SIERRA LEONE CIVIL AVIATION REGULATION

PART 8A – AIRWORTHINESS OF AIRCRAFT

FEBRUARY 2024

PREAMBLE

WHEREAS, The Director-General shall have power to perform such acts, -including the conduct of investigations, to issue and amend orders, rules, regulations and procedures pursuant to and in accordance with the Civil Aviation Act, 2023.

WHEREAS, the Director- General shall have power to publish all reports, orders, decisions, rules, and regulations issued under Civil Aviation Act, 2023 in such form and manner as may be best adapted for public information and use.

NOW THEREBY, The Director General under its powers given by Article 17(1) and 17(2)(a) of the Civil Aviation Act, 2023 issue the following regulations which supersedes previous regulations on Airworthiness of Aircraft.

1. SHORT TITLE

This regulation may be cited as Sierra Leone Civil Aviation Regulation "SLCAR Part 8A Airworthiness of Aircraft"

2. EFFECTIVE DATE

This Regulation shall come into force as of the 5th day of February 2024.

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Ms Musayeroh Barrie
Director General

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INTRODUCTION

SLCAR Part 8A presents regulatory requirement for the airworthiness of aircraft and includes related environmental protection provisions for aircraft registered in Sierra Leone and/or expected to operate in Sierra Leone using the standard and recommended practices in ICAO Annex 8 and 16(Vol I, II and III)

Sierra Leone is not a State of Design nor a State of Manufacture nor a State of Design of Modification and therefore does not issue its Type certificate nor carry out Noise certification, Modification or Repairs. The Authority shall accept Type Certificate, Noise Certification, modification and repairs from recognized States/Agencies as stated in section II paragraph 2.3 of this regulation.

The Authority shall open lines of communication with the State of Design, State of Design of Modification and/or the State of Manufacture, so that it can receive all safety bulletins and airworthiness directives for each type of aircraft registered and/or operating in Sierra Leone.

GENERAL

In transposing the ICAO Annexes below, the following Amendments have been considered;

Annex 8 - Amendments 1-109

Annex 16 vol I – Amendment 1-14

Annex 16 vol II – Amendment 1-10

Annex 16 vol III – Amendment 1

SECTION I

1 DEFINITIONS

When the following terms are used in the Standards for the Airworthiness of Aircraft, they have the following meanings:

1.1 **Aeroplane.** A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

1.2 **Afterburning.** A mode of engine operation wherein a combustion system fed (in whole part) by vitiated air is used.

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

1.4 **Airworthy.** The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.

1.5 **Airworthiness directives.** A regulatory document which identifies aeronautical product i n conditions or limitations under which the aeronautical product may continue to be operated. The which an unsafe condition exist, and were the condition is likely to exist or develop in other aeronautical product of the same type design. It prescribes mandatory corrective actions to be taken, or the AD is the common form of mandatory continuing airworthiness information mentioned in this regulation.

1.6 **Anticipated operating conditions.** Those conditions which are known from experience or which can be reasonably envisaged to occur during the operational life of the aircraft taking into account the operations for which the aircraft is made eligible, the conditions so considered being relative to the meteorological state of the atmosphere, to the configuration of terrain, to the functioning of the aircraft, to the efficiency of personnel and to all the factors affecting safety in flight. Anticipated operating conditions do not include:

a) those extremes which can be effectively avoided by means of operating procedures; and

b) those extremes which occur so infrequently that to require the Standards to be met in such extremes would give a higher level of airworthiness than experience has shown to be necessary and practical.

1.7 **Approach phase.** The operating phase defined by the time during which the engine is operated in the approach operating mode

1.8 **Appropriate airworthiness requirements.** The comprehensive and detailed **a**irworthiness codes established, adopted or accepted by a Contracting State for the class of aircraft, engine or propeller under consideration.

1.9 **Approved.** Accepted by a Contracting State as suitable for a particular purpose.

1.10 **Associated aircraft systems.** Those aircraft systems drawing electrical/pneumatic power from and auxiliary power unit during ground operation**s.**

1.11 **Auxiliary power unit (APU).** A self-contained power unit on an aircraft providing electrical/pneumatic power to aircraft systems during ground operations or in flights, separate from the propulsion engine(s).

1.12 **Bypass ratio**. The ratio of the air mass flow through the bypass ducts of a gas turbine engine to the air mass flow through the combustion chambers calculated at maximum thrust when the engine is stationary in an international standard atmosphere at sea level.

1.13 **Category A.** With respect to helicopters, means a multi-engine helicopter designed with engine and system isolation features specified in Part IV of this regulation and capable of operations using take-off and landing data scheduled under a critical engine failure concept which assures adequate designated surface area and adequate performance capability for continued safe flight or safe rejected take-off.

1.14 **Category B.** With respect to helicopters, means a single-engine or multi-engine helicopter which does not meet Category A standards. Category B helicopters have no guaranteed capability to continue safe flight in the event of an engine failure, and a forced landing is assumed.

1.15 **Climb phase.** The operating phase defined by the time giving which the engine is operated in the climb operating mode

1.16 **Cockpit crew zone.** The part of the cabin that is exclusively designated for flight crew use.

1.17 **Configuration (as applied to the aeroplane).** A particular combination of the positions of the moveable elements, such as wing flaps and landing gear, etc., that affect the aerodynamic characteristics of the aeroplane.

1.18 **Continuing airworthiness.** The set of processes by which an aircraft, engine, propeller or part complies with the applicable airworthiness requirements and remains in a condition for safe operation throughout its operating life.

1.19 **Continuing airworthiness records.** Records which are related to the continuing airworthiness status of an aircraft, engine, propeller or associated part

1.20 **Critical engine(s).** Any engine whose failure gives the most adverse effect on the aircraft characteristics relative to the case under consideration

1.21 **Date of manufacture.** The date of issue of a document attesting that the individual aircraft or engine as appropriate conforms to the requirement of the type or the date of an analogous document

1.22 **Derivative version**. An aircraft gas turbine engine of the same generic family as an originally type- certificated engine and having features which retain the basic core engine and combustor design of the original model and for which other factors, as judged by the certificating authority, have not changed

1.23 **Derived version of a CO2-certified aeroplane.** An aeroplane which incorporates a change in the type design that either increases its maximum take-off mass, or that increases its CO2 emissions evaluation metric value by more than:

(a) 1.35 per cent at a maximum take-off mass of 5 700 kg, decreasing linearly to;

(b) 0.75 per cent at a maximum take-off mass of 60 000 kg, decreasing linearly to;

(c) 0.70 per cent at a maximum take-off mass of 600 000 kg; and

(d) a constant 0.70 per cent at maximum take-off masses greater than 600 000 kg.

1.24 **Derived version of a non-CO2-certified aeroplane.** An individual aeroplane that conforms to an existing Type Certificate, but which is not certified to Annex 16, Volume III, and to which a change in the type design is made prior to the issuance of the aeroplane's first certificate of

airworthiness that increases its CO2 emissions evaluation metric value by more than 1.5 per cent or is considered to be a significant CO2 change.

1.25 **Derived version of a helicopter**. A helicopter which, from the point of view of airworthiness, is similar to the noise certificated prototype but incorporates changes in type design which may affect its noise characteristics adversely.

1.26 **Derived version of an aeroplane**. An aeroplane which, from the point of view of airworthiness, is similar to the noise certificated prototype but incorporates changes in type design which may affect its noise characteristics adversely.

1.27 **Design landing mass.** The maximum mass of the aircraft at which, for structural design purposes, it is assumed that it will be planned to land.

1.28 **Design take-off mass.** The maximum mass at which the aircraft, for structural design purposes, is assumed to be planned to be at the start of the take-off run.

1.29 **Design taxiing mass.** The maximum mass of the aircraft at which structural provision is made for load liable to occur during use of the aircraft on the ground prior to the start of take-off.

1.30 **Discrete source damage.** Structural damage of the aeroplane that is likely to result from: impact with a bird, uncontained fan blade failure, uncontained engine failure, uncontained high-energy rotating machinery failure or similar causes.

1.31 **Engine.** A unit used or intended to be used for aircraft propulsion. It consists of at least those components and equipment necessary for functioning and control but excludes the propeller/rotors (if applicable).

1.32 **Equivalent procedure.** A test or analysis procedure which, while differing from the one specified in this volume of Annex 16, in the technical judgement of the certificating authority yields effectively the same CO2 emissions evaluation metric value as the specified procedure.

1.33 **Exhaust nozzle**. In the exhaust emissions sampling of gas turbine engines where the jet effluxes are not mixed (as in some turbofan engines, for example) the nozzle considered is that for the gas generator (core) flow only. Where, however, the jet efflux is mixed the nozzle considered is the total exit nozzle.

1.34 **External equipment (helicopter).** Any instrument, mechanism, part, apparatus, appurtenance, or accessory that is attached to or extends from the helicopter exterior but is not used nor is intended to be used for operating or controlling a helicopter in flight and is not part of an airframe or engine. Helicopter. A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes.

1.35 **Factor of safety.** A design factor used to provide for the possibility of loads greater than those assumed, and for uncertainties in design and fabrication.

1.36 **Final approach and take-off area (FATO).** A defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by performance Class 1 helicopters, the defined area includes the rejected take-off area available.

1.37 **Fireproof.** The capability to withstand the application of heat by a flame for a period of 15 minutes.

1.38 **Fire resistant.** The capability to withstand the application of heat by a flame for a period of 5 minutes.

1.39 **Free-field sensitivity level of a microphone system.** In decibels, twenty times the logarithm to the base ten of the ratio of the free-field sensitivity of a microphone system and the reference sensitivity of one volt per pascal. The free-field sensitivity level of a microphone system may be determined by subtracting the sound pressure level (in decibels re 20 μPa) of the sound incident on the microphone from the voltage level (in decibels re 1 V) at the output of the microphone system, and adding 93.98 dB to the result.

1.40 **Helicopter.** A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes.

1.41 **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.

1.42 **Human performance.** Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

1.43 **Landing surface.** That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft landing in a particular direction.

1.44 **Limit loads.** The maximum loads assumed to occur in the anticipated operating conditions.

1.45 **Linear operating range.** In decibels, for a stated level range and frequency, the range of levels of steady sinusoidal electrical signals applied to the input of the entire measurement system, exclusive of the microphone but including the microphone preamplifier and any other signal-conditioning elements that are considered to be part of the microphone system, extending from a lower to an upper boundary, over which the level non-linearity is within specified tolerance limits. It is not necessary to include microphone extension cables as configured in the field**.**

1.46 **Load factor.** The ratio of a specified load to the weight of the aircraft, the former being expressed in terms of aerodynamic forces, inertia forces, or ground reactions.

1.47 **Maintenance.** The performance of tasks on an aircraft, engine, propeller or associated part required to ensure the continuing airworthiness of an aircraft engine, propeller or associated part including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair.

1.48 **Maintenance organization's procedures manual.** A document endorsed by the head of the maintenance organization which details the maintenance organization's structure and management responsibilities, scope of work, description of facilities, maintenance procedures and quality assurance or inspection systems.

1.49 **Maintenance records.** Records that set out the details of the maintenance carried out on an aircraft, engine, propeller or associated part.

1.50 **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 appropriate airworthiness requirements.

1.51 **Major modification.** In respect of an aeronautical product for which a type certificate has been issued, a change in the type design that has an appreciable effect, or other than negligible

effect, on the mass and balance limit, structural strength, engine operation, flight characteristics, reliability, operational characteristics, other characteristics or quality affecting the airworthiness or environmental characteristics of an aeronautical product.

1.52 **Major repair.** Any repair of an aeronautical product that might appreciably affect structural strength, performance, engine, operation flight characteristics or other qualities affecting airworthiness or environmental characteristics.

1.53 **Maximum passenger seating capacity.** The maximum certificated number of passengers for the aeroplane type design.

1.54 **Maximum take-off mass.** The highest of all take-off masses for the type design.

1.55 **Measurement system.** The combination of instruments used for the measurement of sound pressure levels, including a sound calibrator, windscreen, microphone system, signal recording and conditioning devices, and a one-third octave band analysis system. Practical installations may include a number of microphone systems, the outputs from which are recorded simultaneously by a multi- channel recording/analysis device via signal conditioners as appropriate. For the purpose of this section, each complete measurement channel is considered to be a measurement system to which the requirements apply accordingly.

1.56 **Minor modification.** A modification other than a major modification.

1.57 **Minor repair.** A repair other than a major repair.

1.58 **Modification.** A change to the type design of an aircraft, engine or propeller.

1.59 **Non-volatile particulate matter (nvPM)**. Emitted particles that exist at a gas turbine engine exhaust nozzle exit plane that do not volatilize when heated to a temperature of 350°C.

1.60 **Optimum conditions.** The combinations of altitude and airspeed within the approved operating envelope defined in the aeroplane flight manual that provides the highest specific air range value at each reference aeroplane mass

1.61 **Organization responsible for the type design.** The organization that holds the type certificate, or equivalent document, for an aircraft, engine or propeller type, issued by a Contracting State.

1.62 **Orphan aircraft type.** An aircraft which has its Type Certificate revoked by the State of Design, and no longer has a designated State of Design in accordance with this regulation. These aircraft do not meet the Standards of this regulation.

1.63 **Oxides of nitrogen**. The sum of the amounts of the nitric oxide and nitrogen dioxide contained in a gas sample calculated as if the nitric oxide were in the form of nitrogen dioxide

1.64 **Performance Class 1 helicopter.** A helicopter with performance such that, in case of engine failure, it is able to land on the rejected take-off area or safely continue the flight to an appropriate landing area.

1.65 **Performance Class 2 helicopter.** A helicopter with performance such that, in case of engine failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which cases a forced landing may be required.

1.66 **Performance Class 3 helicopter.** A helicopter with performance such that, in case of engine failure at any point in the flight profile, a forced landing must be performed.

1.67 **Performance model.** An analytical tool or method validated from corrected flight test data that can be used to determine the SAR values for calculating the CO2 emissions evaluation metric value at the reference conditions

1.68 **Powered-lift**. A heavier-than-air aircraft capable of vertical take-off, vertical landing, and low speed flight, which depends principally on engine-driven lift devices or engine thrust for the lift during these flight regimes and on non-rotating aerofoil(s) for lift during horizontal flight.

1.69 **Powerplant.** The systems consisting of all engines, drive system components (if applicable), and propellers (if installed), their accessories, ancillary parts, and fuel and oil systems installed on an aircraft but excluding the rotors for a helicopter.

1.70 **Pressure-altitude.** An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the standard atmosphere.

1.71 **Preventive Maintenance.** Simple or minor preservation operations and the replacement o f small standard parts not involving complex assembly operations**.**

1.72 **Rated thrust**. For engine emissions purposes, the maximum take-off thrust approved by the certificating authority for use under normal operating conditions at ISA sea level static conditions, and without the use of water injection. Thrust is expressed in kilo newtons

1.73 **Recertification**. Certification of an aircraft with or without a revision to its certification noise levels, to a Standard different to that to which it was originally certificated.

1.74 **Reference pressure ratio**. The ratio of the mean total pressure at the last compressor discharge plane of the compressor to the mean total pressure at the compressor entry plane when the engine is developing take-off thrust rating in ISA sea level static conditions.

1.75 **Reference geometric factor.** An adjustment factor based on a measurement of aeroplane fuselage size derived from a two-dimensional projection of the fuselage

1.76 **Rendering (a Certificate of Airworthiness) valid.** The action taken by a Contracting State, as an alternative to issuing its own Certificate of Airworthiness, in accepting a Certificate of Airworthiness issued by any other Contracting State as the equivalent of its own Certificate of Airworthiness.

1.77 **Repair.** The restoration of an aircraft, engine, propeller or associated part to an airworthy condition in accordance with the appropriate airworthiness requirements after it has been damaged or subjected to wear.

1.78 **Satisfactory evidence.** A set of documents or activities that a Contracting State accepts as sufficient to show compliance with an airworthiness requirement.

1.79 **Self-sustaining powered sailplane**. A powered aeroplane with available engine power which allows it to maintain level flight but not to take off under its own power

1.80 **Smoke**. The carbonaceous materials in exhaust emissions which obscure the transmission of light.

1.81 **Smoke Number**. The dimensionless term quantifying smoke emissions.

1.82 **Sound incidence angle.** In degrees, an angle between the principal axis of the microphone and a line from the sound source to the centre of the diaphragm of the microphone. When the sound incidence angle is 0°, the sound is said to be received at the microphone at “normal (perpendicular) incidence”; when the sound incidence angle is 90°, the sound is said to be

received at "grazing incidence". The principal axis of a measurement microphone is through the centre of the diaphragm and perpendicular to it.

1.83 Specific air range. The distance an aeroplane travels in the cruise flight phase per unit of fuel consumed.

1.84 Standard atmosphere. An atmosphere defined as follows:

(a) the air is a perfect dry gas;

(b) the physical constants are:

(i) Sea level mean molar mass: $M_0 = 28.964\,420\ 10^{-3}$ kg mol^{-1}

(ii) Sea level atmospheric pressure: $P_0 = 1\,013.250$ hPa

(iii) Sea level temperature: $t_0 = 15°C$

$T_0 = 288.15$ K

(iv) Sea level atmospheric density: $\rho_0 = 1.225\,0$ kg m^{-3}

(v) Temperature of the ice point: $T_i = 273.15$ K

(vi) Universal gas constant: $R^* = 8.314\,32$ JK^{-1}mol^{-1}

(c) the temperature gradients are:

Geopotential altitude (km)		Temperature gradient (Kelvin per standard geopotential kilometre)
From	To	
-5.0	11.0	-6.5
11.0	20.0	0.0
20.0	32.0	+1.0
32.0	47.0	+2.8
47.0	51.0	0.0
51.0	71.0	-2.8
71.0	80.0	-2.0

1.85 State of Design. The State having jurisdiction over the organization responsible for the type design.

1.86 State of Design of Modification. The state having jurisdiction over the individual or organisation responsible for the design of the modification or repair of an aircraft, engine or propeller.

1.87 State of Manufacture. The State having jurisdiction over the organization responsible for the final assembly of the aircraft, engine or propeller.

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

1.89 Subsonic aeroplane. An aeroplane incapable of sustaining level flight at speeds exceeding flight Mach number of 1.

1.90 Take-off phase. The operating phase defined by the time during which the engine is operated at the rated thrust

1.91 **Take-off surface.** That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft taking off in a particular direction.

1.92 **Taxi/ground idle**. The operating phases involving taxi and idle between the initial starting of the propulsion engine(s) and the initiation of the take-off roll and between the time of runway turnoff and final shutdown of all propulsion engine(s).

1.93 **The Authority.** Sierra Leone Civil Aviation Authority

1.94 **The State.** The Republic of Sierra Leone.

1.95 **Tilt-rotor**. A powered-lift capable of vertical take-off, vertical landing, and sustained low speed flight, which depends principally on engine-driven rotors mounted on tiltable nacelles for the lift during these flight regimes and on non-rotating aerofoil(s) for lift during high-speed flight.

1.96 **Type Certificate.** A document issued by a Contracting State to define the design of an aircraft, engine or propeller type and to certify that this design meets the appropriate airworthiness requirements of that State.

1.97 **Type design.** The set of data and information necessary to define an aircraft, engine or propeller type for the purpose of airworthiness determination.

1.98 **Ultimate load.** The limit load multiplied by the appropriate factor of safety.

1.99 **Unburned hydrocarbons**. The total of hydrocarbon compounds of all classes and molecular weights contained in a gas sample, calculated as if they were in the form of methane.

2 ABBREVIATIONS

The following acronyms are used in this Part:

AC – Advisory Circular

AD – Airworthiness Directive

AOC – Air Operator Certificate

AMO – Approved Maintenance Organisation

ICAO – International Civil Aviation Organisation

IS – Implementing Standard

STC – Supplemental Type Certificate

TC – Type Certificate

TSO – Technical Standard Order

3 APPLICABILITY

3.1 These regulations shall apply to all persons operating the following:

(a) An aircraft registered in Sierra Leone and where ever operated

(b) Aircraft registered in another contracting state that are operated by a person licenced in Sierra Leone and must be maintained in accordance with the standards of the aircraft State of registry, where ever that maintenance is performed

3.2 This regulation prescribes the requirements for:

(a) Acceptance of type certificate
(b) Certification of aircraft and aeronautical product
(c) Issuance of certificate of airworthiness
(d) Continuing airworthiness of aircraft and aeronautical components
(e) Aircraft maintenance and inspection requirement
(f) Maintenance and inspection records and entries
(g) Acceptance of noise certification
(h) Acceptance of emission certificate
(i) Acceptance of Engine CO_2 emission certificate
(j) Fuel Venting

SECTION II

1. GENERAL

This section prescribes the requirements for-

(a) Certification of aircraft and aeronautical product;

(b) Issuance of Certificate of Airworthiness;

(c) Continuing airworthiness of aircraft and aeronautical product;

(d) Aircraft maintenance and inspection;

(e) Maintenance and Inspection records and entries;

2. CERTIFICATION OF AIRCRAFT AND AERONAUTICAL PRODUCT

2.1 Applicability

(a) This chapter describes the provisions and designation of applicable rules for original certification of aircraft and related aeronautical products.

(b) The Authority will hold this chapter reserved until such time as it has received an application for Type Certificates, Production Certificates or other related approvals.

(c) Any applicant for a production certificate for any aircraft or aeronautical product thereof for manufacture in Sierra Leone shall comply with the type certificate as required by the State of Design for approval.

(d) At such times as the application for production is presented, the Authority will make available suitable Regulation for the issuance of an airworthiness certificate, or airworthiness document as appropriate for the product concerned.

2.2 Type Acceptance Certificate

2.2.1 The Authority may accept a type certificate or equivalent type of document issued by a state of Design in respect of an aircraft or certificate aircraft product if the type certificate or equivalent document was issued based on an airworthiness code recognized by the Authority; or

2.2.2 Upon acceptance of the TC by the Authority, the Authority may, prior to issue of certificate of airworthiness or restricted certificate of airworthiness, require the applicant to comply with any additional requirement as prescribed by the authority including but not limited to:

(a) **Training Requirement:**

(i) For a new aircraft type on Sierra Leone aircraft register, the operator will be required to provide training to the SLCAA inspectors on the aircraft type

(ii) The number of inspectors necessary to be trained will depend on the size and complexity of the aircraft

(iii) For a series type of an aircraft, a refresher or difference course may be required to keep abreast to the technological advancement or differences

(iv) These requirements will include both airworthiness and flight operations inspectors

2.2.3 In this regulation, recognized airworthiness code means standards relating to the design, materials, construction equipment, performance and maintenance of aircraft or aircraft products issued by the state of design and accepted and prescribed by the Authority

2.3 Recognized Foreign Countries

The Authority shall accept the Type Certificates (TCs) or equivalent documents from any of the under listed recognized countries/Agency:

(a) Canada;

(b) EASA;

(c) The United Kingdom; and

(d) The United States of America.

2.4 Eligibility

(a) Only Type certificate holders of recognized countries are eligible to apply to the Authority for a type acceptance certificate.

(b) An applicant other than those specified in (1) of this paragraph may be eligible for acceptance provided the aircraft type in question is type certificated by a recognized country.

2.5 Type Acceptance Certificate for Imported Aircraft Certificated by Civil Aviation Authority of Recognized Country

(a) The Authority may issue a type acceptance certificate for an aircraft manufactured in a foreign country, without making the type acceptance certificate subject to any conditions, if:

(i) a foreign type certificate or equivalent document issued by the civil aviation authority of a recognized country is in force for aircraft of that type; and

(ii) the applicant has submitted to the Authority:

(1) evidence that the type design has been approved by the civil aviation authority of the recognized country by issue of a type certificate or equivalent document;

(2) details of any equivalent safety determinations or waivers (however described) that were made in the course of the type certification;

(3) a copy of the applicable type certificate data sheet;

(4) a copy of the flight manual that contains all the available options applicable to the type, and that was approved by the civil aviation authority that issued the foreign type certificate;

(5) a copy of the manufacturer's instructions for continued airworthiness of the aircraft;

(6) a copy of the parts catalogue for the aircraft;

(7) a list of all current field service documents applicable to the aircraft;

(8) an undertaking from the holder of the foreign type certificate to continue to supply to the Authority service bulletins and instructions for the continuing airworthiness of aircraft of that type and any amendments of the documents mentioned in subparagraphs (4), (5), (6) and (7); and

(9) compliance to established factory acceptance procedures.

(b) Upon acceptance of the type certificate by the Authority, the Authority may, prior to issue of standard or special certificate of airworthiness, require the applicant to comply with any additional requirements as may be prescribed by the Authority.

3. SUPPLEMENTAL TYPE CERTIFICATES

3.1 Applicability

This Subpart prescribes procedural requirements for the issue of supplemental type certificates.

3.2 Issuance of a Supplemental Type Certificate

(a) No person shall alter a product by introducing a major change in type design, which is not great enough to require a new application for a type certificate, without applying for a Supplemental Type Certificate from the regulatory agency of the State of Design that approved the type certificate for that product, or from the State of Registry of the aircraft provided that the State of Registry has the technical expertise to evaluate the propose change in accordance with the type design. The application shall be made in accordance with the procedures prescribed by that State.

(b) The Authority, upon receiving an application for a supplemental type certificate for an aircraft registered in Sierra Leone shall:

(i) Forward the request to the State of Design; or

(ii) If applicable, issue an STC using the same regulatory and other guidance as the State of Design and State of Manufacture.

4. CERTIFICATE OF AIRWORTHINESS

4.1 Applicability

(a) This Subpart prescribes general requirements for the issue of Certificate of Airworthiness and other certification for aeronautical products registered in Sierra Leone

(b) No person shall operate an aircraft registered in Sierra Leone without the appropriate and valid Certificate of Airworthiness for that aircraft.

(c) The Authority shall issue a Certificate of Airworthiness for aircraft registered in Sierra Leone based on satisfactory evidence that the aircraft complies with the design aspects of the appropriate airworthiness requirements (type certificate).

(d) An aircraft to which a Certificate of Airworthiness is issued shall be operated in accordance with the terms and conditions of that certificate and within the approved operating limitations in its flight manual, placards or other documents.

4.2 Eligibility

(a) Any owner of an aircraft registered in Sierra Leone, or agent of the owner, may apply for a certificate of airworthiness for that aircraft.

(b) Each applicant for a certificate of airworthiness shall apply on a form and in a manner acceptable to the Authority.

(c) An aircraft registered in Sierra Leone shall not be issued a certificate of airworthiness unless it is type certificated in a recognized State and there exists in force in respect of that aircraft, a type certificate and type certificate data sheet accepted by the Authority.

4.3 Classifications of Certificate of Airworthiness

(a) Standard certificate of airworthiness shall be issued for aircraft in the specific category and model designated by the State of Design in the type certificate. The types of standard certificates of airworthiness include:

(i) Normal

(ii) Utility
(iii) Acrobatic
(iv) Transport
(v) Commuter
(vi) Balloon
(vii) Other

(b) The Authority may issue a Special certificate of airworthiness in the form of a restricted certificate or special flight permit. The types of special Certificate of Airworthiness include:
(i) Primary
(ii) Restricted
(iii) Limited
(iv) Provisional
(v) Experimental
(vi) Special flight permits
(vii) Other

(c) The Authority may issue a Certificate of Airworthiness for export for aircraft exported out of Sierra Leone.

4.4 Amendment of a Certificate of Airworthiness

4.4.1 The Authority may amend or modify a Certificate of Airworthiness:

(a) Upon application from an aircraft owner, operator or agent; or
(b) On its own initiative.

4.4.2 An amendment may be made under the following conditions:

(a) Modification to the aircraft (STC or Amended TC)
(b) A Change in the operating limitation for an aircraft with a special Certificate of Airworthiness

4.5 Transfer or Surrender of a Certificate of Airworthiness

4.5.1 An owner shall transfer the Certificate of Airworthiness for an aircraft to the:

(a) lessee upon lease of an aircraft within or outside Sierra Leone; or
(b) buyer upon sale of the aircraft within Sierra Leone.

4.5.2 An owner shall surrender the certificate of airworthiness for the aircraft to the issuing Authority upon sale of that aircraft outside of Sierra Leone.

4.6 Duration of a Certificate of Airworthiness

4.6.1 Certificate of Airworthiness are effective as follows unless sooner surrendered, suspended or revoked, or a special termination date is otherwise established by the Authority:

(a) A certificate of Airworthiness will be renewed or will remain in effect subject to the laws of Sierra Leone
(i) As long as the aircraft is maintained in accordance with the continuing airworthiness requirements of the Authority;
(ii) Until the aircraft is sold to a person outside Sierra Leone;

(iii) Until the aircraft is leased for operations registered in another country and removed from the registry of Sierra Leone; or

(iv) Until revoked by the Authority

(b) A special flight permit is valid for the period of time specified in the certificate.

4.6.2 A Certificate of Airworthiness shall be renewed or shall remain valid, for a period of twelve (12) months from the date of issue and its continuing Airworthiness shall be determined by a periodical inspection at appropriate intervals having regard to lapse of time and type of service.

4.6.3 The Authority may extend the validity of the C of A for a limited period of time upon application by the AOC holder.

4.6.4 The Authority shall issue all classifications of Certificate of Airworthiness in the English Language.

4.7 Issuance of a Certificate of Airworthiness

4.7.1 The Authority shall issue a standard Certificate of Airworthiness as shown in IS 4.7 where:

(a) The applicant presents evidence to the Authority that the aircraft conforms to a type design approved under a type certificate and/or supplemental type certificate and to the applicable ADs of the State of design;

(b) When issuing its standard Certificate of Airworthiness, the Authority may consider the previous C of A issued by another contracting state as satisfactory evidence in whole or in part, that the aircraft complies with the applicable requirement of this Regulation;

(c) In the case of initial C of A, the applicant presents evidence to the Authority that all required operational and maintenance actions and procedures under applicable Airworthiness Directives, have been fully carried out in accordance with the compliance times set out in the Airworthiness Directives; and

(d) The aircraft has been inspected in accordance with the performance rules of this Regulation for inspections and found airworthy by persons authorised by the Authority to make such determinations within the last thirty (30) calendar days; and

(e) That all outstanding Minimum Equipment List (MEL) and Configuration Deviation List (CDL) items have been cleared;

(f) The Authority finds after an inspection that the aircraft conforms to type design and is in condition for safe operation;

(g) All design or certification data and continuing airworthiness information are in the English language;

(h) It is satisfied that, in the case of an initial aircraft registration, the aircraft, provided it has not come off the production line, has undergone a heavy check; or bridging maintenance as may be applicable; and

(i) The aircraft is being maintained in accordance with a maintenance programme or schedule approved by the Authority; and

(j) All required aircraft records are on file and available for inspection.

4.7.2 Notwithstanding paragraph (4.7.1)(c), where the Director-General is of the opinion that an Airworthiness Directive is of a crucial nature and is likely to endanger public safety, the Applicant shall be required to be fully compliant with the Airworthiness Directive irrespective of the timelines stated therein.

4.7.3 All aeroplanes with MTOW over 5700 kg and all helicopters with MTOW over 3175 kg, shall be weighed prior to the issue of the initial certificate of airworthiness and in accordance with the manufacturer weight and balance manual. The aircraft shall be re-weighed at periods specified in the approved maintenance schedule but in any event not to exceed five (5) years. The weighing report of the aircraft shall also be available during the renewal of the certificate of airworthiness.

4.7.4 All standard Airworthiness Certificates shall be valid for a period of 1 year and may be renewed or re-issued subject to (4.7.1)(c) of this subpart being fulfilled.

4.7.5 The Authority shall accept modification and repair designs approved by the State of design or approved design organizations.

4.8 Commercial Air Transport

The Authority shall consider an Airworthiness Certificate valid for commercial air transport only when accompanied by an operation specification issued by the Authority which identifies the specific types of commercial air transport authorised.

4.9 Display of a Certificate of Airworthiness

No person may operate a civil aircraft in Sierra Leone or registered in Sierra Leone unless the Certificate of Airworthiness required by the Regulation, or special flight permit, is displayed at the cabin or flight deck entrance so that it is legible to passengers or crew.

4.10 Issuance of a Special Flight Permit as a Special Certificate of Airworthiness

4.10.1 The Authority may issue a special Certificate of Airworthiness as shown in IS 4.10 to an aircraft that does not qualify for a Standard Certificate of Airworthiness.

4.10.2 Aircraft holding special Certificate of Airworthiness shall be subject to operating limitations within Sierra Leone and may not make international flights. The Authority may issue special flight permit to include specific operating limitations for each special Certificate of Airworthiness.

4.10.3 The Authority may issue special Flight Permits to an aircraft that is capable of safe flight, but unable to meet applicable airworthiness requirements, for the purpose of:

(a) Flying to a base where repairs, modifications, maintenance, or inspections are to be performed, or to a point of storage;

(b) Testing after repairs, modifications, or maintenance have been performed;

(c) Delivering or exporting the aircraft;

(d) Evacuating aircraft from areas of impending danger; and

(e) Operating at weight in excess of the aircraft's maximum Certified Takeoff Weight for flight beyond normal range over water or land areas where adequate landing facilities or appropriate fuel is not available. The excess weight is limited to additional fuel, fuel- carrying facilities, and navigation equipment necessary for the flight.

4.10.4 The Authority may issue a special Flight Permit with continuing authorisation issued to an aircraft that may not meet applicable airworthiness requirements but is capable of safe flight, for the purpose of flying the aircraft to a base where maintenance or alterations are to be performed. The permit issued under this paragraph is an authorisation, including conditions and limitations for flight, which is set forth in the AOC Holder's specific operating provisions or the relevant Aircraft Flight Manual (AFM). This permit under this paragraph may be issued to an AOC Holder certificated under SLCAR Part 26.

4.10.5 In the case of special Flight Permits, the Authority shall require a properly executed approval for return to service in the aircraft permanent record by a person or organisation, authorised in accordance with this Regulation, stating that the subject aircraft has been inspected and found to be safe for the intended flight.

4.10.6 The operator shall obtain all required overflight authorizations from countries to be overflown on flights outside Sierra Leone.

4.11 Issue of Export Certificate of Airworthiness

4.11.1 The Authority may issue an Export Certificate of Airworthiness as shown in IS 4.11 to an applicant for the purpose of exporting an aircraft or aeronautical product and where it is required by the importing State.

4.11.2 Export approval for class I aeronautical products may be issued as prescribed by the Authority.

4.11.3 The issue of an Export Certificate of Airworthiness shall not amount to an authorization of the aircraft for flight.

4.11.4 An Export Certificate of Airworthiness may be issued with a deviation as listed below provided that the applicant for an Export Certificate of Airworthiness submits to the Authority a written statement from the State of the importer, in accordance with paragraph 4.11.10(b):

(a) that the requirements of this Regulation that have not been met; and

(b) stating any differences in configuration between the exported aircraft and the type accepted aircraft.

4.11.5 The applicant for an Export Certificate of Airworthiness shall be the owner of the aircraft or a person authorised by the owner.

4.11.6 Each application for an Export Certificate of Airworthiness shall provide satisfactory evidence of the following

(a) the name and address of the applicant;

(b) that the aircraft conforms to a type design acceptable to the State of Import;

(c) that the State of Import formally accepts any deviations to certification standards to be listed on the certificate;

(d) the aircraft possesses, or could qualify for, a Certificate of Airworthiness under this Regulation

(e) the aircraft is issued with the appropriate flight manual;

(f) the aircraft is issued with any applicable Certificate of Noise Compliance in accordance with section III chapter 2 of this regulation;

(g) a mass and balance report has been completed, with a loading schedule where applicable;

(h) the aircraft has undergone a routine maintenance inspection in accordance with the approved maintenance programme, or an equivalent inspection acceptable to the Authority;

(i) any flight check required by the Authority has been carried out and the aircraft handling and systems conform to the approved flight manual;

(j) the applicable airworthiness directives have been complied with;

(k) up-to-date and complete log books, design change and repair records, and other such historical records required to support the continued airworthiness of the aircraft;

(l) a description of any methods used, including the method's duration of effectiveness, for the preservation and packaging of aircraft to protect them against corrosion and damage while in transit or storage;

(m) details of any special instructions for inspection, maintenance operation for the aircraft;

(n) supporting documentation for any variances to this Regulation; and

(o) such further particulars relating to the aircraft and applicant as may be required by the Authority.

4.11.7 Any programmed transponder with a code allocated by the Authority shall be recorded in the aircraft logbook pending re-allocation by the new State of Registry.

4.11.8 Any coded emergency locator transmitter registered with the Authority shall be recorded in the aircraft logbook pending re-registration by the new State of Registry.

4.11.9 The applicant shall make the aircraft and associated data available for any inspections as the Authority may require.

4.11.10 The applicant for the grant of an Export Certificate of Airworthiness shall provide, to the satisfaction of the Authority, evidence that:

(a) the applicant meets the applicable requirements of this Regulation in a manner acceptable to the Authority; and

(b) the granting of the Certificate is not contrary to the interests of aviation safety.

4.11.11 An Export Certificate of Airworthiness issued under this Regulation is valid at the date of issue but the importing State is responsible for determining the period for which it will accept it as valid.

5. CONTINUING AIRWORTHINESS OF AIRCRAFT AND PRODUCTS

5.1 Applicability

This chapter prescribes rules governing the continuing airworthiness of all civil aircraft,

engines, propellers and associated parts registered in Sierra Leone whether operating inside or outside the borders of Sierra Leone.

5.2 General

5.2.1 No person shall perform maintenance, overhaul, modifications, repairs or inspections on an aircraft or aeronautical product other than as prescribed in this Regulation.

5.2.2 No person shall operate an aircraft for which a manufacturer's aircraft maintenance manual or instructions for continued airworthiness has been issued that contains an airworthiness limitation section unless the mandatory replacement times, inspection intervals, and related procedures specified in that section or alternative inspection intervals and related procedures set forth in the specific operating provisions approved under SLCAR Part 26, or in accordance with the inspection program approved under SLCAR Part 6A, have been complied with.

5.2.3 No person shall operate an aircraft or aeronautical product to which an Airworthiness Directive, issued either by the State of Design, or State of Manufacture and applicable to Sierra Leone registered aircraft or to the State of registry for aircraft operated within Sierra Leone except in accordance with the requirements of that Airworthiness Directive.

5.2.4 When the Authority determines that an aeronautical product has exhibited an unsafe condition and that condition is likely to exist or to develop in other products of the same type design, the Authority shall inform the State of Design.

5.2.5 No person shall transmit sensitive aviation security information when distributing mandatory continuing airworthiness information.

5.2.6 Sensitive aviation security information shall be transmitted securely to the appropriate authority in the State of Design in accordance with the Sierra Leone civil Aviation Security Regulations.

5.3 Responsibility

5.3.1 The owner of an aircraft or, in the case of a leased aircraft, the lessee, shall be responsible for maintaining the aircraft in an airworthy condition by ensuring that:

(a) All maintenance, overhaul, modifications, repairs or inspections that affect airworthiness are performed as prescribed by the State of Registry;

(b) Maintenance personnel make appropriate entries in the aircraft maintenance records certifying that the aircraft is airworthy;

(c) The approval for return to service (maintenance release) is completed and signed to the effect that the maintenance work performed has been completed satisfactorily and in accordance with the Maintenance Programme and the prescribed methods and shall contain the following information:

(i) basic details of the maintenance carried out including detailed reference of the approved data used;

(ii) Date such maintenance was completed;

(iii) When applicable, the identity of the Approved Maintenance Organisation; and

(iv) The identity of the person or persons signing the release.

(d) In the event there are open discrepancies, the approval for return to service includes a list of the uncorrected maintenance items for which temporary relief is provided in the MEL and these items are made a part of the aircraft permanent record.

(e) The operational and emergency equipment necessary for the intended flight is serviceable; and

(f) The Certificate of Airworthiness of the aircraft remains valid.

(g) When the approval of return to service is not issued by an Approved Maintenance organisation in accordance with SLCAR Part 8B, the person signing the approval for return to service shall be licensed in accordance with SLCAR Part 1A

5.3.2 The owner or operator of an aeroplane over 5700kg maximum certificated take-off mass shall obtain and assess continuing airworthiness information and recommendations available from the organisation responsible for the type design and shall implement resulting actions considered necessary in accordance with a procedure acceptable to the Authority

5.4 Cooperation among States for Continuing Airworthiness

5.4.1 Upon registration of an aircraft in Sierra Leone, the Authority will notify the state of design and manufacturer of the aircraft of the registration in Sierra Leone, and request that the Authority receives mandatory continuing airworthiness information and all airworthiness directives addressing that aircraft, airframe, aircraft engine, propeller, appliance, or component part and any requirements for the establishment of specific continuing airworthiness programs.

5.4.2 Whenever the state of design considers that a condition in an aircraft, airframe, aircraft engine, propeller, appliance, or component part is unsafe as shown by the issuance of an airworthiness directive by that state, such directives apply to Sierra Leone registered civil aircraft of the type identified in that airworthiness directive.

5.4.3 The authority may identify manufacturer's service bulletins and other sources of data, or develop and prescribe inspections, procedures and limitations, for mandatory compliance pertaining to affected aircraft in Sierra Leone.

5.4.4 No person may operate any Sierra Leone registered civil aircraft to which the measures of this subsection apply, except in accordance with the applicable airworthiness directives and service bulletins.

5.4.5 The Authority shall monitor and obtain mandatory continuing airworthiness information from the state of design of modification, where the state of design of modification is different from the state of registry, and adopt the mandatory information directly or assess the information received and take appropriate action.

5.5 Maintenance and Operational Experience

5.5.1 The owner or operator of an aeroplane over 5700kg maximum certificated take-off mass shall monitor and assess maintenance and operational experience with respect to continuing airworthiness and have a system whereby information on faults, malfunctions, defects, and other occurrences that cause or might cause adverse effect on the continuing airworthiness of the aircraft is transmitted to the organisation responsible for the type design of the aircraft5.5.2

The owner or operator and AMO shall, with respect to aeroplane over 5700kg maximum certificated take-off mass and helicopter over 3175kg maximum certificated take-off mass, report to the Authority the service information required by the Authority according to the procedures established by the authority

5.5.3 The owner or operator and AMO shall, with respect to aeroplane over 5700kg maximum certificated take-off mass and helicopter over 3175kg maximum certificated take-off mass, transmit to the organisation responsible for the type design of the aircraft information on faults, malfunctions, defects, and other occurrences that cause or might cause adverse effect on the continuing airworthiness of the aircraft

5.6 Reporting of Failures, Malfunctions, and Defects

5.6.1 Owners or operators of aircraft over 5,700kg and helicopters over 3,175kg maximum take-off weight shall report to the Authority any failures, malfunctions, or defects that result in at least the following:

(a) Fires during flight and whether the related fire-warning system properly operated;

(b) Fires during flight not protected by a related fire-warning system;

(c) False fire warning during flight;

(d) An engine exhaust system that causes damage during flight to the engine, adjacent structure, equipment, or components;

(e) An aircraft component that causes accumulation or circulation of smoke, vapour, or toxic or noxious fumes in the crew compartment, cabin or cargo compartment during flight;

(f) Engine shutdown during flight because of flameout;

(g) Engine shutdown during flight when external damage to the engine or aircraft structure occurs;

(h) Engine shutdown during flight due to foreign object ingestion or icing;

(i) Shutdown during flight of more than one engine;

(j) A propeller feathering system inability to control overspeed during flight;

(k) A fuel system or fuel-dumping system that affects fuel flow or causes hazardous leakage during flight;

(l) An unintended landing gear extension or retraction, or opening or closing of landing gear doors during flight.

(m) Brake system components that result in loss of brake actuating force when the aircraft is in motion on the ground;

(n) Aircraft structural damage that requires major repair;

(o) Cracks, permanent deformation, or corrosion of aircraft structure if more than the maximum acceptable to the manufacturer or the Authority;

(p) Aircraft products or systems malfunctions that result in taking emergency actions during flight (except action to shut down an engine);

(q) Each interruption to a flight, unscheduled change of aircraft en route, or unscheduled stop or diversion from a route, caused by known or suspected technical difficulties or malfunctions;

(r) Any abnormal vibration or buffeting caused by a structural or system malfunction, defect, or failure;

(s) A failure or malfunction of more than one attitude, airspeed, or altitude instrument during a given operation of the aircraft.

5.6.2 Owners or operators of aircraft over 5700kg maximum certificated take-off mass shall report to the Authority:

(a) The number of engines removed prematurely because of malfunction, failure or defect, listed by make and model and the aircraft type in which it was installed; or

(b) The number of propeller featherings in flight, listed by type of propeller and engine and aircraft on which it was installed.

5.6.3 Each report required by this Regulation shall:

(a) Be made within 3 days after determining that the failure, malfunction, or defect required to be reported has occurred; and

(b) Include as much of the following information as is available and applicable:

(i) Aircraft serial number;

(ii) When the failure, malfunction, or defect is associated with an aeronautical product approved under a TSO authorisation, the product serial number and model designation, as appropriate;

(iii) When the failure, malfunction or defect is associated with an engine or propeller, the engine or propeller serial number, as appropriate;

(iv) Product model;

(v) Identification of the part, component, or system involved, including the part number; and

(vi) Nature of the failure, malfunction, or defect.

5.6.4 The Authority shall submit all such reports upon receipt to the State of Design and the organisation responsible for the type design for appropriate action.

5.6.5 The Authority, if not the State of Registry of the aircraft, shall submit all such reports upon receipt to the State of Registry.

5.6.6 Where a continuing airworthiness safety issue is associated with a modification or repair, the Authority shall submit all such reports upon receipt to the state of design of modification and the organisation responsible for modification.

5.7 Aircraft Mass and Balance

5.7.1 General

(a) An aircraft in respect of which a standard certificate of airworthiness is issued under these Regulations shall be weighed, and the position of the aircraft's centre of gravity determined, at such periodicity established in paragraph (b).

(b) All Sierra Leone registered aircraft shall be re-weighed at the following periods:

(i) When used for commercial or aerial work operations every three (3) years;

(ii) When used for commercial operations and with approved weight control programme, at such periods as determined by the weight control programme;

(iii) When used in general aviation every five (5) years, or

(iv) For any aircraft at such times as the Authority may direct.

(c) The weighing shall be accomplished by the manufacturer of the aircraft or by a maintenance organisation approved in accordance with Part 6 or by an organisation approved by the Authority for the purpose of aircraft weighing.

(d) The Authority may approve an alternative weighing period for a particular type of aircraft or operation if requested.

5.7.2 Mass and Balance Schedule

(a) Upon the aircraft being weighed, the owner or operator of the aircraft shall prepare a mass schedule showing:

(i) The basic mass of the aircraft, namely the mass of the empty aircraft together with the mass of unusable fuel and unusable oil in the aircraft and of such items of equipment as are indicated in the mass schedule, or such other mass as may be approved by the Authority in the case of that aircraft; and

(ii) The position of the centre of gravity of the aircraft when the aircraft contains only the items included in the basic mass or such other position of the centre of gravity as may be approved by the Authority in the case of that aircraft.

(b) The mass schedule shall be preserved by the operator of the aircraft until the expiration of a period of six months following the next occasion on which the aircraft is weighed for the purpose of this regulation.

5.7.3 Accumulated Effects of Modifications and Repairs on the Mass and Balance

(a) The accumulated effects of modifications and repairs on the mass and balance shall be accounted for and properly documented.

(b) The aircraft shall be reweighed whenever the effect of modifications on the mass and balance is not accurately known

(c) The mass and centre of gravity schedule (weight schedule) of an aircraft shall be revised whenever the cumulative changes to the dry operating mass exceed ± 0.5 % of the maximum landing mass or for aeroplanes the cumulative change in CG position exceeds 0.5% of the mean aerodynamic chord. This may be done by weighing the aircraft or by calculation.

6.1 Applicability

This chapter prescribes rules governing the maintenance and inspection of any aircraft having a Certificate of Airworthiness issued by Sierra Leone or of any associated aeronautical product.

6.2 General Requirements for Maintenance and Inspections

6.2.1 No person may operate an aircraft unless the aircraft and aeronautical products and operational and emergency equipment are maintained in accordance with a maintenance programme and the aircraft and aeronautical product is inspected according to an inspection programme approved by the Authority.

6.2.2 The maintenance programme shall include a description of the aircraft and aeronautical products and the recommended methods for the accomplishment of maintenance tasks. Such information shall include guidance on defect diagnosis.

6.2.3 The maintenance programme shall include the maintenance tasks and the recommended intervals at which these tasks are to be performed.

6.2.4 Maintenance tasks and frequencies that have been specified as mandatory by the State of Design in approval of the type design shall be identified in the maintenance programme.

6.2.5 The maintenance programme shall have an approval for return to service process, including signed documentation, in a manner satisfactory to the Authority, indicating that the maintenance performed has been completed satisfactorily. An approval for return to service shall contain a certification including:

(a) Basic details of the maintenance carried out;

(b) The date such maintenance was completed;

(c) When applicable, the identity of the AMO, aviation maintenance technician, or AOC holder; and

(d) The identity of the person or persons signing the approval for return to service.

6.2.6 The owner or operator shall use one of the following inspection programmes, as appropriate for the aircraft and the type of operation:

(a) Annual inspection;

(b) Annual/100-hour inspection;

(c) Progressive inspection; or

(d) Continuing airworthiness maintenance programme

6.3 Persons Authorised to Perform Maintenance, Overhaul, Modifications, Repairs, and Inspections

6.3.1 No person shall perform on an aircraft or aeronautical products any task defined as maintenance except as provided in the following:

(a) A pilot may perform preventive maintenance as authorised by the Authority on any aircraft owned or operated by that pilot so long as the aircraft is not listed for use by an AOC holder.

(b) A person working under the supervision of a licensed aviation maintenance technician, may perform the maintenance, overhaul, modifications, repairs and inspections that the supervisory aviation maintenance technician is authorised to perform:

(i) if the supervisor personally observes the work being done to the extent necessary to ensure that it is being done properly; and

(ii) if the supervisor is readily available, in person, for consultation.

(c) A licensed aviation maintenance engineer may perform or supervise the maintenance or modification of an aircraft or aeronautical product for which he or she is rated subject to the limitation of SLCAR Part 1.

(d) An AMO may perform aircraft maintenance within the limits specified by the Authority.

(e) the AOC holder may perform aircraft maintenance within the limits specified by the Authority.

(f) a manufacturer holding an AMO may:

(i) overhaul or modify any aeronautical product manufactured by that manufacturer under a type or production certificate;

(ii) overhaul or modify any aeronautical product manufactured by that manufacturer under a TSO Authorisation, a Parts manufacturer Approval by the State of Design, or Product and Process Specification issued by the State of Design; and

(iii) Perform any inspection required by SLCAR Part 6A on aircraft, it manufactures, while currently operating under a production certificate or under a currently approved production inspection system for such aircraft.

6.4 Privileges and Limitations of Persons Authorised to Perform Maintenance

6.4.1 No person or organisation may perform on an aircraft or aeronautical product a task defined as maintenance except as provided in the following:

(a) A pilot authorised by the Authority;

(b) A person performing maintenance under the supervision of an aviation maintenance engineer;

(c) An aviation maintenance engineer;

(d) An AOC holder, approved to perform maintenance under an equivalent system; and

(e) An AMO.

6.4.2 This chapter outlines the privileges and limitations of these entities with respect to the extent and type of work they may perform regarding:

(a) Maintenance;

(b) Overhaul;

(c) Modification;

(d) Repairs;

(e) Inspection; and

(f) Approvals for return to service.

6.5 Authorised Personnel to Approve for Return to Service

6.5.1 No person or entity, other than the Authority, may approve an aircraft or aeronautical product for return to service after it has undergone maintenance, overhaul, modifications, repairs, or inspections, except as provided in the following:

(a) a pilot authorised by the Authority may return his aircraft to service after performing authorised preventive maintenance.

(b) a licensed aviation maintenance technician/engineer may approve aircraft and aeronautical products for return to service after he or she has performed, supervised, or inspected its maintenance subject to the limitation of SLCAR Part 1, paragraph 6.2.8.

(c) an AMO may approve aircraft and aeronautical products for return to service as provided in the operation specifications approved by the Authority.

(d) an AOC holder may approve aircraft and aeronautical products for return to service as specified by the Authority.

6.6 Persons Authorised to Perform Inspections

6.6.1 No person, other than the Authority, may perform the inspections required by SLCAR Part 6, for aircraft and aeronautical products prior to or after it has undergone maintenance, overhaul, modifications, repairs or inspection except as provided in the following:

(a) An aviation maintenance engineer may conduct the required inspections of aircraft and aeronautical products for which he is rated and current.

(b) An AMO may perform the required inspections of aircraft and aeronautical products as provided in the operations specifications approved by the Authority.

(c) An AOC holder may perform the required inspections of aircraft and aeronautical products in accordance with operations specifications approved by the Authority.

6.7 Performance Rules: Maintenance

6.7.1 Each person performing maintenance, overhaul, modifications, repairs or inspection on an aircraft or aeronautical product shall use the methods, techniques, and practices prescribed in:

(a) The current manufacturer's maintenance manual or instructions for Continued Airworthiness prepared by its manufacturer; and

(b) Additional methods, techniques and practices required by the Authority, or methods, techniques and practices designated by the Authority where the manufacturer's documents were not available.

6.7.2 Each person shall use the tools, equipment, and test apparatus necessary to assure completion of the work in accordance with accepted industry practices. If the manufacturer involved recommends special equipment or test apparatus, the person performing maintenance shall use that equipment or apparatus or its equivalent acceptable to the Authority.

6.7.3 Each person performing maintenance, maintenance, overhaul, modifications, repairs or inspection on an aeronautical product shall do that work in such a manner, and use materials of such a quality, that the condition of the aeronautical product worked on will be at least equal to its original or properly altered condition with regard to aerodynamic function, structural strength, resistance to vibration and deterioration and other qualities affecting airworthiness.

6.7.4 The methods, techniques, and practices contained in an AOC holder's maintenance control manual and continuous maintenance program, as approved by the Authority, shall constitute an acceptable means of compliance with the requirements of this subsection.

6.8 Modifications and repairs

The Authority only accept modifications and repairs and shall ensure that the design of a modification, of a repair or of a replacement part shall be on the basis of satisfactory evidence that the aircraft, engine or propeller is in compliance with the airworthiness requirements used for the issuance of the Type Certificate, its amendments or later requirements as determined.

6.9 Performance Rules: Inspections

6.9.1 **General**. Each person performing an inspection required by the Authority shall:

(a) Perform the inspection so as to determine whether the aircraft, or portion(s) thereof under inspection, meets all applicable airworthiness requirements; and

(b) If there is an inspection program required or accepted for the specific aircraft being inspected, perform the inspection in accordance with the instructions and procedures set forth in the inspection program

6.9.2 **Rotorcraft**. Each person performing an inspection required on a rotorcraft shall inspect the following systems in accordance with the maintenance manual or instructions for Continued Airworthiness of the manufacturer concerned:

(a) The drive shafts or similar systems;

(b) The main rotor transmission gear box for obvious defects;

(c) The main rotor and centre section (or the equivalent area); and

(d) The auxiliary rotor on helicopters.

6.9.3 **Annual and 100-hour inspections**

(a) Each person performing an annual or 100-hour inspection shall use a checklist while performing the inspection. The checklist shall be one provided by the manufacturer or designer of the equipment being inspected. The checklist shall include the scope and detail of the items prescribed by the Authority.

Implementing Standard: See IS:6.8.3 for components to be included in an annual or 100-hour inspection.

(b) Each person approving a reciprocating-engine-powered aircraft for return to service after an annual or 100-hour inspection shall, before that approval, run the aircraft engine or engines to determine satisfactory performance in accordance with the current manufacturer's recommendations of:

(i) Power output (static and idle rpm);

(ii) Magnetos;

(iii) Fuel and oil pressure; and

(iv) Cylinder and oil temperature.

(c) Each person approving a turbine-engine-powered aircraft for return to service after an annual or 100-hour inspection shall, before that approval, run the aircraft engine or engines to determine satisfactory performance in accordance with the current manufacturer's recommendations

6.9.4 Progressive Inspections

(a) Each person performing a progressive inspection shall, at the start of a progressive inspection system, inspect the aircraft completely. After this initial inspection, routine and detailed inspections shall be conducted as prescribed in the progressive inspection schedule. Routine inspections consist of a visual examination or check of the aircraft and aeronautical products, insofar as practicable without disassembly. Detailed inspections consist of a thorough examination of the aircraft and aeronautical products, with such disassembly as is necessary. For the purposes of this paragraph, the overhaul of an aeronautical product is considered to be a detailed inspection.

(b) If the aircraft is away from the station where inspections are normally conducted, an appropriately rated aviation maintenance technician or AMO or the manufacturer of the aircraft may perform inspections in accordance with the procedures and using the forms of the person who would otherwise perform the inspection

6.9.5 Continuing Airworthiness Maintenance Programme Inspections

Each person performing the inspection programme required for an AOC holder's aircraft or an aircraft maintained under a continuing airworthiness maintenance programme shall perform the inspection in accordance with the instructions and procedures set forth in the inspection programme.

6.10 Performance Rules: Airworthiness Limitations

Each person performing an inspection or other maintenance specified in an airworthiness limitations section of a current manufacturer's maintenance manual, or instructions for Continuing Airworthiness, shall perform the inspection or other maintenance in accordance with that section, or in accordance with specifications approved by the Authority.

7 MAINTENANCE RECORDS AND ENTRIES

7.1 Content, Forms and Disposition of Records for Maintenance, Modifications and Repairs of Aircrafts and Life Limited Parts.

7.1.1 Each person who maintains, modifies or repairs an aircraft or life limited part shall, when the work is performed satisfactorily, make an entry in the maintenance record of that equipment as follows:

(a) A description (or reference to data acceptable to the Authority) of work performed including;

(i) Total time in service (hours, calendar time, and cycles, as appropriate) of the aircraft and all life-limited parts;

(ii) Current status of compliance with all mandatory continuing airworthiness information;

(iii) Appropriate details of modifications and repairs;

(iv) 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;

(v) Current status of the aircraft's compliance with the maintenance programme; and

(vi) Detailed maintenance records to show that all requirements for the signing of an approval for return to service have been met.

(b) Completion date of the work performed; and

(c) Name, signature, certificate number and kind of licence held by the person approving the work. The signature constitutes the approval for return to service only for the work performed.

7.1.2 The person performing the work shall enter records of major repairs and major modifications, and dispose of that form in the manner prescribed by the Authority (IS 7.1).

7.1.3 A person working under supervision of an Aircraft Maintenance Engineer may not perform any inspection required in SLCAR Part 6 or any inspection performed after a major repair or modification.

7.2 Content, Forms and Disposition of Records for Maintenance, Overhaul Modifications and Repairs of an Aeronautical Product

7.2.1 No person may approve for return to service any aeronautical product that has undergone maintenance, preventive maintenance, rebuilding, or modification unless:

(a) The appropriate maintenance record entry has been made; and

(b) The repair or modification form authorised by or furnished by the Authority has been executed in a manner prescribed by the Authority.

7.2.2 If a major repair or modification results in any change in the aircraft operating limitations or flight data contained in the approved aircraft manual, those operating limitations or flight data is appropriately revised and set forth as prescribed.

7.2.3 No person shall describe, in any required maintenance entry or form, an aeronautical product as being overhauled unless:

(a) It has been disassembled, cleaned, inspected as permitted, repaired as necessary, and reassembled using methods, techniques, and practices acceptable to the Authority; and

(b) It has been tested in accordance with approved standards and technical data, or in accordance with current standards and technical data acceptable to the Authority, which have been developed and documented by the holder of the type certificate, supplemental type certificate, or a material, part, process, or appliance manufacturing approval.

7.2 4 If the maintenance, overhaul, modification or repair of an aeronautical product is performed by an AMO, the AMO shall complete an airworthiness approval tag, as prescribed in SLCAR part 8B

7.3 Content, Form, and Disposition of Records of Inspections for Return to Service

7.3.1 **Inspection record entries.** The person approving or disapproving for return to service of an aeronautical product after any inspection performed in accordance with SLCAR Part 6, shall make an entry in the maintenance record of that equipment containing the following

(a) Type of inspection and a brief description of the extent of the inspection;

(b) Date of the inspection and aircraft total time/cycles in service;

(c) Signature, the licence number, and kind of license held by the person approving or disapproving for return to service the aircraft aeronautical product;

(d) If the aircraft or aeronautical product is found to be airworthy and approved for return to service, the following or a similarly worded statement **"I certify that this aircraft has been inspected in accordance with (insert type) inspection and was determined to be in airworthy condition.";**

(e) If the aircraft or aeronautical product is not approved for return to service because of needed maintenance, non-compliance with the applicable specifications, airworthiness directives, or other approved data, the following or a similarly worded statement – **"I certify that this aircraft has been inspected in accordance with (insert type) inspection and a list of discrepancies and unairworthy items dated (date) has been provided for the aircraft owner or operator"** and

(f) If an inspection is conducted under an inspection program provided for in SLCAR Part 6, the person performing the inspection shall make an entry identifying the inspection program

accomplished, and containing a statement that the inspection was performed in accordance with the inspections and procedures for that particular program.

7.3.2 ***Listing of discrepancies.*** The person performing any inspection required in SLCAR Part 6 who finds that the aircraft is not airworthy or does not meet the applicable type certificate data sheet, Airworthiness Directives or other approved data upon which its airworthiness depends, shall give the owner or operator a signed and dated list of those discrepancies.

7.3.3 The person performing the work shall enter records of major repairs and major modifications, and keep them for a period of ninety (90) days after the unit to which they refer has been permanently withdrawn from service and the records in 7.1 for a minimum period of one year after the signing of the maintenance release.

7.3.4 The lessee of a helicopter shall comply with the requirements of 7.1(1) and (2) as applicable, while the helicopter is leased.

8 DAMAGE TO AIRCRAFT

8.1 Applicability

8.1.1 This Subpart describes the procedural requirements for resumption of flights after damage to aircraft.

8.1.2 When an aircraft has sustained damage, the Authority shall judge whether the damage is of a nature such that the aircraft is no longer airworthy as defined by the appropriate airworthiness requirements.

8.1.3 If the damage is sustained or ascertained when the aircraft is on the territory of another contracting state, the authorities of the other contracting state shall be entitled to prevent the aircraft from resuming its flight on the condition that they shall advise the Authority immediately, communicating to it all details necessary to formulate the judgement referred to in (8.1.2) above.

8.1.4 When the Authority considers that the damage sustained is of a nature such that the aircraft is no longer airworthy, it shall prohibit the aircraft from resuming flight until it is restored to an airworthy condition. The Authority may, however, in exceptional circumstances, prescribe particular limiting conditions to permit the aircraft to fly without fare-paying passengers to an aerodrome at which it can be restored to an airworthy condition, and the contracting state that has originally in accordance with (8.1.3) above prevented the aircraft from resuming flights shall permit such flight.

8.1.5 When the Authority considers that the damage sustained is of a nature such that the aircraft is still airworthy, the aircraft shall be allowed to resume its flight.

8.2 Temporary Loss of Airworthiness

Any failure to maintain an aircraft in an airworthy condition as defined by the appropriate airworthiness requirements shall render the aircraft ineligible for operation until the aircraft is restored to an airworthy condition.

8.3 Aircraft Limitations and Information

Each aircraft shall be provided with a flight manual, placards or other documents stating the approved limitations within which the aircraft is considered airworthy as defined by appropriate airworthiness requirement, and additional instructions and information for the safe operation of the aircraft.

SECTION III

1. SYMBOLS AND UNITS

1.1 Velocity

Symbol	Unit	Meaning
C_R	m/s	*Reference speed of sound.* Speed of sound at reference conditions
M_{ATR}		*Helicopter rotor reference advancing blade tip Mach number.* The sum of the reference rotor rotational tip speed and the reference speed of the helicopter, divided by the reference speed of sound.
M_H		*Propeller helical tip Mach number.* The square root of the sum of the square of the propeller test rotational tip speed and the square of the test airspeed of the aeroplane, divided by the test speed of sound.
M_{HR}		*Propeller reference helical tip Mach number.* The square root of the sum of the square of the propeller reference rotational tip speed and the square of the reference speed of the aeroplane, divided by the reference speed of sound.
Best R/C	m/s	*Best rate of climb.* The certificated maximum take-off rate of climb at the maximum power setting and engine speed.
V_{AR}	km/h	*Adjusted reference speed*. On a non-standard test day, the helicopter reference speed adjusted to achieve the same advancing tip Mach number as the reference speed at reference conditions.
V_{CON}	km/h	*Maximum airspeed in conversion mode.* The never-exceed airspeed of a tilt-rotor when in conversion mode.
V_G	km/h	*Ground speed.* The aircraft velocity relative to the ground.
V_{GR}	km/h	*Reference ground speed.* The aircraft true velocity relative to the ground in the direction of the ground track under reference conditions. VGR is the horizontal component of the reference aircraft speed VR
V_H	km/h	*Maximum airspeed in level flight*. The maximum airspeed of a helicopter in level flight when operating at maximum continuous power
V_{MCP}	km/h	*Maximum airspeed in level flight.* The maximum airspeed of a tilt-rotor in level flight when operating in aeroplane mode at maximum continuous power.
V_{MO}	km/h	*Maximum operating airspeed.* The maximum operating limit airspeed of a tiltrotor that may not be deliberately exceeded

Symbol	Unit	Meaning
V_{NE}	km/h	*Never-exceed airspeed.* The maximum operating limit airspeed that may not be deliberately exceeded.
V_R	km/h	*Reference speed.* The aircraft true velocity at reference conditions in the direction of the reference flight path.
V_{REF}	km/h	*Reference landing airspeed.* The speed of the aeroplane, in a specific landing configuration, at the point where it descends through the landing screen height, in the determination of the landing distance for manual landings.
V_S	km/h	*Stalling airspeed.* The minimum steady airspeed in the landing configuration.
V_{tip}	m/s	*Tip speed.* The rotational speed of a rotor or propeller tip at test conditions, excluding the aircraft velocity component.
V_{tipR}	m/s	*Reference tip speed.* The rotational speed of a rotor or propeller tip at reference conditions, excluding the aircraft velocity component.
V_Y	km/h	*Speed for best rate of climb.* The test airspeed for best take-off rate of climb
V_2	km/h	*Take-off safety speed.* The minimum airspeed for a safe take-off

1.2 Time

Symbol	Unit	Meaning
t_0	s	*Reference duration.* The length of time used as a reference in the integration equation for computing EPNL, where t0 = 10 s.
t_R	s	*Reference reception time.* The reference time of reception calculated from time of reference aircraft position and distance between aircraft and microphone used in the integrated procedure.
Δt	s	*Time increment.* The equal time increment between one-third octave band spectra, where $\Delta t = 0.5$ s.
δtR	s	*Reference time increment.* The effective duration of a time increment between reference reception times associated with PNLT points used in the integrated method.

1.3 Indices

Symbol	Unit	Meaning
i		*Frequency band index.* The numerical indicator that denotes any one of the 24 one-third octave bands with nominal geometric mean frequencies from 50 to 10 000 Hz.
k		*Time increment index.* The numerical indicator that denotes any one of the 0.5 second spectra in a noise time history. For the integrated method, the adjusted time increment associated with each value of k will likely vary from the original 0.5 second time increment when projected to reference conditions.
k_F		*First time increment identifier.* Index of the first 10 dB-down point in the discrete measured PNLT time history.
k_{FR}		*Reference first time increment identifier.* Index of the first 10 dB-down point in the discrete PNLT time history for the integrated method.
k_L		*Last time increment identifier.* Index of the last 10 dB-down point in the discrete measured PNLT time history.
k_{LR}		*Reference last time increment identifier.* Index of the last 10 dB-down point in the discrete PNLT time history for the integrated method.
k_M		*Maximum PNLTM time increment index.* Time increment index of PNLTM.
t	s	*Elapsed time.* The length of time measured from a reference zero.
t_1	s	*Time of first 10 dB-down point.* The time of the first 10 dB-down point in a continuous function of time. (See k_F.)
t_2	s	*Time of last 10 dB-down point.* The time of the last 10 dB-down point in a continuous function of time. (See k_L.)

1.4 Noise metrics

Symbol	Unit	Meaning
EPNL	EPNdB	*Effective perceived noise level.* A single-number evaluator for an aircraft pass-by, accounting for the subjective effects of aircraft noise on human beings, consisting of an integration over the noise duration of the perceived noise level (PNL) adjusted for spectral irregularities (PNLT), normalized to a reference duration of 10 seconds. (See Appendix 2, Section 4.1 for specifications.)
$EPNL_A$	EPNdB	*Approach EPNL*. Effective perceived noise level at the aeroplane approach reference measurement points
$EPNL_F$	EPNdB	*Flyover EPNL.* Effective perceived noise level at the aeroplane flyover reference measurement points
$EPNL_L$	EPNdB	*Lateral EPNL.* Effective perceived noise level at the aeroplane lateral reference measurement points
LAE	dB SEL	*Sound exposure level (SEL).* A single event noise level for an aircraft pass-by, consisting of an integration over the noise duration of the A-weighted sound level (dBA), normalized to a reference duration of 1 second. (See Appendix 4, Section 3 for specifications.)
LAS	dB(A)	*Slow A-weighted sound level.* Sound level with frequency weighting A and time weighting S for a specified instance in time.
LASmax	dB(A)	*Maximum slow A-weighted sound level.* The maximum value of LAS over a specified time interval.
LASmaxR	dB(A)	*Reference maximum slow A-weighted sound level.* The maximum value of LAS over a specified time interval corrected to reference conditions
LMITA	EPNdB	*Approach EPNL limit.* The maximum permitted noise level at the aeroplane approach reference measurement points.
LMITF	EPNdB	*Flyover EPNL limit.* The maximum permitted noise level at the aeroplane flyover reference measurement points.
LMITL	EPNdB	*Lateral EPNL limit.* The maximum permitted noise level at the aeroplane lateral reference measurement points.
n	noy	*Perceived noisiness.* The perceived noisiness of a one-third octave band sound pressure level in a given spectrum.
N	noy	*Total perceived noisiness.* The total perceived noisiness of a given spectrum calculated from the 24 values of n.

Symbol	Unit	Meaning
PNL	PNdB	*Perceived noise level.* A perception-based noise evaluator representing the subjective effects of broadband noise received at a given point in time during an aircraft pass-by. It is the noise level empirically determined to be equally as noisy as a 1 kHz one-third octave band sample of random noise. (See Appendix 2, Section 4.2 for specifications.)
PNLT	TPNdB	*Tone-corrected perceived noise level.* The value of the PNL of a given spectrum adjusted for spectral irregularities.
$PNLT_R$	TPNdB	*Reference tone-corrected perceived noise level.* The value of PNLT adjusted to reference conditions.
PNLTM	TPNdB	*Maximum tone-corrected perceived noise level.* The maximum value of PNLT in a specified time history, adjusted for the bandsharing adjustment ΔB.
$PNLTM_R$	TPNdB	*Reference maximum tone-corrected perceived noise level.* The maximum value of PNLTR in a specified time history, adjusted for the bandsharing adjustment ΔB in the simplified method and ΔBR in the integrated method.
SPL	dB	*Sound pressure level.* The level of sound, relative to the reference level of 20 μPa, at any instant of time that occurs in a specified frequency range. The level is calculated as ten times the logarithm to the base 10 of the ratio of the time-meansquare pressure of the sound to the square of the reference sound pressure of 20 μPa.
SPL_R	dB	*Reference sound pressure level.* The one-third octave band sound pressure levels adjusted to reference conditions.
SPL_S	dB	*Slow weighted sound pressure level.* The value of one-third octave band sound pressure levels with time weighting S applied.
Δ_1	TPNdB	*PNLTM adjustment.* In the simplified adjustment method, the adjustment to be added to the measured EPNL to account for noise level changes due to differences in atmospheric absorption and noise path length, between test and reference conditions at PNLTM.
	dB(A)	For propeller-driven aeroplanes not exceeding 8 618 kg, the adjustment to be added to L_{ASmax} to account for noise level changes due to the difference between test and reference aeroplane heights.

Symbol	Unit	Meaning
Δ_2	TPNdB	*Duration adjustment.* In the simplified adjustment method, the adjustment to be added to the measured EPNL to account for noise level changes due to the change in noise duration, caused by differences between test and reference aircraft speed and position relative to the microphone.
	dB(A)	For propeller-driven aeroplanes not exceeding 8 618 kg, the adjustment to be added to L_{ASmax} to account for the propeller helical tip Mach number.
Δ_3	TPNdB	*Source noise adjustment.* In the simplified or integrated adjustment method, the adjustment to be added to the measured EPNL to account for noise level changes due to differences in source noise generating mechanisms, between test and reference conditions.
	dB(A)	For propeller-driven aeroplanes not exceeding 8 618 kg, the adjustment to be added to L_{ASmax} to account for engine power.
Δ_4	dB(A)	*Atmospheric absorption adjustment.* For propeller-driven aeroplanes not exceeding 8 618 kg, the adjustment to be added to the measured L_{ASmax} for noise level changes due to the change in atmospheric absorption, caused by the difference between test and reference aeroplane heights.
$\Delta_{A(i)}$	dB	*Atmospheric absorption adjustment.* The total atmospheric absorption adjustment computed for one third octave band *i* for test-day atmospheric conditions.
$\Delta_{AR(i)}$	dB	*Reference Atmospheric absorption adjustment.* The total atmospheric absorption adjustment computed for one third octave band *i* for reference atmospheric conditions
Δ_B	TPNdB	*Bandsharing adjustment.* The adjustment to be added to the maximum PNLT to account for possible suppression of a tone due to one-third octave bandsharing of that tone. PNLTM is equal to the maximum PNLT plus Δ_B.
Δ_{BR}	TPNdB	*Reference bandsharing adjustment.* The adjustment to be added to the maximum PNLTR in the integrated method to account for possible suppression of a tone due to one-third octave bandsharing of that tone. PNLTMR is equal to the maximum PNLTR plus ΔBR
Δ_{peak}	TPNdB	*Peak adjustment.* The adjustment to be added to the measured EPNL for when the PNLT for a secondary peak, identified in the calculation of EPNL from measured data and adjusted to reference conditions, is greater than the PNLT for the adjusted PNLTM spectrum.

1.5 Calculation of PNL and tone correction

Symbol	Unit	Meaning
C	dB	*Tone correction factor.* The factor to be added to the PNL of a given spectrum to account for the presence of spectral irregularities, such as tones.
f	Hz	*Frequency.* The nominal geometric mean frequency of a one-third octave band.
F	dB	*Delta-dB.* The difference between the original sound pressure level and the final broadband sound pressure level of a one-third octave band in a given spectrum.
log n(a)		*Noy discontinuity coordinate.* The log n value of the intersection point of the straight lines representing the variation of SPL with log n.
M		*Noy inverse slope.* The reciprocals of the slopes of straight lines representing the variation of SPL with log n.
s	dB	*Slope of sound pressure level.* The change in level between adjacent one-third octave band sound pressure levels in a given spectrum.
Δs	dB	*Change in slope of sound pressure level.*
s′	dB	*Adjusted slope of sound pressure level.* The change in level between adjacent adjusted one-third octave band sound pressure levels in a given spectrum.
$\overline{s}$	dB	*Average slope of sound pressure level.*
SPL(a)	dB	*Noy discontinuity level.* The SPL value at the discontinuity coordinate of the straight lines representing the variation of SPL with log n.
SPL(b)	dB	*Noy intercept levels.* The intercepts on the SPL-axis of the straight lines representing the variation of SPL with log n.
SPL(c)	dB	
SPL(d)	dB	*Noy discontinuity level.* The SPL value at the discontinuity coordinate where log n equals −1.
SPL(d)	dB	*Noy discontinuity level.* The SPL value at the discontinuity coordinate where log n equals log 0.3.
SPL′	dB	*Adjusted sound pressure level.* The first approximation to broadband sound pressure level in a one-third octave band of a given spectrum.
SPL″	dB	*Final broadband sound pressure level.* The second and final approximation to broadband sound pressure level in a one-third octave band of a given spectrum.

1.6 Flight path geometry

Symbol	Unit	Meaning
H	m	*Height.* The aircraft height when overhead or abeam of the centre microphone.
H_R	m	*Reference height.* The reference aircraft height when overhead or abeam of the centre microphone.
X	m	*Aircraft position along the ground track.* The position coordinate of the aircraft along the x-axis at a specific point in time.
Y	m	*Lateral aircraft position relative to the reference ground track.* The position coordinate of the aircraft along the y-axis at a specific point in time.
Z	m	*Vertical aircraft position relative to the reference ground track.* The position coordinate of the aircraft along the z-axis at a specific point in time.
θ	degrees	*Sound emission angle.* The angle between the flight path and the direct sound propagation path to the microphone. The angle is identical for both the measured and reference flight paths.
ψ	degrees	*Elevation angle.* The angle between the sound propagation path and a horizontal plane passing through the microphone, where the sound propagation path is defined as a line between a sound emission point on the measured flight path and the microphone diaphragm.
ψ_R	degrees	*Reference elevation angle.* The angle between the reference sound propagation path and a horizontal plane passing through the reference microphone location, where the reference sound propagation path is defined as a line between a sound emission point on the reference flight path and the reference microphone diaphragm.

1.7 Miscellaneous

Symbol	Unit	Meaning
antilog		*Antilogarithm to the base 10.*
D	m	*Diameter. Propeller or rotor diameter.*
D_{15}	m	*Take-off distance.* The take-off distance required for an aeroplane to reach 15 m height above ground level.
e		*Euler's number.* The mathematical constant that is the base number of the natural logarithm, approximately 2.71828.
log		*Logarithm to the base 10.*
N	rpm	*Propeller speed.*
N_1	rpm	*Compressor speed.* The turbine engine low pressure compressor first stage fan speed.
RH	%	*Relative humidity.* The ambient atmospheric relative humidity.
T	°C	*Temperature.* The ambient atmospheric temperature.
u	m/s	*Wind speed along-track component.* The component of the wind speed vector along the reference ground track.
v	m/s	*Wind speed cross-track component.* The component of the wind speed vector horizontally perpendicular to the reference ground track.
α	dB/100 m	*Test atmospheric absorption coefficient.* The sound attenuation rate, due to atmospheric absorption, that occurs in a specified one-third octave band for the measured ambient temperature and relative humidity.
α_R	dB/100 m	*Reference atmospheric absorption coefficient.* The sound attenuation rate, due to atmospheric absorption, that occurs in a specified one-third octave band for a reference ambient temperature and relative humidity.
μ		*Engine noise performance parameter.* For jet aeroplanes, typically the normalized low pressure fan speed, normalized engine thrust, or engine pressure ratio used in the calculation of the source noise adjustment.
CO		Carbon monoxide
D_p		The mass of any gaseous pollutant emitted during the reference emissions landing and take-off cycle

Symbol	Unit	Meaning
F_n		Thrust in International Standard Atmosphere (ISA), sea level conditions, for the given operating mode
F_{oo}		Rated thrust (see definition)
F^*_{oo}		Rated thrust with afterburning applied
HC		Unburned hydrocarbons (see definition)
NO		Nitric oxide
NO_2		Nitrogen dioxide
NO_X		Oxides of nitrogen (see definition)
nvPM		Non-volatile particulate matter (see definition)
SN		Smoke Number (see definition)
π_{oo}		Reference pressure ratio (see definition)
AVG		Average
CG		Centre of gravity
CO_2		Carbon dioxide
g_0		Standard acceleration due to gravity at sea level and a geodetic latitude of 45.5 degrees, 9.80665 (m/s^2)
Hz		Hertz (cycle per second)
MTOM		Maximum take-off mass (kg)
OML		Outer mould line
RGF		Reference geometric factor
RSS		Root sum of squares
SAR		Specific air range (km/kg)
TAS		True airspeed (km/h)
W_f		Total aeroplane fuel flow (kg/h)

2. AIRCRAFT NOISE CERTIFICATION ACCEPTANCE

The Authority may accept a noise certificate issued by a state of Design in respect of an aircraft or certificate aircraft product if the noise certificate was issued based on an airworthiness code recognized by the Authority.

2.1 General

For the purposes of this section, the conditions under which noise and vibration may be caused by aircraft, including military aircraft, on any aerodrome or on an aerodrome at which the manufacture, repair or maintenance of aircraft is carried out by persons carrying on business as manufacturers or repairers of aircraft, shall be as follows:

(a) the aircraft is taking off or landing;

(b) the aircraft is moving on the ground or water; or

(c) the engines are being operated in the aircraft:

(i) for the purpose of ensuring their satisfactory performance

(ii) for the purpose of bringing them to a proper temperature in preparation for, or at the end of a flight, or

(iii) for the purpose of ensuring that the instruments, accessories or other components of the aircraft are in a satisfactory condition.

2.2 Requirement for Noise certificate

2.2.1 A person shall not operate an aircraft, unless: it carries a document attesting noise certification in accordance with Chapter 1 of Annex 16, Volume I, Part II and as specified in the type certificate.

2.2.2 If the document is issued in a language other than English, it shall include an English translation.

2.2.3 An application for a noise certificate acceptance shall:

(a) be made in Form No: O-AWS008rev0 and accompanied by the appropriate fee as determined by the Authority;

(b) be signed by the owner or operator of the aircraft in respect of which it is submitted or by a representative of the owner; and

(c) include evidence that the aircraft meets the noise emission levels referred to in ICAO annex 16 volume I.

2.2.4 The Authority shall issue a Noise Certificate (IS 2.2.5) based on the acceptance of the aircraft noise certification by the state of design or the state of manufacture.

2.2.5 The documents attesting noise certification for an aircraft shall provide at least the following information:

Item 1. Name of State.

Item 2. Title of the noise document.

Item 3. Number of the document.

Item 4. Nationality or common mark and registration marks.

Item 5. Manufacturer and manufacturer's designation of aircraft.

Item 6. Aircraft serial number.

Item 7. Engine manufacturer, type and model.

Item 8. Propeller type and model for propeller-driven aeroplanes.

Item 9. Maximum take-off mass in kilograms.

Item 10. Maximum landing mass, in kilograms, for certificates issued under 2.0, 3.0, 4.0, 5.0, 12.0 and 14.0 of this regulation.

Item 11. The chapter and section of this regulation according to which the aircraft was certificated.

Item 12. Additional modifications incorporated for the purpose of compliance with the applicable noise certification Standards.

Item 13. The lateral/full-power noise level in the corresponding unit for documents issued under 2.0, 3.0, 4.0, 5.0, 12.0 and 14.0 of this regulation.

Item 14. The approach noise level in the corresponding unit for documents issued under 2.0, 3.0, 4.0, 5.0, 8.0, 12.0, 13.0 and 14.0 of this regulation.

Item 15. The flyover noise level in the corresponding unit for documents issued under 2.0, 3.0, 4.0, 5.0, 12.0 and 14.0 of this regulation.

Item 16. The overflight noise level in the corresponding unit for documents issued under 6.0, 8.0, 11.0 and 13.0 of this regulation.

Item 17. The take-off noise level in the corresponding unit for documents issued under 8.0, 10.0 and 13.0 of this regulation.

Item 18. Statement of compliance, including a reference to this regulation.

Item 19. Date of issuance of the noise certification document.

Item 20. Signature of the officer issuing it.

2.2.6 The items headings on the noise certificate presented shall be uniformly numbered in Arabic numeral as indicated in 2.2.5, so that on any noise certification document the number will, under any arrangement, refer to the same item heading.

2.2.7 Sierra Leone accepts a noise certification granted by another Contracting State provided that the requirements under which such certification was granted are at least equal to the applicable Standards specified in Annex 16 Vol I.

2.2.8 The amendment of this regulation of this chapter to be used by the Authority shall be that which is applicable on the date of submission to that Authority:

(a) A type certificate in the case of a new type; or

(b) approval of a change in type design in the case of a derived version; or

(c) in either case, under an equivalent application procedure prescribed by the Authority.

2.2.9 The Authority shall suspend or revoke the noise certificate of an aircraft on its register if the aircraft ceases to comply with the applicable noise standards.

3. AIRCRAFT ENGINE EMISSIONS

3.1 Vented Fuel

3.1.1 The provision of this Part shall apply to all turbine engine powered aircraft intended for operation in international air navigation manufactured after 18 February 1982.

3.1.2 Certification related to the prevention of intentional fuel venting shall be accepted by the Authority on the basis of satisfactory evidence that either the aircraft or the aircraft engines comply with the requirements of Annex 16 Volume II.

3.1.3 The Authority may recognize as valid a certification relating to fuel venting granted by the certificating authority of another Contracting State provided the requirements under which such certification was granted are not less stringent than the provisions of Annex 16 Volume II.

3.2 Prevention of International Fuel Venting

Aircraft shall be so designed and constructed as to prevent the intentional discharge into the atmosphere of liquid fuel from the fuel nozzle manifolds resulting from the process of engine shutdown following normal flight or ground operations.

3.3 Emission Certification

3.3.1 The provisions of this subpart shall apply to all engines and their derivative versions included in the classifications defined for emission certification purposes where such engines are fitted to aircraft engaged in international air navigation.

3.3.2 Emissions certification shall be accepted by the Authority on the basis of satisfactory evidence that the engine complies with requirements which are at least equal to the stringency of the provisions of Annex 16 Volume II.

3.3.3 The document attesting emissions certification for each individual engine shall include at least the following information which is applicable to the engine type:

(a) name of certificating authority;

(b) manufacturer's type and model designation;

(c) statement of any additional modifications incorporated for the purpose of compliance with the applicable emissions certification requirements;

(d) rated thrust;

(e) reference pressure ratio;

(f) a statement indicating compliance with Smoke Number requirements;

(g) a statement indicating compliance with gaseous pollutant requirements.

(h) a statement indicating compliance with particulate matter requirements.

3.3.4 The Authority shall recognize as valid emissions certification granted by the certificating authority of another Contracting State provided that the requirements under which such certification was granted are not less stringent than the provisions of Annex 16 Volume II.

3.3.5 The Authority shall recognize as valid engine exemptions for an engine production cut off requirement granted by a certificating authority of another Contracting State provided that the exemptions are granted in accordance with the process and criteria defined in the Environmental Technical Manual (Doc 9501),Volume II — Procedures for the Emissions Certification of Aircraft Engines.

4. CERTIFICATION STANDARD FOR AIRCRAFT CO2 EMISSIONS BASED ON THE CONSUMPTION OF FUEL

4.1 Applicability

The provisions of this part shall apply to all aircraft included in the classifications defined for CO_2 emissions certification purposes in Annex 16 Volume III Chapter 2 where such aircraft are engaged in international air navigation.

4.2 Acceptance of Aircraft Engine Co2 Certification

(a) CO2 emissions certification shall be accepted by the Authority on the basis of satisfactory evidence that the aircraft complies with requirements that are at least equal to the applicable Standards specified in Annex 16 Volume III.

Note: See Part 16 Volume (II) IS:16.2.6 for the format and structure of engines emissions certification documentation

(b) The Authority shall recognize as valid a CO_2 emissions certification granted by another Contracting State provided that the requirements under which such certification was granted are at least equal to the applicable Standards specified in Annex 16 Volume III.

(c) The amendment of Annex 16 Volume III to be used by the Authority shall be that which is applicable on the date of submission to a Contracting State for either a Type Certificate in the case of a new type, approval of a change in type design in the case of a derived version, or under equivalent application procedures prescribed by the certificating authority of that Contracting State.

(d) Unless otherwise specified in this regulation, the date to be used by the Authority in determining the applicability of ICAO Standards shall be the date the application for a Type Certificate was submitted to the State of Design, or the date of submission under an equivalent application procedure prescribed by the certificating authority of the State of Design.

(e) The Authority shall only accept CO_2 emissions certification if the application was effective for the period specified in this regulation appropriate to the aircraft type, except in special cases where the certificating authority granted an extension. When the period of effectivity is extended, the date to be used in determining the applicability of ICAO Standards in this regulation shall be the date of issue of the Type Certificate, or approval of the change in type design, or the date of issue of approval under an equivalent procedure prescribed by the State of Design, less the period of effectivity.

(f) For derived versions of non-CO_2-certified aircraft and derived versions of CO_2-certified aircraft, the applicability provisions concerning ICAO Standards refer to the date on which "the application for the certification of the change in type design" was made. The date to be used by the Authority in determining the applicability of ICAO Standards shall be the date on which the application for the change in type design was submitted to the Contracting State that first certified the change in type design.

(g) Where the provisions governing the applicability of the Standards of this Annex refer to the date on which the certificate of airworthiness was first issued to an individual aircraft, the date to be used by the Authority in determining the applicability of ICAO Standards shall

be the date on which the first certificate of airworthiness was issued by any Contracting State.

(h) The certificating authority shall publish the certified CO2 emissions evaluation metric value granted or validated by that authority.

(i) The use of equivalent procedures in lieu of the procedures specified in the appendices of Annex 16 Volume III shall be approved by the certificating authority.

(j) The Authority shall recognize valid aircraft exemptions granted by an authority of another Contracting State responsible for production of the aircraft provided that an acceptable process was used.

IS: 4.7 CERTIFICATE OF AIRWORTHINESS

	The Republic of Sierra Leone Sierra Leone Civil Aviation Authority	Certificate No*
CERTIFICATE OF AIRWORTHINESS		
1. Nationality and registration marks	2. Manufacturer and manufacturer's designation of aircraft (type and model) **	3. Aircraft serial number ……
4. Categories and/or operation***		
5. This Certificate of Airworthiness is issued pursuant to the Convention on International Civil Aviation dated 7 December 1944 and The Civil Aviation Act, 2019 and ……. in respect of the above-mentioned aircraft which is considered to be airworthy when equipped, maintained and operated in accordance with the foregoing and the pertinent operating limitations. Date of issue..... Signature.....		
6. This certificate is valid for the period(s) indicated below**** From _____ to _____		

NOTES:

1. No entries or endorsement may be made on this certificate except in the manner and by the persons authorised for the purpose
2. If this certificate is lost, the issuing authority should be informed at once, the certificated number being coated.
3. Any person finding this certificate should forward it immediately to the issuing authority.
4. This certificate must be displayed aboard the aircraft.

* For use of the Authority.

** Manufacturer's designation of aircraft should contain the aircraft type and model.

*** This space is normally used to indicate the certification basis, i.e. certification code, with which the particular aircraft complies and/or its permitted operational category, e.g. commercial air transportation, aerial work or private.

**** This space shall be used either for periodic endorsement (giving date of expiry) or for a statement that the aircraft is being maintained under a system of continuous inspection.

IS 4.10 SPECIAL FLIGHT PERMIT

	SIERRA LEONE CIVIL AVIATION AUTHORITY **SPECIAL FLIGHT PERMIT**	Reference:	
		Revision:	
		Date:	

CERTIFICATE NUMBER _____

SPECIAL FLIGHT PERMIT

OPERATOR: _____ **DATE:** _____

AIRCRAFT TYPE: _____

REGISTRATION: _____

POINT OF DEPARTURE: _____ **DESTINATION** _____

The above referenced aircraft is permitted to fly, as indicated above, under the following operating limitations which must be made available to any person operating the aircraft: -

1. Operational information pertinent to control of the aircraft and systems shall be on board the aircraft and available to the flight crew
2. This flight shall be conducted in accordance with appropriate current approved aircraft flight manual, appropriate markings and placards, or any combination thereof as applicable.
3. Flight crew shall hold current and appropriate ratings for this aircraft.
4. The carriage of cargo or persons other than the crew required for the flight is prohibited.
5. The SLCARs General Operating and Flight Rules shall be strictly adhered to and the following conditions will apply:

   SLCARs Part 8A sec II.4.10
6. Flight over congested areas is prohibited. This permission is not valid until the aircraft has been inspected by an appropriately rated Certifying Staff Aircraft Maintenance or an approved maintenance organisation and the following statement is signed and a similar notation has been made in the maintenance records: - "It is hereby certified that the aircraft defined hereon has been inspected and is fit for flight provided it is properly loaded."
7. This permission, of which these operating limitations are a part, expires upon arrival at the destination or _____ (date), whichever comes first.
8. This permission does not authorise operations over foreign countries, therefore, it is the responsibility of the aircraft's owner or operator to secure permission to fly over, land in, and take-off from, foreign countries which are on the route of flight.
9. This aircraft may not be operated if there are any outstanding Airworthiness Directives.
10. Attach performance operating limitation and any additional limitation for the particular flight

FOR _____

Director Flight Safety Standard

IS 4.11 EXPORT CERTIFICATE OF AIRWORTHINESS

	Sierra Leone Civil Aviation Authority	Certificate No:*

EXPORT CERTIFICATE OF AIRWORTHINESS

1. This Certifies that the product identified below and more particularly described in Specification(s) of the state of design's type certificate No_____, has been examined and as of the date of this Certificate, is considered airworthy in accordance with the provisions of [SLCAR Part 8A] and is in compliance with those special requirements of the importing State filed with Sierra Leone, except as noted below.

Note: this certificate in no way does not attest to compliance with any agreements or contracts between the vendor and purchaser, nor does it constitute authority to operate an aircraft.

2. Product:	3. Engines (*Manufacturer, Model*):
4. Manufacturer:	5. Propellers (*Manufacturer, Model):*
6. Serial No.:	
7. ☐ New ☐ Newly Overhauled ☐ Used Aircraft	

8. Specification *(Type Certificate, Type Acceptance Certificate, Certificate of Type Approval or other document)*

[1] For complete aircraft, list applicable specification or Type Certificate Data Sheet numbers for the aircraft, engine, and propeller. Applicable specifications or Type Certificate Data Sheet, if not attached to this Export Certificate, will have been forwarded to the appropriate governmental office of the importing country.

9. State to which exported:

10. Remarks/ Exceptions:

Date of issue: _____ [Signature] _____

11. Note: **The export C of A is valid for a period of 60 days from the date of this certificate

* For use of Authority.

** Additional information

IS: 6.8.3 PERFORMANCE RULES: 100 HOUR INSPECTIONS

(1) Each person performing an annual or 100-hours inspection shall, before that inspection, thoroughly clean the aircraft and aircraft engine and remove or open all necessary inspection plates, access doors, fairings, and cowlings.

(2) Each person performing an annual or 100-hour inspection shall inspect, where applicable, the following components-

(a) Fuselage and Hull group –

(i) (Fabric and skin – for deterioration, distortion, other evidence of failure, and defective or insecure attachment of fittings.

(ii) Systems and components – for improper installation, apparent defects, and unsatisfactory operation.

(iii) The cabin and cockpit group.

(iv) Generally – for uncleanliness and loose equipment that might foul the controls.

(v) Seats and safety belts – for poor condition and apparent defects.

(vi) Windows and windshields – for deterioration and breakage.

(vii) Instruments – for poor condition, mounting, marking, and (where practicable) for improper operation.

(viii) Flight and engine controls - for improper installation and improper operation.

(ix) Batteries – for improper installation and improper charge.

(x) All systems – for improper installation, poor general condition, apparent and obvious defects, and insecurity of attachment.

(b) Engine and nacelle group-

(i) Engine section – for visual evidence of excessive oil, fuel, or hydraulic leaks, and sources of such leaks.

(ii) Studs and nuts – for improper torquing and obvious defects.

(iii) Internal engine – for cylinder compression and for metal particles or foreign matter on screens and sump drain plugs. If there is weak cylinder compression, for improper internal condition and improper internal tolerances.

(iv) Engine mount – for cracks, looseness of mounting, and looseness of engine to mount.

(v) Flexible vibration dampness - for poor condition and deterioration.

(vi) Engine controls – for defects, improper travel, and improper safety.

(vii) Lines, hoses, and clamps – for leaks, improper condition, and looseness.

(viii) Exhaust stacks – for cracks, defects and improper attachment.

(ix) Accessories – for apparent defects in security of mounting

(x) All systems – for improper installation, poor general condition, defects, and insecure attachment.

(xi) Cowling – for cracks and defects.

(c) Landing gear group -

(i) All units – for poor condition and insecurity of attachment.

(ii) Shock absorbing devices – for improper oleo fluid level.

(iii) Linkage, trusses, and members – for undue or excessive wear, fatigue and distortion.

(iv) Retracting and locking mechanism – for improper operation.

(v) Hydraulic lines – for leakage.

(vi) Electrical system – for chafing and improper operation of switches.

(vii) Wheels – for cracks, defects, and condition of bearings.

(viii) Tires – for wear and cuts.

(ix) Brakes – for improper adjustment.

(x) Floats and skis – for insecure attachment and obvious or apparent defects.

(d) Wing and centre section assembly for-

(i) Poor general condition.

(ii) Fabric or skin deterioration.

(iii) Distortion.

(iv) Evidence of failure.

(v) Insecurity of attachment.

(e) Complete empennage assembly for-

(i) Poor general assembly.

(ii) Fabric or skin deterioration.

(iii) Distortion.

(iv) Evidence of failure.

(v) Insecure attachment.

(vi) Improper component installation.

(vii) Improper component operation.

(f) Propeller group-

(i) Propeller assembly - for cracks, nicks, bends, and oil leakage.

(ii) Bolts-for improper torquing and lack of safety.

(iii) Anti-icing devices – for improper operations and obvious defects.

(iv) Control mechanisms – for improper operation, insecure

(v) mounting, and restricted travel.

(g) Avionics or instrument group-

(i) Avionics or instrument equipment – for improper installation and insecure mounting.

(ii) Wiring and conduits – for improper routine, insecure mounting and obvious defects.

(iii) Bonding and shielding – for improper installation and poor condition.

(iv) Antenna including trailing antenna – for poor condition, insecure mounting, and improper operation.

(h) Electronic or electrical group-

(i) Wiring and conduits – for improper routing, insecure mounting, and obvious defects.

(ii) Bonding and shielding - for improper installation and poor condition.

(3) Each installed miscellaneous item that is not otherwise covered by this listing and or has instructions for continued airworthiness - for improper installation and improper operation.

IS: 7.1 RECORDING OF MAJOR REPAIRS AND MAJOR MODIFICATIONS

(1) Each person performing a major repair or major modification shall:

(a) Execute the appropriate form prescribed by the Authority at least in duplicate;

(b) Give a signed copy of that form to the aircraft owner or operator; and

(c) Forward a copy of that form to the Authority, in accordance with Authority instructions, within 48 hours after the aeronautical product is approved for return to service.

(2) In place of the requirements of paragraph (1), major repairs made in accordance with a manual or specifications acceptable to the Authority, an AMO may:

(a) Use the customer's work order upon which the repair is recorded;

(b) Give the aircraft owner a signed copy of the work order and retain a duplicate copy for at least one year from the date of approval for return to service of the aeronautical product;

(c) Give the aircraft owner a maintenance release signed by an authorised representative of the AMO and incorporating the following information-

(i) If an aircraft, the make, model, serial number, nationality and registration marks, and location of the repaired area;

(ii) If an aeronautical product gives the manufacturer's name, name of the part, model, and serial numbers (if any);

(iii)If an aeronautical product, give the manufacturer's name, part, model and serial numbers (if any): and

(d) Include the following or a similarly worded statement:

The aeronautical product identified above was repaired, overhauled and inspected in accordance with currently effective, applicable instructions of the State of Design and regulatory requirements of the Authority, and is approved for return to service.

Pertinent details of the repair are on file at this maintenance organization.

*Order No.*_____ *Date*_____

*Signed*_____
(Signature of authorised representative)

_____
(Facility Name) (AMO Certificate Number)

_____
(Address)

	SIERRA LEONE CIVIL AVIATION AUTHORITY **Major Repair and Modification Record**	Form No:

1. Aircraft		Nationality and Registration Mark		Serial No.	
2. Owner		Name (As shown on registration certificate)		Address (As shown on registration certificate)	
3. Unit Identification				**4. Type (tick as appropriate)**	
Unit	Make	Model	Serial Number	Repair	Modification
Airframe					
Engine					
Propeller					
Appliance	Type				
	Manufacturer				
5. Conformity Statement					
A. Organization Name and Address		**B. Kind of License/Organization**		**C. Certificate/License Number**	
		☐ Approved Maintenance Organization		(For an AMO include the appropriate ratings issued for the major repair or modification)	
		☐ Manufacturer AMO			
		☐ Licensed (AME) ☐ A ☐ P or ☐ A/P			
D. I certify that the repair and/or modification made to the unit(s) identified in item 3 above and described on the reverse or attachments hereto have been made in accordance with the requirements of the Sierra Leone Civil Aviation Regulations Part 8A and that the information furnished herein is true and correct to the best of my knowledge.					
Date			**Signature of Authorized Individual**		
6. Approval for Return to Service					
Pursuant to the authority given persons specified below, the unit(s) identified in item 3 was inspected in the manner prescribed by the Sierra Leone Civil Aviation Authority and is ☐ APPROVED ☐ REJECTED					
BY	☐ SLCAA Inspector	☐ Inspection Authorization	Other (Specify)		
	☐ Maintenance Organization	☐ Other			
Date of Approval or Rejection		**Certificate or Designation Number**		**Signature of Authorized Individual**	

7. Mass and balance or operating limitation changes shall be entered in the appropriate aircraft record. A modification must be compatible with all previous modifications to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

IS 2.2.5 NOISE CERTIFICATE

	SIERRA LEONE CIVIL AVIATION Noise Certificate

CERT NO.		
Nationality and registration marks	Manufacturer and manufacturer's designation of aircraft	Aircraft serial number
Engine Manufacturer, Type and Model		Propeller manufacturer, type and model
Maximum takeoff mass (kg)		Maximum landing mass (kg)
Authority and basis for issuance: ICAO ANNEX 16 vol 1 chapter: _____		
Additional modifications incorporated for the purpose of compliance with the applicable noise certification standards:		

Lateral / full power noise level	Approach noise level	Flyover noise level	Overflight noise level	Takeoff noise level
Remarks:				
Statement of compliance This noise certificate is issued pursuant to volume I of annex 16 to the convention on international civil aviation and Part 8A of the Sierra Leone Civil Aviation regulations, in respect of the above-mentioned aircraft, which is considered to comply with the indicated noise standard when maintained and operated in accordance with the relevant requirements and operating limitations				

Date of issue	Name & signature:

1. This Certificate must be carried on board the aircraft
2. This Certificate is not transferable