (3) Remove each life raft from storage (one life raft, selected by the Authority, shall be launched and properly inflated or one slide life raft properly inflated); and
 - (4) Enter the raft (the raft shall include all required emergency equipment) and completely set it up for extended occupancy.

IS: 9.3.3.11 DEMONSTRATION FLIGHTS AND SPECIAL DEMONSTRATION FLIGHTS

- (a) Each AOC holder shall conduct demonstration flights for each type of aircraft, including those aircraft materially altered in design, and for each kind of operation the AOC holder intends to conduct.

Definition: "Materially altered aircraft" refers to aircraft having powerplants installed other than those for which it is certified; or alterations to the aircraft or its components that materially affect flight characteristics.

- (b) Each AOC holder shall conduct demonstration flights which contain at least the following:
- (1) Initial airplane proving tests of newly manufactured aircraft, or aircraft not yet demonstrated for use in a type of operation under this part.
 - (i) A minimum of 100 hours of flight time, in addition to the airplane certification tests, including a representative number of flights into enroute airports.
 - (ii) The Authority may reduce the requirement for at least 100 hours of proving tests if the Authority determines that a satisfactory level of proficiency has been demonstrated to justify the reduction. This requirement applies to either new aircraft manufactured in Liberia or to any foreign manufactured aircraft that a Liberia. certificate holder has not previously operated;
 - (iii) Ten (10) hours must be flown at night and may not be reduced.
 - (2) Type of aircraft and type of operations:
 - (i) For each type of aircraft, at least 50 hours of demonstration flights acceptable to the Authority for each type of operation the AOC holder intends to conduct, including a representative number of flights into en route aerodromes.
 - (3) Materially altered aircraft.
 - (i) For each type of aircraft that is materially altered in design, at least 50 hours of demonstration flights acceptable to the Authority for each type of operations the AOC holder intends to conduct with that aircraft, including a representative number of flights into en route aerodromes.
- (c) No person may carry passengers in an aircraft during demonstration flights, except for those needed to make the demonstration flight and those designated by the Authority.
- (d) An operator may carry passengers in an aircraft during special demonstration flights, subject to the approval of the Authority.
- (e) For those AOC holders of aircraft of less than 5700 kg, the necessity and extent of demonstration shall be at the option of the Authority.

IS: 9.4.2 OPERATIONS MANUAL

- (a) Each AOC holder shall ensure that the contents and structure of the operations manual are in accordance with rules and regulations of the Authority, and are relevant to the area(s) and type(s) of operation.
- (b) An AOC holder may design a manual to be more restrictive than the Authority's requirements.
- (c) Each AOC holder shall ensure that the operations manual presents the items of information listed below. The manual may consist of two or more parts containing together all such information in a format and manner based upon the outline presented in paragraph (d) below. Each part of the operations manual shall contain all information required by each group of personnel addressed in that part.
 - (1) General Policies.
 - (2) Duties and responsibilities of each crewmember, appropriate members of the ground organisation, and management personnel.
 - (3) Reference to appropriate Civil Aviation Regulations.
 - (4) Flight dispatching and operational control, including procedures for co-ordinated dispatch or flight control or flight following procedures and maintenance control procedures, as applicable.
 - (5) Enroute flight, navigation, and communication procedures, including procedures for the dispatch or release or continuance of flight if any item of equipment required for the particular type of operation becomes inoperative or unserviceable en route.
 - (6) Appropriate information from the enroute operations specifications, including for each approved route the types of aircraft authorised, the type of operation such as VFR, IFR, day, night, etc., and any other pertinent information.
 - (7) Appropriate information from the aerodrome operations specifications, including for each aerodrome:
 - (i) Its location
 - (ii) Its designation;
 - (iii) The types of aircraft authorised;
 - (iv) Instrument approach procedures;
 - (v) Landing and take-off minimums; and
 - (vi) Any other pertinent information.
 - (8) Procedures for familiarising passengers with the use of emergency equipment, during flight.
 - (9) Emergency equipment and procedures.
 - (10) The method of designating succession of command of flight crew members.
 - (11) Procedures for determining the usability of landing and take-off areas, and for disseminating pertinent information thereon to operations personnel.
 - (12) Procedures for operating in periods of ice, hail, thunderstorms, turbulence, or any potentially hazardous meteorological condition.

- (13) Airman training programs, including appropriate ground, flight, and emergency phases.
 - (14) Procedures for refueling aircraft, eliminating fuel contamination, protection from fire (including electrostatic protection), and supervising and protecting passengers during refueling.
 - (15) Methods and procedures for maintaining the aircraft weight and centre of gravity within approved limits.
 - (16) Where applicable, pilot and dispatcher route and aerodrome qualification procedures.
 - (17) Accident notification procedures.
 - (18) Procedures and information to assist personnel to identify packages marked or labeled as containing hazardous materials and, if these materials are to be carried, stored, or handled, procedures and instructions relating to the carriage, storage, or handling of hazardous materials, including the following:
 - (i) Procedures for determining the proper shipper certification and proper packaging, marking, labeling, shipping documents, compatibility of materials, and instructions on the loading, storage, and handling.
 - (ii) Notification procedures for reporting hazardous material incidents.
 - (iii) Instructions and procedures for the notification of the pilot in command when there are hazardous materials aboard.
 - (19) Other information or instructions relating to safety.
- (d)** The operations manual may be based upon the following outline:

1.0 Administration and Control of Operations Manual

1.1 Introduction

- (i) A statement that the manual complies with all applicable Authority regulations and requirements and with the terms and conditions of the applicable Air Operator Certificate.
- (ii) A statement that the manual contains operational instructions that are to be complied with by the relevant personnel in the performance of their duties.
- (iii) A list and brief description of the various operations manual parts, their contents, applicability and use.
- (iv) Explanations and definitions of terms and words used in the manual.

1.2 System of Amendment and Revision

- (a) An operations manual shall describe who is responsible for the issuance and insertion of amendments and revisions.
- (b) A record of amendments and revisions with insertion dates and effective dates is required.
- (c) A statement that hand-written amendments and revisions are not permitted except in situations requiring immediate amendment or revision in the interest of safety.
- (d) A description of the system for the annotation of pages and their effective dates.
- (e) A list of effective pages and their effective dates.
- (f) Annotation of changes (on text pages and as practicable, on charts and diagrams).
- (g) A system for recording temporary revisions.
- (h) A description of the distribution system for the manuals, amendments and revisions.
- (i) A statement of who is responsible for notifying the Authority of proposed changes and working with the Authority on changes requiring Authority approval.

2.0 Organization and Responsibilities

2.1 Organizational Structure

A description of the organizational structure including the general company organization and operations department organization. The relationship between the operations department and the other departments of the company. In particular, the subordination and reporting lines of all divisions, departments etc., which pertain to the safety of flight operations shall be shown. Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations.

2.2 Responsible Manager

The name of each manager responsible for flight operations, the maintenance system, crew training and ground operations shall be listed. A description of their function and responsibilities shall be included.

2.3 Responsibilities and Duties of Operations Management Personnel

A description of the duties, responsibilities, and authority of operations management personnel pertaining to the safety of flight operations and with compliance with applicable regulations shall be listed.

2.4 Authority, Duties and Responsibilities of a PIC

A statement defining the authority, duties and responsibilities of the PIC shall be listed.

2.5 Duties and Responsibilities of Crew Members Other Than the PIC

A statement defining the authority, duties, and responsibilities of all required aircraft crew members shall be listed.

3.0 Operational Control And Supervision

3.1 Supervision of the Operation by the AOC Holder

A description of the system for supervision of the operation by the AOC holder shall be listed. This description shall show how the safety of flight operations and the qualifications of personnel involved in all such operations are supervised and monitored. In particular, the procedures related to the following items shall be described:

- (a) Specifications for the operational flight plan
- (b) Competence of operations personnel; and
- (c) Control, analysis and storage of records, flight documents, additional information, and safety related data.

3.2 System of Promulgation of Additional Operational Instructions and Information

A description of any system for promulgating information which may be of an operational nature but is supplementary to that in the operations manual. The applicability of this information and the responsibilities for its promulgation shall be included

3.3 Safety Management System (SMS)

A description of the main aspects of the SMS program required by LCAR 1: 1.7, including:

- (a) Safety Policy: General Expectations;
- (b) Safety Risk Management: General Expectations;
- (c) Safety Assurance: General Expectations; and
- (d) Safety Promotion: General Expectations.

3.4 Operational Control

A description of the objectives, procedures, and responsibilities necessary to exercise operational control with respect to flight safety.

4.0 Quality System

A description of the quality system adopted.

5.0 Crew

5.1 Crew Composition

An explanation of the method for determining crew compositions taking into account of the following:

- (a) Experience (total and on type), recency and qualification of the crew members; and
- (b) The designation of the PIC and, if required by the duration of the flight, the procedures for the relief of the PIC or other members of the flight crew.
- (c) The flight crew for each type of operation including the designation of the succession of command.

5.2 Designation of the PIC

The rules applicable to the designation of a PIC.

5.3 Flight Crew Incapacitation

Instructions on the succession of command in the event of flight crew incapacitation.

6.0 Flight Crew, Cabin Crew, Flight Operations Officer, and Other Operations Personnel Qualifications

6.1 Qualifications

A description of the required license rating(s), qualification/competency (e.g., for routes and airports) experience, training, checking and recency of experience for operations personnel to conduct their duties. Consideration shall be given to the aircraft type, kind of operation, and composition of the crew.

6.2 Flight Crew

- (a) Operation on more than one type or variant.

6.3 Cabin Crew

- (a) Senior cabin crew member.
- (b) Cabin crewmember.
 - (1) Required cabin crewmember.
 - (2) Additional cabin crewmember, and
 - (3) Cabin crewmember during familiarization flights.
- (c) Operation on more than one type or variant.

6.4 Other Operations Personnel

7.0 Fatigue Management

7.1 Flight and Duty Time Limitations and Rest Schemes

- (a) Flight Crew
- (b) Cabin Crew
- (c) Flight Operations Officer/ Flight Dispatcher

7.2 FRMS (if authorized by the Authority)

8.0 Crew Health

8.1 Crew Health Precautions

The relevant regulations and guidance for crew members concerning health including:

- (a) Alcohol and other intoxicating liquor;
- (b) Narcotics;
- (c) Drugs;
- (d) Sleeping tablets;
- (e) Pharmaceutical preparations;
- (f) Immunization;
- (g) SCUBA diving;
- (h) Blood donation;
- (i) Meal precautions prior to and during flight;
- (j) Sleep and rest; and
- (k) Surgical operations.

9.0 Operating Procedures

9.1 Flight Preparation Instructions

As applicable to the operation:

9.1.1 Criteria for Determining the Usability of Airports

9.1.2 The method for determining minimum flight altitudes

9.1.3 The method for determining aerodrome operating minima

9.1.4 En route Operating Minima for VFR Flights

A description of en route operating minima for VFR flights or VFR portions of a flight and, where single-engine aircraft are used, instructions for route selection with respect to the availability of surfaces which permit a safe forced landing.

9.1.5 Presentation and Application of Airport and En route Operating Minima

9.1.6 Interpretation of Meteorological Information.

Explanatory material on the decoding of MET forecasts and MET reports relevant to the area of operations, including the interpretation of conditional expressions.

9.1.7 Determination of the Quantities of Fuel, Oil, and Water Methanol Carried.

The specific instructions and methods by which the quantities of fuel, oil and water methanol to be carried are determined and monitored in flight. This section shall also include instructions on the measurement and distribution of the fluid carried on board. Such instructions shall take account of all circumstances likely to be encountered on the flight, including the possibility of in-flight replanning and of failure of one or more of the aircraft's power plants, and possible loss of pressurization. The system for maintaining fuel and oil records shall also be described.

9.1.8 Mass and Centre of Gravity.

The general principles of mass and center of gravity including:

- (a) The policy for using either standard and/or actual masses;
- (b) The method for determining the applicable passenger, baggage and cargo mass;
- (c) The applicable passenger and baggage masses for various types of operations and aircraft type;
- (d) General instruction and information necessary for verification of the various types of mass and balance documentation in use;
- (e) Last minute changes procedures;
- (f) Seating policy/procedures; and
- (g) List of documents, forms, and additional information to be carried during a flight.

9.2 Ground Handling Arrangements and Procedures

9.2.1 Fuelling Procedures.

A description of fuelling procedures, including:

- (a) Safety precautions during refuelling and defueling including when an APU is in operation or when a turbine engine is running and, if applicable, the propeller brakes are on;
- (b) Refuelling and defueling when passengers are embarking, on board or disembarking;
- (c) Precautions to be taken to avoid mixing fuels; and
- (d) Method to ensure the required amount of fuel is loaded.

9.2.2 Aircraft, Passengers, and Cargo Handling Procedures Related To Safety.

A description of the handling procedures to be used when allocating seats and embarking and disembarking passengers and when loading and unloading the aircraft. Further procedures, aimed at achieving safety whilst the aircraft is on the ramp, shall also be given. Handling procedures shall include:

- (a) Sick passengers and persons with reduced mobility;
- (b) Permissible size and weight of hand baggage;
- (c) Loading and securing of items in the aircraft;
- (d) Special loads and classification of load compartments (i.e., dangerous goods, live animals, etc.);

- (e) Positioning of ground equipment;
- (f) Operation of aircraft doors;
- (g) Safety on the ramp, including fire prevention, blast and suction areas;
- (h) Start-up, ramp departure and arrival procedures;
- (i) Servicing of aircraft;
- (j) Documents and forms;
- (k) Multiple occupancy of aircraft seats.

9.2.3 Procedures for the Refusal of Embarkation.

Procedures to ensure that persons who appear to be intoxicated or who demonstrate by manner or physical indications that they are under the influence of alcohol or drugs, except medical patients under proper care, are refused embarkation.

9.2.4 Deicing and Anti-Icing on the Ground.

Instructions for the conduct and control of ground de-icing/anti-icing operations. A description of the deicing and anti-icing policy and procedures for aircraft on the ground. These shall include descriptions of the types and effects of icing and other contaminants on aircraft while stationary, during ground movements and during take-off. In addition, a description of the fluid types used shall be given including:

- (a) Proprietary or commercial names;
- (b) Characteristics;
- (c) Effects on aircraft performance;
- (d) Precautions during usage.

9.3 Flight Procedures and Flight Navigation Equipment

A description of flight procedures, including:

- (a) Standard operating procedures (SOP) for each phase of flight.
- (b) Instructions on the use of normal checklists and the timing of their use.
- (c) Departure contingency procedures
- (d) Instructions on the maintenance of altitude awareness and the use of automated or flight crew altitude call-outs.
- (e) Instructions on the use of autopilots and auto-throttles in IMC.
- (f) Instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved.
- (g) Departure and approach briefings
- (h) Procedures for familiarization with areas, routes, and aerodromes
- (i) Stabilized approach procedure
- (j) Limitation on high rates of descent near the surface
- (k) Conditions required to commence or to continue an instrument approach.
- (l) Instructions for the conduct of precision and non-precision instrument approach procedures.
- (m) Allocation of flight crew duties and procedures for the management of crew workload during night and IMC instrument approach and landing operations.
- (n) The circumstances in which a radio listening watch is to be maintained.
- (o) Instructions and training requirements for the use of head-up-displays (HUD) and enhanced vision systems (EVS) equipment as applicable.

9.3.1 Navigation Equipment

A list of the navigational equipment to be carried including any requirements relating to operations where performance-based navigation is prescribed.

9.3.2 Navigation Procedures

A description of all navigation procedures relevant to the type(s) and area(s) of operation. Consideration shall be given to:

- (a)** Standard navigational procedures including policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the aircraft,
- (b)** In-flight replanning,
- (c)** Procedures in the event of system degradation,
- (d)** Where relevant to the operations, the long range navigation procedures, engine failure procedure for EDTO and the nomination and utilization of diversion aerodromes
- (e)** Instructions and training requirements for the avoidance of controlled flight into terrain and policy for the use of the ground proximity warning system (GPWS).
- (f)** Policy, instructions, procedures and training requirements for the avoidance of collisions and the use of the airborne collision avoidance system (ACAS).
- (g)** Information and instructions relating to the interception of civil aircraft including:
 - (1) Procedures, as prescribed in MCAR Part 8, IS: 8.8.1.28, for pilots-in-command of intercepted aircraft; and
 - (2) Visual signals for use by intercepting and intercepted aircraft, as contained in LCAR Part 8, IS: 8.8.1.28.
- (h)** For aeroplanes intended to be operated above 49, 000 ft. (15,000 m)
 - (1) information which will enable the pilot to determine the best course of action to take in the event of exposure to solar cosmic radiation; and
 - (2) procedures in the event that a decision to descend is taken, covering:
 - (i) the necessity of giving the appropriate ATS unit prior warning of the situation and of obtaining a provisional descent clearance; and
 - (ii) the action to be taken in the event that communication with ATS unit cannot be established or is interrupted.

9.3.3 Policy and Procedures for In-flight Fuel Management

9.3.4 Adverse and Potentially Hazardous Atmospheric Conditions.

Procedures for operating in, and/or avoiding, potentially hazardous atmospheric conditions including:

- (a)** Thunderstorms;
- (b)** Icing conditions;
- (c)** Turbulence,
- (d)** Wind shear;
- (e)** Jet stream;
- (f)** Volcanic ash clouds;
- (g)** Heavy precipitation;
- (h)** Sand storms;
- (i)** Mountain waves; and
- (j)** Significant Temperature inversions.

9.3.5 Operating Restrictions

- (a)** Cold weather operations
- (b)** Take-off and landing in turbulence
- (c)** Low-level wind shear operations
- (d)** Cross-wind operations (including tail wind components)
- (e)** High temperature operations
- (f)** High altitude operations

9.3.6 Incapacitation of Crew Members.

Procedures to be followed in the event of incapacitation of crew members in flight. Examples of the types of incapacitation and the means for recognizing them shall be included.

9.3.7 Cabin Safety Requirements.

Procedures covering:

- (a)** Cabin preparation for flight, in-flight requirements and preparation for landing including procedures for securing cabin and galleys.
- (b)** Procedures to ensure that passengers are seated where, in the event that an emergency evacuation is required, they may best assist and not hinder evacuation from the aircraft;
- (c)** Procedures to be followed during passenger embarkation and disembarkation; and
- (d)** Procedures for fuelling with passengers on board, embarking, or disembarking.
- (e)** Smoking on board.
- (f)** Use of portable electronic equipment and cellular telephones

9.3.8 Passenger Briefing Procedures.

The contents, means, and timing of passenger briefing.

9.3.9 Procedures for Use of Cosmic or Solar Radiation Detection Equipment - Aeroplanes.

Procedures for the use of cosmic or solar radiation detection equipment and for recording its readings including actions to be taken in the event that limit values specified in the operations manual are exceeded. In addition, the procedures, including ATC procedures, to be followed in the event that a decision to descend or re-route is taken.

9.4 All Weather Operations

9.5 Use of the Minimum Equipment and Configuration Deviation List(s)

9.6 Non Revenue Flights

Procedures and limitations for:

- (a)** Training flights;
- (b)** Test flights;
- (c)** Delivery flights,
- (d)** Ferry flights;
- (e)** Demonstration flights; and
- (f)** Positioning flights, including the kind of persons who may be carried on such flights.

9.7 Oxygen Requirements

An explanation of the conditions under which oxygen shall be provided and used.

10.0 Dangerous Goods And Weapons

10.1 Transport of Dangerous Goods

Information, instructions and general guidance on the transport of dangerous goods including:

- (a)** AOC holder's policy on the transport of dangerous goods;
- (b)** Guidance on the requirements for acceptance, labelling, handling, stowage and segregation of dangerous goods;
- (c)** Procedures and actions to be taken for responding to emergency situations involving dangerous goods;
- (d)** Duties of all personnel involved; and
- (e)** Instructions on the carriage of the AOC holder's employees

10.2 Transport of Weapons

The conditions under which weapons, munitions of war and sporting weapons may be carried.

11.0 Security

11.1 Security Policies and Procedures

A description of security policies and procedures for handling and reporting crime on board such as unlawful interference, sabotage, bomb threats, and hijacking.

11.2 Security Instructions and Guidance

Security instructions and guidance of a non-confidential nature which shall include the authority and responsibilities of operations personnel.

11.3 Preventative Security Measures and Training

A description of preventative security measures and training.

Note: Parts of the security instructions and guidance may be kept confidential.

12.0 Handling of Accidents and Occurrences

- (a) Procedures for the handling, notifying and reporting of accidents and occurrences. This section shall include:
- (b) Definitions of accidents and occurrences and the relevant responsibilities of all persons involved;
- (c) The descriptions of which company departments, Authorities or other institutions have to be notified by which means and in which sequence in case of an accident;
- (d) Special notification requirements in the event of an accident or occurrence when dangerous goods are being carried;
- (e) A description of the requirements to report specific occurrences and accidents;
- (f) The forms used for reporting and the procedure for submitting them to the Authority shall also be included; and
- (g) If the AOC holder develops additional safety related reporting procedures for its own internal use, a description of the applicability and related forms to be used.
- (h) Procedures for pilots-in-command observing an accident.

13.0 Rules of the Air

Rules of the Air including:

- (a) Territorial application of the Rules of the Air;
- (b) The circumstances during which a radio listening watch shall be maintained;
- (c) ATC clearances, adherence to flight plan and position reports;
- (d) The ground/air visual codes for use by survivors, description and use of signal aids; and
- (e) Distress and urgency signals.

IS: 9.3.3 TRAINING PROGRAMME MANUAL

- (f) Each AOC holder and AOC applicant, as part of its operations manual, shall submit and maintain training programs based on the following outline:

1.0 Training Syllabi and Checking Programs

1.1 General Requirements.

- (a) Training syllabi and checking programs for all operations personnel assigned to operational duties in connection with the preparation and/or conduct of a flight shall be developed to meet the respective requirements of the Authority. An AOC holder may not use, nor may any person serve in a required crewmember capacity or operational capacity unless that person meets the training and currency requirements established by the Authority for that respective position.

1.2 Flight Crew.

- (a) The training syllabi and checking programs for flight crew members shall include:
- (1) A written training program acceptable to the Authority that provides for basic indoctrination, initial, transition, difference, and recurrent training, as appropriate, for flight deck crew members for each type of aircraft flown by that crew member. This written training program shall include both normal and emergency procedures training applicable for each type of aircraft flown by the crewmember
 - (2) Adequate ground and flight training facilities and properly qualified instructors required to meet training objectives and needs
 - (3) A current list of approved training materials, equipment, training devices, simulators, and other required training items needed to meet the training needs for each type and variation of aircraft flown by the AOC holder
 - (4) Adequate number of ground check personnel and flight check pilots to ensure adequate training and checking of flight crew members
 - (5) A record system acceptable to the Authority to show compliance with appropriate training and currency requirements

1.3 Cabin Crew

- (a) The training syllabi and checking programs for cabin crew members shall include:
- (1) Basic initial ground training covering duties and responsibilities
 - (2) Appropriate Authority rules and regulations
 - (3) Appropriate portions of the AOC holder's operating manual
 - (4) Appropriate emergency training as required by the Authority and the AOC holder's operating manual
 - (5) Appropriate flight training
 - (6) Appropriate recurrent, transition or difference training, as required, to maintain currency in any type and variance of aircraft the crew member may be required to work in
 - (7) A current list of approved training materials, equipment, training devices, simulators, and other required training items needed to meet the training needs for each type and variation of aircraft flown by the AOC holder
 - (8) Adequate number of ground check personnel and flight check personnel to ensure adequate training and checking of crew members, and

- (9) Maintain a training record system acceptable to the Authority to show compliance with all required training.

1.4 All Crew Members

- (a) A written training program shall be developed for all crew members in the emergency procedures appropriate to each make and model of aircraft flown in by the crew member. Areas shall include:

- (1) Instruction in emergency procedures, assignments, and crew co-ordination
- (2) Individual instruction in the use of onboard emergency equipment such as fire extinguishers, emergency breathing equipment, first aid equipment and its proper use, emergency exits and evacuation slides, and the aircraft's oxygen system including the use of portable emergency oxygen bottles. Flight crew members shall also practice using their emergency equipment designed to protect them in case of a cockpit fire or smoke
- (3) Training shall also include instruction in potential emergencies such as rapid decompression, ditching, fire fighting, aircraft evacuation, medical emergencies, hijacking, and disruptive passengers
- (4) Scheduled recurrent training to meet Authority requirements

1.5 All Operations Personnel

- (a) The training syllabi and checking programs for all operations personnel shall include:

- (1) Training in the safe transportation and recognition of all dangerous goods permitted by the Authority to be shipped by air. Training shall include the proper packaging, marking, labelling, and documentation of dangerous articles and magnetized materials
- (2) All appropriate security training required by the Authority
- (3) A method of providing any required notification of an accident or incident involving dangerous good

1.6 Operations Personnel Other Than Crew Members

For operations personnel other than crew members (e.g., flight operations officer, handling personnel etc.), a written training program shall be developed that pertains to their respective duties. The training program shall provide for initial, recurrent, differences, specialized and any other training required by the Authority.

2.0 Procedures for Training and Checking

2.1 Proficiency Checking Procedures

- (a) Procedures to be applied in the event that personnel do not achieve or maintain the required standards.

2.2 Procedures Involving the Simulation of Abnormal or Emergency Situations

Procedures to ensure that abnormal or emergency situations requiring the application of part or all of abnormal or emergency procedures, and simulation of IMC by artificial means, are not simulated during commercial air transportation flights.

3.0 Document Retention

3.1 Documentation to be Stored and Storage Periods

IS: 9.4.4 AIRCRAFT OPERATING INFORMATION MANUAL

- (a) Each AOC applicant and AOC holder should submit and maintain an aircraft operating information manual as part of its operations manual, containing at least the following.

1.0 General Information and Units of Measurement

General Information (e.g., aircraft dimensions), including a description of the units of measurement used for the operation of the aircraft type concerned and conversion tables.

2.0 Limitations

2.1 Certification and Operational Limitations

A description of the certified limitations and the applicable operational limitations including:

- (a) Certification status;
- (b) Passenger seating configuration for each aircraft type including a pictorial presentation;
- (c) Types of operation that are approved (e.g. AMO/IMC/VFR, CAT II/III, flights in known icing conditions etc.);
- (d) Crew composition;
- (e) Operating within mass and center of gravity limitations;
- (f) Speed limitations;
- (g) Flight envelopes;
- (h) Wind limits including operations on contaminated runways;
- (i) Performance limitations for applicable configurations;
- (j) Runway slope;
- (k) Limitations on wet or contaminated runways;
- (l) Airframe contamination; and
- (m) Post landing

3.0 Normal Procedures

The normal procedures and duties assigned to the crew, the appropriate checklists, the system for use of the checklists and a statement covering the necessary co-ordination procedures between flight and cabin crew. The following normal procedures and duties shall be included:

- (a) Pre-flight;
- (b) Pre-departure and loading;
- (c) Altimeter setting and checking;
- (d) Taxi, Take-off and Climb;
- (e) Noise abatement;
- (f) Cruise and descent;
- (g) Approach, landing preparation and briefing;
- (h) VFR approach;
- (i) Instrument approach;
- (j) Visual approach and circling;

- (k) Missed approach;
- (l) Normal landing;
- (m) Post landing; and
- (n) Operation on wet and contaminated runways.

3.1 Specific Flight Deck Procedures

- (a) Determining airworthiness of aircraft
- (b) Obtaining flight release
- (c) Initial cockpit preparation
- (d) Standard operating procedures
- (e) Cockpit discipline
- (f) Standard call-outs
- (g) Communications
- (h) Flight safety
- (i) Push-back and towing procedures
- (j) Taxi guidelines and ramp signals
- (k) Take-off and climb out procedures
- (l) Choice of runway
- (m) Take-off in limited visibility
- (n) Take-off in adverse weather
- (o) Use and limitations of weather radar
- (p) Use of landing lights
- (q) Monitoring of flight instruments
- (r) Power settings for take-off
- (s) Malfunctions during take-off
- (t) Rejected take-off decision
- (u) Climb, best angle, best rate
- (v) Sterile cockpit procedures
- (w) En route and holding procedures
- (x) Cruise control
- (y) Navigation log book
- (z) Descent, approach and landing procedures
- (aa) Reporting maintenance problems
- (bb) How to obtain maintenance and service en route

4.0 Abnormal And Emergency Procedures

4.1 Abnormal and Emergency Procedures and Duties

The manual shall contain a listing of abnormal and emergency procedures assigned to crew members with appropriate check-lists that include a system for use of the check-lists and a statement covering the necessary co-ordination procedures between flight and cabin crew. The following abnormal and emergency procedures and duties shall be included:

- (a) Crew incapacitation;
- (b) Fire and smoke drills;
- (c) Unpressurised and partially pressurized flight; as applicable
- (d) Exceeding structural limits such as overweight landing;

- (e) Exceeding cosmic radiation limits; as applicable
- (f) Lightning strikes
- (g) Distress communications and alerting ATC to emergencies;
- (h) Engine failure;
- (i) System failures;
- (j) Guidance for diversion in case of serious technical failure;
- (k) Ground proximity warning;
- (l) ACAS warning;
- (m) Windshear; and
- (n) Emergency landing/ditching.
- (o) Aircraft evacuation
- (p) Fuel Jettisoning (as applicable) and Overweight Landing;
- (q) General considerations and policy
- (r) Fuel jettisoning procedures and precautions
- (s) Emergency Procedures:
- (t) Emergency descent
- (u) Low fuel
- (v) Dangerous goods incident or accident
- (w) Interception procedures
- (x) Emergency signal for cabin crew members
- (y) Communication Procedures
- (z) Radio listening watch

5.0 Performance Data

Performance data shall be provided in a form in which it can be used without difficulty.

5.1 Performance Data

Performance material which provides the necessary data to allow the flight crew to comply with the approved aircraft flight manual performance requirements shall be included to allow the determination of-

- (a) Take-off climb limits - Mass, Altitude, Temperature;
- (b) Take-off field length limits (dry, wet, contaminated);
- (c) Net flight path data for obstacle clearance calculation or, where applicable, take-off flight path;
- (d) The gradient losses for banked climb outs;
- (e) En route climb limits;
- (f) Approach climb limits;
- (g) Landing climb limits;
- (h) Landing field length limits (dry, wet, contaminated) including the effects of an in-flight failure of a system or device, if it affects the landing distance;
- (i) Brake energy limits; and
- (j) Speeds applicable for the various flight stages (also considering wet or contaminated runways).

5.1.1 Supplementary Performance Data

Supplementary data covering:

- (a) Flights in icing conditions

- (b) The maximum crosswind and tailwind components for each aeroplane type operated and the reductions to be applied to these values having regard to gust, low visibility, runway surface conditions, crew experience, use of autopilot, abnormal or emergency circumstances, or any other relevant operational factors.
- (c) Any certified performance related to an allowable configuration, or configuration deviation, such as anti-skid inoperative, shall be included.

5.1.2. Other Acceptable Performance Data

If performance data, as required for the appropriate performance class, is not available in the approved AFM, then other data acceptable to the Authority shall be included. Alternatively, the operations manual may contain cross-reference to the approved data contained in the AFM where such data is not likely to be used often or in an emergency.

5.2 Additional Performance Data

Additional performance data where applicable including:

- (a) All engine climb gradients;
- (b) Drift-down data;
- (c) Effect of deicing/anti-icing fluids;
- (d) Flight with landing gear down;
- (e) For aircraft with 3 or more engines, one engine inoperative ferry flights; and
- (f) Flights conducted under the provisions of a configuration deviation list (CDL).

6.0 Flight Planning

6.1 Flight Planning Data

Specific data and instructions necessary for pre-flight and in-flight planning including factors such as speed schedules and power settings. Where applicable, procedures for engine(s) out operations, EDTO and flights to isolated airports shall be included for the flight plan and the operational flight plan.

6.2 Fuel and Oil Calculations

The method for calculating fuel needed for the various stages of flight.

7.0 Mass And Balance

7.1 Calculating Mass and Balance

- (a) Instructions and data for the calculation of mass and balance including:
 - (1) Calculation system (e.g. Index system);
 - (2) Information and instructions for completion of mass and balance documentation, including manual and computer generated types;
 - (3) Limiting mass and center of gravity of the various versions;
 - (4) Dry operating mass and corresponding center of gravity or index.

8.0 Loading

8.1 Loading Procedures

Instructions for loading and securing the load in the aircraft;

- (a) Use of aircraft systems and associated controls.

8.2 Loading Dangerous Goods

The operations manual shall contain a method to notify the PIC when dangerous goods are loaded in the aircraft.

9.0 Survival And Emergency Equipment Including Oxygen

9.1 List of Survival Equipment to be Carried

- (a) A list of the survival equipment to be carried for the routes to be flown and the procedures for checking the serviceability of this equipment prior to take-off. Instructions regarding the location, accessibility and use of survival and emergency equipment and its associated check list(s) shall also be included.

9.2 Ground - Air Visual Signal

Instructions illustrating the ground-air visual signal code for use by survivors shall also be included.

9.3 Oxygen Usage

The procedure for determining the amount of oxygen required and the quantity that it available. The flight profile, number of occupants and possible cabin decompression shall be considered. The information provided shall be in a form in which it can be used without difficulty.

9.4 Emergency Equipment Usage

- (a) A description of the proper use of the following emergency equipment, if applicable:

- (1) Life jackets
- (2) Life rafts
- (3) Medical kits/first aid kits
- (4) Survival kits
- (5) Emergency locator transmitter (ELT)
- (6) Visual signalling devices
- (7) Evacuation slides
- (8) Emergency lighting

10.0 Emergency Evacuation Procedures

10.1 Instructions for Emergency Evacuation

Instructions for preparation for emergency evacuation including crew co-ordination and emergency station assignment.

10.2 Emergency Evacuation Procedures

A description of the duties of all members of the crew for the rapid evacuation of an aircraft and the handling of the passengers in the event of a forced landing, ditching or other emergency.

11.0 Aircraft Systems

11.1 Aircraft Systems

A description of the aircraft systems, related controls and indications and operating instructions.

12.0 Minimum Equipment List and Configuration Deviation List

The minimum equipment list and configuration deviation list for the aeroplane types operated and specific operations authorized, including any requirements relating to operations where performance-based navigation is prescribed.

13.0 Route and Airport Instructions and Information (optional for this manual)

13.1 Instructions and Information

- (a)** Instructions and information relating to communications, navigation and airports, including:
- (1) Minimum flight level/altitude for each route to be flown;
 - (2) Operating minima for departure, destination and alternate airports;
 - (3) Communication facilities and navigation aids;
 - (4) Runway data and airport facilities;
 - (5) Approach, missed approach and departure procedures including noise abatement procedures;
 - (6) Communications-failure procedures;
 - (7) Search and rescue facilities in the area over which the aircraft is to be flown;
 - (8) A description of the aeronautical charts that shall be carried on board in relation to the type of flight and the route to be flown, including the method to check their validity;
 - (9) Availability of aeronautical information and MET services;
 - (10) Enroute COM/NAV procedures, including holding;
 - (11) Airport categorization for flight crew competence qualification.

IS: 9.4.13 MINIMUM EQUIPMENT LIST

- (a)** In addition to the list of items, the MEL shall contain:
- (1) a preamble, including guidance and definitions for flight crews and maintenance personnel using the MEL;
 - (2) the revision status of the MMEL upon which the MEL is based and the revision status of the MEL;
 - (3) the scope, extent and purpose of the MEL.
- (b)** The operator shall:
- (1) establish rectification intervals for each inoperative instrument, item of equipment or function listed in the MEL. The rectification interval in the MEL shall not be less restrictive than the corresponding rectification interval in the MMEL;
 - (2) establish an effective rectification programme;
 - (3) only operate the aircraft after expiry of the rectification interval specified in the MEL when:
 - (i) the defect has been rectified; or
 - (ii) the rectification interval has been extended in accordance with (f).
- (c)** Subject to approval of the authority, the operator may use a procedure for the one time extension of category B, C and D rectification intervals, provided that:

- (1) the extension of the rectification interval is within the scope of the MMEL for the aircraft type;
 - (2) the extension of the rectification interval is, as a maximum, of the same duration as the rectification interval specified in the MEL;
 - (3) the rectification interval extension is not used as a normal means of conducting MEL item rectification and is used only when events beyond the control of the operator have precluded rectification;
 - (4) a description of specific duties and responsibilities for controlling extensions is established by the operator;
 - (5) the authority is notified of any extension of the applicable rectification interval; and
 - (6) a plan to accomplish the rectification at the earliest opportunity is established
- (d)** The operator shall establish the operational and maintenance procedures referenced in the MEL taking into account the operational and maintenance procedures referenced in the MMEL. These procedures shall be part of the operator's manuals or the MEL.
- (e)** The operator shall amend the operational and maintenance procedures referenced in the MEL after any applicable change to the operational and maintenance procedures referenced in the MMEL.
- (f)** Unless otherwise specified in the MEL, the operator shall complete:
- (1) the operational procedures referenced in the MEL when planning for and/or operating with the listed item inoperative; and
 - (2) the maintenance procedures referenced in the MEL prior to operating with the listed item inoperative.
- (g)** Subject to a specific case-by-case approval by the authority, the operator may operate an aircraft with inoperative instruments, items of equipment or functions outside the constraints of the MEL but within the constraints of the MMEL, provided that:
- (1) the concerned instruments, items of equipment or functions are within the scope of the MMEL as defined in point (a);
 - (2) the approval is not used as a normal means of conducting operations outside the constraints of the approved MEL and is used only when events beyond the control of the operator have precluded the MEL compliance;
 - (3) a description of specific duties and responsibilities for controlling the operation of the aircraft under such approval is established by the operator; and
 - (4) a plan to rectify the inoperative instruments, items of equipment or functions or to return operating the aircraft under the MEL constraints at the earliest opportunity is established.

IS: 9.4.19 PASSENGER BRIEFING CARDS

- (a) Each AOC holder shall, at each exit seat, provide passenger information cards that include the following information in the primary language in which emergency commands are given by the crew:
- (1) Functions required of a passenger in the event of an emergency in which a crew member is not available to assist, including how to:
 - (i) Locate the emergency exit;
 - (ii) Recognise the emergency exit opening mechanism;
 - (iii) Comprehend the instructions for operating the emergency exit;
 - (iv) Operate the emergency exit;
 - (v) Assess whether opening the emergency exit will increase the hazards to which passengers may be exposed;
 - (vi) Follow oral directions and hand signals given by a crew member;
 - (vii) Stow or secure the emergency exit door so that it will not impede use of the exit;
 - (viii) Assess the condition of an escape slide, activate the slide, and stabilise the slide after deployment to assist others in getting off the slide;
 - (ix) Pass expeditiously through the emergency exit; and
 - (x) Assess, select, and follow a safe path away from the emergency exit
 - (2) A request that a passenger identify himself or herself to allow reseating if he or she:
 - (i) Cannot perform the emergency functions stated in the information card;
 - (ii) Has a non-discernible condition that will prevent him or her from performing the functions;
 - (iii) May suffer bodily harm as the result of performing one or more of those functions;
 - (iv) Does not wish to perform those functions; or
 - (v) Lacks the ability to read, speak, or understand the language or the graphic form in which instructions are provided by the AOC holder.

IS: 9.4.20 AERONAUTICAL DATA CONTROL SYSTEM

- (a) Each AOC holder shall provide aeronautical data for each aerodrome used by the AOC holder which includes the following:
- (1) Aerodromes/heliports.
 - (i) Facilities.
 - (ii) Public protection.

- (iii) Navigational and communications aids.
 - (iv) Construction affecting take-off, landing, or ground operations.
 - (v) Air traffic facilities.
- (2) Runways, clearways, and stopways:
- (i) Dimensions.
 - (ii) Surface.
 - (iii) Marking and lighting systems.
 - (iv) Elevation and gradient.
- (3) Displaced thresholds:
- (i) Location.
 - (ii) Dimensions.
 - (iii) Take-off or landing or both.
- (4) Obstacles:
- (i) Those affecting take-off and landing performance computations.
 - (ii) Controlling obstacles.
- (5) Instrument flight procedures.
- (i) Departure procedure.
 - (ii) Approach procedure.
 - (iii) Missed approach procedure.
- (6) Special information:
- (i) Runway visual range measurement equipment.
 - (ii) Prevailing winds under low visibility conditions

IS: 9.4.21 ROUTE GUIDE - AREAS, ROUTES AND AERODROMES

- (a)** Each AOC applicant and AOC holder shall submit and maintain a route guide containing specifics on areas, routes and aerodromes, as part of its operations manual that contains at least the information in (c) below.
- (b)** The route guide will ensure that the flight crew will have for each flight, information relating to communication facilities, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures as applicable for the operation, and such other information as the operator may deem necessary in the proper conduct of flight operations.

- (1) Each route guide shall contain at least the following information:
- (2) The minimum flight altitudes for each aircraft to be flown
- (3) Aerodrome operating minima for each of the aerodromes that are likely to be used as aerodromes of intended landing or as alternate aerodromes.
- (4) The increase of aerodrome operating minima in case of degradation of approach or aerodrome facilities
 - (i) The necessary information for compliance with all flight profiles required by regulations, including but not limited to, the determination of:
 - (ii) Take-off runway length requirements for dry, wet and contaminated conditions, including those dictated by systems failures which affect the take-off distance;
 - (iii) Take-off climb limitations;
 - (iv) En-route climb limitations;
 - (v) Approach climb limitations and landing climb limitations;
 - (vi) Landing runway length requirements for dry, wet and contaminated conditions, including systems failures which affect the landing distance; and
 - (vii) Supplementary information, such as tire speed limitations

IS: 9.4.22 WEATHER REPORTING SOURCES

- (a) The Authority approves and considers the following sources of weather reports satisfactory for flight planning or controlling flight movement:

- (1) Liberia National Meteorological Center.
- (2) Libera-operated automated surface observation stations.

Note: Some automated systems cannot report all required items for a complete surface aviation weather report.

- (3) Libera-operated supplemental aviation weather reporting stations.
- (4) Observations taken by aerodrome traffic control towers.
- (5) Libera-contracted weather observatories.
- (6) Any active meteorological office operated by a foreign state which subscribes to the standards and practices of ICAO conventions.

Note: These meteorological offices are normally listed in the MET tables located in ICAO Regional Air Navigation Plans.

- (7) Any military weather reporting sources approved by the Authority.

Note: Use of military sources is limited to control of those flight operations which use military aerodromes as departure, destination, alternate, or diversionary aerodromes.

- (8) Near real time reports such as pilot reports, radar reports, radar summary charts, and satellite imagery reports made by commercial weather sources or other sources specifically approved by the Authority.

- (9) An AOC holder operated and maintained weather reporting system approved by the Authority.

IS: 9.4.23 DE-ICING AND ANTI-ICING PROGRAM

- (a) Contents of the AOC holder's ground de-icing and anti-icing programme shall include a detailed description of:
- (1) How the AOC holder determines that conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft and that ground de-icing and anti-icing operational procedures shall be in effect;
 - (2) Who is responsible for deciding that ground de-icing and anti-icing operational procedures shall be in effect;
 - (3) The procedures for implementing ground de-icing and anti-icing operational procedures; and
 - (4) The specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while ground de-icing and anti-icing operational procedures are in effect.
- (b) Initial and annual recurrent ground training for flight crew and all other affected personnel (e.g. dispatchers/flight operations officers, ground crews, contract personnel) concerning the specific requirements of the approved programme and each person's responsibilities and duties under the approved programme specifically covering the following areas:
- (1) The use of holdover times;
 - (2) Aircraft de-icing/anti-icing procedures including inspection and check procedures and responsibilities;
 - (3) Communication procedures;
 - (4) Aircraft surface contamination (i.e., adherence of frost, ice or snow) and critical area identification, and how contamination adversely affects aircraft performance and flight characteristics;
 - (5) Types and characteristics of de-icing/anti-icing fluids;
 - (6) Cold weather pre-flight inspection procedures; and
 - (7) Techniques for recognising contamination on the aircraft.
- (c) The AOC holder's programme shall include procedures for flight crew members to increase or decrease the determined holdover time in changing conditions. The holdover time shall be supported by data acceptable to the Authority. If the maximum holdover time is exceeded, take-off is prohibited unless at least one of the following conditions exists:
- (1) A pre-take-off contamination check is conducted outside the aircraft (within five minutes prior to beginning take-off) to determine that the wings, control surfaces, and other critical surfaces, as defined in the AOC holder's programme, are free of frost, ice, or snow;
 - (2) It is otherwise determined by an alternate procedure, approved by the Authority and in accordance with the AOC holder's approved programme, that

the wings, control surfaces, and other critical surfaces are free of frost, ice, or snow; or

- (3) The wings, control surfaces, and other critical surfaces are de-iced again and a new holdover time is determined.

IS: 9.4.24 FLIGHT SUPERVISION AND MONITORING SYSTEM

- (a) Each AOC holder shall have an approved flight following system established and adequate for the proper monitoring of each flight, considering the operations to be conducted.
- (b) For AOC holders having flight following centres, these centres shall be located at those points necessary to ensure:
 - (1) The proper monitoring of the progress of each flight with respect to its departure at the point of origin and arrival at its destination, including intermediate stops and diversions; and
 - (2) That the PIC is provided with all information necessary for the safety of the flight.
- (c) An AOC holder conducting charter operations may arrange to have flight following facilities provided by persons other than its personnel, but in such a case the AOC holder continues to be primarily responsible for operational control of each flight.
- (d) Each AOC holder conducting charter operations using a flight following system shall show that the system has adequate facilities and personnel to provide the information necessary for the initiation and safe conduct of each flight to:
 - (1) The flight crew of each aircraft; and
 - (2) The persons designated by the certificate holder to perform the function of operational control of the aircraft.
- (e) Each AOC holder conducting charter operations shall show that the personnel required to perform the function of operational control are able to perform their duties.

IS: 9.4.25 MANAGING FATIGUE-RELATED SAFETY RISKS

- (a) A Fatigue Risk Management System (FRMS) shall contain as a minimum:
 - (1) FRMS policy and documentation
 - (2) Fatigue risk management processes
 - (3) FRMS safety assurance process
 - (4) FRMS promotion processes
- (b) The operator shall define its FRMS policy, with all elements of the FRMS clearly identified
- (c) The policy shall require that the scope of FRMS operations be clearly defined in the Operations Manual.
- (d) The FRMS policy shall:

- (1) Reflect the shared responsibility of management, flight and cabin crews, and other involved personnel;
- (2) Clearly state the safety objectives of the FRMS;
- (3) Be signed by the accountable executive of the organisations;
- (4) Be communicated, with visible endorsement, to all the relevant areas and levels of the organisation;
- (5) Declare management commitment to effective safety reporting;
- (6) Declare management commitment to the provision of adequate resources for the FRMS;
- (7) Declare management commitment to continuous improvement of the FRMS;
- (8) Require that clear lines of accountability for management, flight and cabin crews, and all other involved personnel are identified; and
- (9) Require periodic reviews to ensure it remains relevant and appropriate.

Note. Effective safety reporting is described in Doc 9859, Safety Management Manual (SMM)

(e) FRMS documentation

- (1) An operator shall develop and keep current FRMS documentation that describes and records:
 - (i) FRMS policy and objectives;
 - (ii) FRMS processes and procedures;
 - (iii) Accountabilities, responsibilities and authorities for these processes and procedures;
 - (iv) Mechanisms for ongoing involvement of management, flight and cabin crew members, and all other involved personnel;
 - (v) FRMS training programmes, training requirements and attendance records;
 - (vi) Scheduled and actual flight times, duty periods and rest periods with significant deviations and reasons for deviations noted; and

Note. Significant deviations are described in the FRMS Manual (Doc 9966)

- (vii) FRMS outputs including findings from collected data, recommendations, and actions taken.

(f) Fatigue Risk Management Processes –Identification of hazards, an operator shall develop and maintain three fundamental and documented processes for fatigue hazard identification:

- (1) Predictive – The predictive process shall identify fatigue hazards by examining crew scheduling and taking into account factors known to affect sleep and fatigue and their effects on performance. Methods of examination may include but are not limited to:
 - (i) Operator or industry operational experience and data collected on similar types of operations;

- (ii) Evidence-based scheduling practices; and
 - (iii) Bio-mathematical models.
 - (2) Proactive – The proactive process shall identify fatigue hazards within current flight operations. Methods of examination may include but are not limited to:
 - (i) Self-reporting of fatigue risks;
 - (ii) Crew fatigue surveys;
 - (iii) Relevant flight and cabin crew performance data;
 - (iv) Available safety databases and scientific studies; and
 - (v) Analysis of planned versus actual time worked.
 - (3) Reactive – The reactive process shall identify the contribution of fatigue hazards to reports and events associated with potential negative safety consequences in order to determine how the impact of fatigue could have been minimised. At a minimum, the process may be triggered by any of the following:
 - (i) Fatigue reports;
 - (ii) Confidential reports;
 - (iii) Audit reports;
 - (iv) Incidents; and
 - (v) Flight data analysis events.
- (g)** Risk assessment
 - (1) An operator shall develop and implement risk assessment procedures that determine the probability and potential severity of fatigue-related events and identify when the associated risks require mitigation. The risk assessments procedures shall review identified hazards and link them to:
 - (i) Operational processes;
 - (ii) Their probability;
 - (iii) Possible consequences; and
 - (iv) The effectiveness of existing safety barriers and controls.
- (h)** Risk mitigation
 - (1) An operator shall develop and implement risk mitigation procedures that:
 - (i) Select the appropriate mitigation strategies;
 - (ii) Implement the mitigation strategies; and
 - (iii) Monitor the strategies implementation and effectiveness.
- (i)** FRMS Safety Assurance Process – The operator shall develop and maintain FRMS safety assurance process to:

- (1) Provide for continuous FRMS performance monitoring, analysis of trend, and measurement to validate the effectiveness of the fatigue safety risk controls. The sources of data may include, but are not limited to:
 - (i) Hazard reporting and investigations;
 - (ii) Audits and surveys; and
 - (iii) Reviews and fatigue studies;
 - (2) Provide a formal process for the management of change which shall include but is not limited to:
 - (i) Identification of changes in the operational environment that may affect FRMS;
 - (ii) Identification of changes within the organisation that may affect FRMS; and
 - (iii) Consideration of available tools which could be used to maintain or improve FRMS performance prior to implementing changes; and
 - (3) Provide for the continuous improvement of the FRMS. This shall include but is not limited to:
 - (i) The elimination and/or modification of risk controls have had unintended consequences or that are no longer needed due to changes in the operational or organisational environment;
 - (ii) Routine evaluations of facilities, equipment, documentation and procedures; and
 - (iii) The determination of the need to introduce new processes and procedures to mitigate emerging fatigue-related risks.
- (j)** FRMS Promotion Process – support the ongoing development of the FRMS, the continuous improvement of its overall performance, and attainment of optimum safety levels. The following shall be established and implemented by the operator as part of its FRMS:
- (1) Training programmes to ensure competency commensurate with the roles and responsibilities of management, flight and cabin crew, and all other involved personnel under the planned FRMS; and
 - (2) An effective FRMS communications plan that:
 - (i) Explains FRMS policies, procedures and responsibilities to all relevant stakeholders; and
 - (ii) Describes communication channels used to gather and disseminate FRMS-related information.

IS: 9.5.1.4 MAINTENANCE CONTROL MANUAL

- (a)** Each AOC applicant and AOC holder should submit and maintain a maintenance control manual containing at least the following.

Note: The manual may be put together in any subject order and subjects combined so long as all applicable subjects are covered in this manual.

1.0 Administration and Control of the Maintenance Control Manual

1.1 Introduction

- (a)** A statement that the manual complies with all applicable Authority regulations and requirements and with the terms and conditions of the applicable Air Operator Certificate.
- (b)** A statement that the manual contains maintenance and operational instructions that are to be complied with by the relevant personnel in the performance of their duties.
- (c)** A list and brief description of the various Maintenance Control Manual parts, their contents, applicability and use.
- (d)** Explanations and definitions of terms and words used in the manual.

1.2 System of Amendment and Revision

- (a)** A Maintenance Control Manual shall describe who is responsible for the issuance and insertion of amendments and revisions.
- (b)** A record of amendments and revisions with insertion dates and effective dates is required.
- (c)** A statement that hand-written amendments and revisions are not permitted except in situations requiring immediate amendment or revision in the interest of safety.
- (d)** A description of the system for the annotation of pages and their effective dates.
- (e)** A list of effective pages and their effective dates.
- (f)** Annotation of changes (on text pages and as practicable, on charts and diagrams).
- (g)** A system for recording temporary revisions.
- (h)** A description of the distribution system for the manuals, amendments and revisions.
- (i)** A statement of who is responsible for notifying the Authority of proposed changes and working with the Authority on changes requiring Authority approval.

2.0 General Organization

2.1 Corporate Commitment by the AOC

2.2 General Information

- (a)** Brief description of organization
- (b)** Relationship with other organizations
- (c)** Fleet composition
- (d)** Type of operation
- (e)** Line station locations

2.3 Maintenance Management Personnel

- (a)** Accountable manager
- (b)** Nominated post holder
- (c)** Maintenance co-ordination
- (d)** Duties and responsibilities

- (e) Organization chart(s)
 - (f) Manpower resources and training policy
- 2.4 Notification Procedure to the Authority Regarding Changes to the Maintenance Arrangements Locations, Personnel, Activities, or Approval
- 3.0: Maintenance Procedures
 - 3.1 Aircraft Logbook Utilization and MEL Application
 - 3.2 Aircraft Maintenance Program Development and Amendment
 - 3.3 Time and Maintenance Records, Responsibilities, Retention
 - 3.4 Accomplishment and Control of Mandatory Continued Airworthiness Information (Airworthiness Regulations)
 - 3.5 Analysis of the Effectiveness of the Maintenance Program
 - 3.6 Non-mandatory Modification Embodiment Policy
 - 3.7 Major Modification Standards
 - 3.8 Defect Reports:
 - (a) Analysis
 - (b) Liaison with manufacturers and Regulatory Authorities
 - (c) Deferred defect policy
 - 3.9 Engineering Activity
 - 3.10 Reliability Programs
 - (a) Airframe
 - (b) Propulsion
 - (c) Components
 - 3.11 Pre Flight Inspection:
 - (a) Preparation of aircraft for flight
 - (b) Subcontracted ground handling functions
 - (c) Security of cargo and baggage loading
 - (d) Control of refuelling, Quantity/Quality
 - (e) Control of snow, ice, dust and sand contamination to an approved aviation standard
 - 3.12 Aircraft Weighing
 - 3.13 Flight Test Procedures
 - 3.14 Sample of Documents, Tags and Forms Used
 - 3.15 Appropriate portions of the AOC holder's operations manual,

IS: 9.5.1.12 AIRCRAFT MAINTENANCE PROGRAM CONTENTS

1. General requirements

- 1.1. The maintenance programme should contain the following basic information.
 - 1.1.1. The type/model and registration number of the aircraft, engines and, where applicable, auxiliary power units and propellers.
 - 1.1.2. The name and address of the owner, operator or operator managing the aircraft airworthiness.
 - 1.1.3. The reference, the date of issue and issue number of the approved maintenance programme.
 - 1.1.4. A statement signed by the owner, operator or operator managing the aircraft airworthiness to the effect that the specified aircraft will be maintained to the programme and that the programme will be reviewed and updated as required.
 - 1.1.5. Contents/list of effective pages and their revision status of the document.
 - 1.1.6. Check periods, which reflect the anticipated utilisation of the aircraft. Such utilisation should be stated and include a tolerance of not more than 25%. Where utilisation cannot be anticipated, calendar time limits should also be included.
 - 1.1.7. Procedures for the escalation of established check periods, where applicable and acceptable to the competent authority of registry.
 - 1.1.8. Provision to record the date and reference of approved amendments incorporated in the maintenance programme.
 - 1.1.9. Details of pre-flight maintenance tasks that are accomplished by maintenance staff.
 - 1.1.10. The tasks and the periods (intervals/frequencies) at which each part of the aircraft, engines, APU's, propellers, components, accessories, equipment, instruments, electrical and radio apparatus, together with the associated systems and installations should be inspected. This should include the type and degree of inspection required.
 - 1.1.11. The periods at which components should be checked, cleaned, lubricated, replenished, adjusted and tested.
 - 1.1.12. If applicable details of ageing aircraft system requirements together with any specified sampling programmes.
 - 1.1.13. If applicable details of specific structural maintenance programmes where issued by the type certificate holder including but not limited to:
 - (a) Maintenance of structural Integrity by damage Tolerance and Supplemental Structural Inspection Programmes (SSID).
 - (b) Structural maintenance programmes resulting from the SB review performed by the TC holder.
 - (c) Corrosion prevention and control.
 - (d) Repair Assessment.
 - (e) Widespread Fatigue Damage.
 - 1.1.14. If applicable, details of Critical Design Configuration Control Limitations together with appropriate procedures.

- 1.1.15. If applicable a statement of the limit of validity in terms of total flight cycles/calendar date/flight hours for the structural programme in 1.1.13.
- 1.1.16. The periods at which overhauls and/or replacements by new or overhauled components should be made.
- 1.1.17. A cross-reference to other documents approved by the Agency which contain the details of maintenance tasks related to mandatory life limitations, Certification Maintenance Requirements (CMR's) and ADs.
Note: To prevent inadvertent variations to such tasks or intervals these items should not be included in the main portion of the maintenance programme document, or any planning control system, without specific identification of their mandatory status.
- 1.1.18. Details of, or cross-reference to, any required reliability programme or statistical methods of continuous Surveillance.
- 1.1.19. A statement that practices and procedures to satisfy the programme should be to the standards specified in the TC holder's Maintenance Instructions. In the case of approved practices and procedures that differ, the statement should refer to them.
- 1.1.20. Each maintenance task quoted should be defined in a definition section of the program.

2. Programme basis

- 2.1. An owner or an operator aircraft maintenance programme should normally be based upon the MRB report, where applicable, and the TC holder's maintenance planning document or Chapter 5 of the maintenance manual, (i.e. the manufacturer's recommended maintenance programme).

The structure and format of these maintenance recommendations may be re-written by the owner or the operator to better suit the operation and control of the particular maintenance programme.

- 2.2. For a newly type-certificated aircraft where no previously approved maintenance programme exists, it will be necessary for the owner or the operator to comprehensively appraise the manufacturer's recommendations (and the MRB report where applicable), together with other airworthiness information, in order to produce a realistic programme for approval.
- 2.3. For existing aircraft types it is permissible for the owner or operator to make comparisons with maintenance programmes previously approved. It should not be assumed that a programme approved for one owner or the operator would automatically be approved for another.

Evaluation should be made of the aircraft/fleet utilisation, landing rate, equipment fit and, in particular, the experience of the owner or the operator when assessing an existing programme.

Where the competent authority is not satisfied that the proposed maintenance programme can be used as is, the competent authority should request appropriate changes such as additional maintenance tasks or de-escalation of check frequencies as necessary.

- 2.4. Critical Design Configuration Control Limitations (CDCCL)

If CDCCL have been identified for the aircraft type by the TC/STC holder, maintenance instructions should be developed. CDCCL's are characterised by features in an aircraft installation or component that should be retained during modification, change, repair, or scheduled maintenance for the operational life of the aircraft or applicable component or part.

3. Amendments

Amendments (revisions) to the approved maintenance programme should be made by the owner or the operator, to reflect changes in the TC holder's recommendations, modifications, service experience, or as required by the competent authority.

4. Permitted variations to maintenance periods

The owner or the operator may only vary the periods prescribed by the programme with the approval of the competent authority or through a procedure developed in the maintenance programme and approved by the competent authority.

5. Periodic review of maintenance programme contents

5.1. The owner or the operator approved maintenance programmes should be subject to periodic review to ensure that they reflect current TC holder's recommendations, revisions to the MRB report if applicable, mandatory requirements and the maintenance needs of the aircraft.

5.2. The owner or the operator should review the detailed requirements at least annually for continued validity in the light of operating experience.

6. Reliability Programmes

6.1. Applicability

6.1.1. A reliability programme should be developed in the following cases:

- (a) the aircraft maintenance programme is based upon MSG-3 logic;
- (b) the aircraft maintenance programme includes condition monitored components;
- (c) the aircraft maintenance programme does not contain overhaul time periods for all significant system components;
- (d) when specified by the Manufacturer's maintenance planning document or MRB.

6.1.2. A reliability Programme need not be developed in the following cases:

- (a) the maintenance programme is based upon the MSG-1 or 2 logic but only contains hard time or on condition items;
- (b) the aircraft is not a complex motor-powered;
- (c) the aircraft maintenance programme provides overhaul time periods for all significant system components;
- (d) Note: for the purpose of this paragraph, a significant system is a system the failure of which could hazard the aircraft safety.

6.1.3. Notwithstanding paragraphs 6.1.1 and 6.1.2 above, an operator may however, develop its own reliability monitoring programme when it may be deemed beneficial from a maintenance planning point of view.

6.2. Applicability for operator/operator of small fleets of aircraft.

- 6.2.1. For the purpose of this paragraph, a small fleet of aircraft is a fleet of less than 6 aircraft of the same type.
- 6.2.2. The requirement for a reliability programme is irrespective of the operator fleet size.
- 6.2.3. Complex reliability programmes could be inappropriate for a small fleet. It is recommended that such operators tailor their reliability programmes to suit the size and complexity of operation.
- 6.2.4. One difficulty with a small fleet of aircraft consists in the amount of available data which can be processed: when this amount is too low, the calculation of alert level is very coarse. Therefore 'alert levels' should be used carefully.
- 6.2.5. An operator of a small fleet of aircraft, when establishing a reliability programme, should consider the following:
 - (a) The programme should focus on areas where a sufficient amount of data is likely to be processed.
 - (b) When the amount of available data is very limited, the operator engineering judgement is then a vital element. In the following examples, careful engineering analysis should be exercised before taking decisions:
 - A '0' rate in the statistical calculation may possibly simply reveal that enough statistical data is missing, rather than there is no potential problem.
 - When alert levels are used, a single event may have the figures reach the alert level. Engineering judgement is necessary so as to discriminate an artefact from an actual need for a corrective action.
 - In making his engineering judgement, a operator is encouraged to establish contact and make comparisons with other operators of the same aircraft, where possible and relevant. Making comparison with data provided by the manufacturer may also be possible.
- 6.2.6. In order to obtain accurate reliability data, it should be recommended to pool data and analysis with one or more other operator(s). Paragraph 6.6 of this paragraph specifies under which conditions it is acceptable that operators share reliability data.
- 6.2.7. Notwithstanding the above there are cases where the operator will be unable to pool data with other operator, e.g. at the introduction to service of a new type. In that case the competent authority should impose additional restrictions on the MRB/MPD tasks intervals (e.g. no variations or only minor evolution are possible, and with the competent authority approval).

6.3. Engineering judgement

- 6.3.1. Engineering judgement is itself inherent to reliability programmes as no interpretation of data is possible without judgement. In approving the operator maintenance and reliability programmes, the competent authority is expected to ensure that the organisation which runs the programme (it may be operator, or a Part 6 organisation under contract) hires sufficiently qualified personnel with appropriate engineering experience and understanding of reliability concept.
- 6.3.2. It follows that failure to provide appropriately qualified personnel for the reliability programme may lead the competent authority to reject the approval of the reliability programme and therefore the aircraft maintenance programme.

6.4. Contracted maintenance

6.4.1. Whereas Part 5 specifies that, the aircraft maintenance programme - which includes the associated reliability programme-, should be managed and presented by the operator to the competent authority, the operator may subcontract certain functions to the maintenance organisation under contract, provided this organisation proves to have the appropriate expertise.

6.4.2. These functions are:

- (a) Developing the aircraft maintenance and reliability programmes,
- (b) Performing the collection and analysis of the reliability data,
- (c) Providing reliability reports, and
- (d) Proposing corrective actions to the operator.

6.4.3. Notwithstanding the above decision to implement a corrective action (or the decision to request from the competent authority the approval to implement a corrective action) remains the operator prerogative and responsibility. In relation to paragraph 6.4.2(d) above, a decision not to implement a corrective action should be justified and documented.

6.4.4. The arrangement between the operator and the maintenance organisation should be specified in the maintenance contract and the relevant MCM, and maintenance organisation procedures.

6.5. Reliability programme

In preparing the programme details, account should be taken of this paragraph. All associated procedures should be clearly defined.

6.5.1. Objectives

6.5.1.1. A statement should be included summarising as precisely as possible the prime objectives of the programme. To the minimum it should include the following:

- (a) to recognise the need for corrective action,
- (b) to establish what corrective action is needed and, (c) to determine the effectiveness of that action.

6.5.1.2. The extent of the objectives should be directly related to the scope of the program. Its scope could vary from a component defect monitoring system for a small operator, to an integrated maintenance management program for a big operator. The manufacturer's maintenance planning documents may give guidance on the objectives and should be consulted in every case.

6.5.1.3. In case of a MSG-3 based maintenance programme, the reliability programme should provide a monitor that all MSG-3 related tasks from the maintenance programme are effective and their periodicity is adequate.

6.5.2. Identification of items.

The items controlled by the programme should be stated, e.g. by ATA Chapters. Where some items (e.g. aircraft structure, engines, APU) are controlled by separate programmes, the associated procedures (e.g. individual sampling or life development programmes, constructor's structure sampling programmes) should be cross referenced in the programme.

6.5.3. Terms and definitions.

The significant terms and definitions applicable to the Programme should be clearly identified. Terms are already defined in MSG-3.

6.5.4. Information sources and collection.

6.5.4.1. Sources of information should be listed and procedures for the transmission of information from the sources, together with the procedure for collecting and receiving it, should be set out in detail in the CAME or MOE as appropriate.

6.5.4.2. The type of information to be collected should be related to the objectives of the Programme and should be such that it enables both an overall broad based assessment of the information to be made and also allow for assessments to be made as to whether any reaction, both to trends and to individual events, is necessary. The following are examples of the normal prime sources:

- (a) Pilots Reports.
- (b) Technical Logs.
- (c) Aircraft Maintenance Access Terminal / On-board Maintenance System readouts.
- (d) Maintenance Worksheets. (e) Workshop Reports.
- (f) Reports on Functional Checks.
- (g) Reports on Special Inspections.
- (h) Stores Issues/Reports.
- (i) Air Safety Reports.
- (j) Reports on Technical Delays and Incidents.
- (k) Other sources: ETOPS, RVSM, CAT II/III.

6.5.4.3. In addition to the normal prime sources of information, due account should be taken of continuing airworthiness and safety information promulgated by the State of Design.

6.5.5. Display of information.

Collected information may be displayed graphically or in a tabular format or a combination of both. The rules governing any separation or discarding of information prior to incorporation into these formats should be stated. The format should be such that the identification of trends, specific highlights and related events would be readily apparent.

6.5.5.1. The above display of information should include provisions for 'nil returns' to aid the examination of the total information.

6.5.5.2. Where 'standards' or 'alert levels' are included in the programme, the display of

information should be oriented accordingly.

6.5.6. Examination, analysis and interpretation of the information.

The method employed for examining, analysing and interpreting the programme information should be explained.

6.5.6.1. Examination.

Methods of examination of information may be varied according to the content and quantity of information of individual programmes. These can range from examination of the initial indication of performance variations to formalised detailed procedures at specific periods, and the methods should be fully described in the programme documentation.

6.5.6.2. Analysis and Interpretation.

The procedures for analysis and interpretation of information should be such as to enable the performance of the items controlled by the programme to be measured; they should also facilitate recognition, diagnosis and recording of significant problems. The whole process should be such as to enable a critical assessment to be made of the effectiveness of the programme as a total activity. Such a process may involve:

- (a) Comparisons of operational reliability with established or allocated standards (in the initial period these could be obtained from in-service experience of similar equipment of aircraft types).
- (b) Analysis and interpretation of trends.
- (c) The evaluation of repetitive defects.
- (d) Confidence testing of expected and achieved results.
- (e) Studies of life-bands and survival characteristics.
- (f) Reliability predictions.
- (g) Other methods of assessment.

6.5.6.3. The range and depth of engineering analysis and interpretation should be related to the particular programme and to the facilities available. The following, at least, should be taken into account:

- (a) Flight defects and reductions in operational reliability.
- (b) Defects occurring on-line and at main base.
- (c) Deterioration observed during routine maintenance.
- (d) Workshop and overhaul facility findings.
- (e) Modification evaluations.
- (f) Sampling programmes.
- (g) The adequacy of maintenance equipment and publications.
- (h) The effectiveness of maintenance procedures.
- (i) Staff training.
- (j) Service bulletins, technical instructions, etc.

6.5.6.4. Where the operator relies upon contracted maintenance and/or overhaul facilities as an information input to the programme, the arrangements for

availability and continuity of such information should be established and details should be included.

6.5.7. Corrective Actions.

6.5.7.1. The procedures and time scales both for implementing corrective actions and for

monitoring the effects of corrective actions should be fully described. Corrective actions shall correct any reduction in reliability revealed by the programme and could take the form of:

- (a) Changes to maintenance, operational procedures or techniques.
- (b) Maintenance changes involving inspection frequency and content, function checks, overhaul requirements and time limits, which will require amendment of the scheduled maintenance periods or tasks in the approved maintenance programme. This may include escalation or de-escalation of tasks, addition, modification or deletion of tasks.
- (c) Amendments to approved manuals (e.g. maintenance manual, crew manual).
- (d) Initiation of modifications.
- (e) Special inspections of fleet campaigns.
- (f) Spares provisioning.
- (g) Staff training.
- (h) Manpower and equipment planning.

Note: Some of the above corrective actions may need the competent authority's approval before implementation.

6.5.7.2. The procedures for effecting changes to the maintenance programme should be described, and the associated documentation should include a planned completion date for each corrective action, where applicable.

6.5.8. Organisational Responsibilities.

The organisational structure and the department responsible for the administration of the programme should be stated. The chains of responsibility for individuals and departments (Engineering, Production, Quality, Operations etc.) in respect of the programme, together with the information and functions of any programme control committees (reliability group), should be defined. Participation of the competent authority should be stated. This information should be contained in the CAME as appropriate.

6.5.9. Presentation of information to the competent authority.

The following information should be submitted to the competent authority for approval as part of the reliability programme:

- (a) The format and content of routine reports.
- (b) The time scales for the production of reports together with their distribution.
- (c) The format and content of reports supporting request for increases in periods between maintenance (escalation) and for amendments to the approved maintenance programme. These reports should contain sufficient detailed

information to enable the competent authority to make its own evaluation where necessary.

6.5.10. Evaluation and review.

Each programme should describe the procedures and individual responsibilities in respect of continuous monitoring of the effectiveness of the programme as a whole. The time periods and the procedures for both routine and non-routine reviews of maintenance control should be detailed (progressive, monthly, quarterly, or annual reviews, procedures following reliability 'standards' or 'alert levels' being exceeded, etc.).

6.5.10.1. Each Programme should contain procedures for monitoring and, as necessary, revising the reliability 'standards' or 'alert levels'. The organisational responsibilities for monitoring and revising the 'standards' should be specified together with associated time scales.

6.5.10.2. Although not exclusive, the following list gives guidance on the criteria to be taken into account during the review.

- (a) Utilisation (high/low/seasonal).
- (b) Fleet commonality.
- (c) Alert Level adjustment criteria.
- (d) Adequacy of data.
- (e) Reliability procedure audit.
- (f) Staff training.
- (g) Operational and maintenance procedures.

6.5.11. Approval of maintenance programme amendment

The competent authority may authorise the operator to implement in the maintenance programme changes arising from the reliability programme results prior to their formal approval by the authority when satisfied that;

- (a) the Reliability Programme monitors the content of the Maintenance Programme in a comprehensive manner, and
- (b) the procedures associated with the functioning of the 'Reliability Group' provide the assurance that appropriate control is exercised by the operator over the internal validation of such changes.

6.6. Pooling Arrangements.

6.6.1. In some cases, in order that sufficient data may be analysed it may be desirable to 'pool' data: i.e. collate data from a number of operators of the same type of aircraft. For the analysis to be valid, the aircraft concerned, mode of operation, and maintenance procedures applied should be substantially the same: variations in utilisation between two operators may, more than anything, fundamentally corrupt the analysis. Although not exhaustive, the following list gives guidance on the primary factors which need to be taken into account.

- (a) Certification factors, such as: aircraft TCDS compliance (variant)/modification status, including SB compliance.

(b) Operational Factors, such as: operational environment/utilisation, e.g. low/high/seasonal, etc./respective fleet size operating rules applicable (e.g. ETOPS/RVSM/All Weather etc.)/operating procedures/MEL and MEL utilisation.

(c) Maintenance factors, such as: aircraft age maintenance procedures; maintenance standards applicable; lubrication procedures and programme; MPD revision or escalation applied or maintenance programme applicable

- 6.6.2. Although it may not be necessary for all of the foregoing to be completely common, it is necessary for a substantial amount of commonality to prevail. Decision should be taken by the competent authority on a case by case basis.
- 6.6.3. In case of a short-term lease agreement (less than 6 month) more flexibility against the para 6.6.1 criteria may be granted by the competent authority, so as to allow the owner/operator to operate the aircraft under the same programme during the lease agreement effectivity.
- 6.6.4. Changes by any one of the operators to the above, requires assessment in order that the pooling benefits can be maintained. Where an operator wishes to pool data in this way, the approval of the competent authority should be sought prior to any formal agreement being signed between operators.
- 6.6.5. Whereas this paragraph 6.6 is intended to address the pooling of data directly between operators, it is acceptable that the operator participates in a reliability programme managed by the aircraft manufacturer, when the competent authority is satisfied that the manufacturer manages a reliability programme which complies with the intent of this paragraph.