



SIERRA LEONE CIVIL AVIATION AUTHORITY

ADVISORY CIRCULAR

SLCAA-AC-PEL013-Rev.01

EFFECTIVE DATE: 31st AUGUST 2022

Issue and Renewal of Aircraft Maintenance Engineers License

Director General
Sierra Leone Civil Aviation Authority

TABLE OF CONTENTS

1. GENERAL	1
1.1 PURPOSE	1
1.2 DESCRIPTION OF CHANGES	1
1.3 REFERENCES	1
1.4 CANCELLED DOCUMENTS	1
2. GUIDANCE AND PROCEDURES	1
2.1 GENERAL INFORMATION	1
3.2 RATING	2
3.3 APPLYING FOR A TYPE RATING	6
3.4 LICENCE RENEWAL	7

1. GENERAL

The Sierra Leone Civil Aviation Authority's Advisory Circulars contains information about standards, practices and procedures that the Authority has found to be an Acceptable Means of Compliance (AMC) with the associated Regulations.

An AMC is not intended to be the only means of compliance with a Regulation, and consideration will be given to other methods of compliance that may be presented to the Authority

Information considered directive in nature is described in this AC in terms such as "shall" and "must", indicating the actions are mandatory. Guidance information is described in terms such as "should" and "may" indicating the actions are desirable or permissive, but not mandatory

1.1 Purpose

This Advisory Circular is issued to provide guidance and information on the issue, addition of ratings, type ratings, validation, conversion and renewal of an aircraft maintenance engineer license, under Part 1A of the Sierra Leone Civil Aviation Regulations.

1.2 Description of Changes

References to the Regulations and Forms

1.3 References

- a) SLCAR Part 1A Personnel Licensing
- b) The Prescribe Application forms; FORM:AC-PEL019, FORM:AC-PEL020, FORM:AC-PEL020A
- c) ICAO Annex 1 Personnel Licensing

1.4 Cancelled Documents

Not Applicable

2. GUIDANCE AND PROCEDURES

2.1 General Information

3.1.1 The prescribed application form may be obtained from the Authority's Personnel Licensing (PEL) Office

3.1.2 The Authority may issue a license with rating, type rating and limitation as provided for in Regulation

6.2.2 to 6.2.11 of Part 1A of the Sierra Leone Civil Aviation Regulations

3.1.3 In order to be authorised to issue certificates of release to service after maintenance on a Sierra Leone registered aircraft, a person must either hold a valid license or validation certificate issued by the Authority in accordance with Part 1A of the Sierra Leone Civil Aviation Regulations.

3.1.4 The minimum age to be required to be issued with an Aircraft Maintenance Engineer's License (AMEL) is eighteen (18) years.

3.1.5 The AMEL with rating and type rating confirms that the holder is a fit person and has sufficient aeronautical knowledge, experience and skills required for the rating and type rating specified in the license as the case may be.

3.1.6 Aircraft Maintenance Engineer License is valid for a period of five (5) years from the date of issue or renewal as per Regulation 6.2.9 of Part 1A of the Sierra Leone Civil Aviation Regulations.

3.1.7 Before sitting for any license examination, Candidates shall be required to show proof of identity such as a passport or a government issued identification card

3.2 Rating

3.2.1 Ratings are issued for all categories of aircraft. Rating is however, a pre-requisite for issue of the relevant type ratings which confers the certification privileges to the endorsed Types.

3.2.2 The Rating is issued for different specialization as shown below:

- (a) Category A: Airframe and Power Plant;
- (b) Category B1: Airframe and Power plant;
- (c) Category B2: Avionics;
- (d) Category C: Base maintenance
- (e) Other ratings as may be determined by the Authority.

3.2.3 Knowledge Requirements for AME License.

3.2.3.1 The applicant for an aircraft maintenance engineer license shall have passed a general knowledge test covering at least the following areas:

3.2.3.2 Air law and airworthiness requirements. Rules and regulations relevant to an aircraft maintenance engineer license holder including:-

- i. Applicable and airworthiness requirements governing certification and continuing airworthiness of aircraft; and
- ii. Approved Aircraft Maintenance Organisation (AMO) procedures.

3.2.3.3 Natural science and aircraft general knowledge-

- i. Basic mathematics
- ii. Units of measurements; and
- iii. Fundamental principles and theory of physics and chemistry applicable to aircraft maintenance-

3.2.3.4 Aircraft engineering characteristics and applications of the materials of aircraft construction including-

- i. Principles of construction and functioning of aircraft structures;
- ii. Fastening techniques;
- iii. Power plant and their associated systems;
- iv. Mechanical, fluid, electrical and electronic power sources;
- v. Aircraft instrument and display systems;
- vi. Aircraft control systems; and
- vii. Airborne navigation and communication systems.

3.2.3.5 Aircraft maintenance, task required to ensure the continuing airworthiness of an aircraft including-

- i. Methods and procedures for the overhaul;
- ii. Repair;
- iii. Inspection and replacement;
- iv. Alterations or defect rectification of aircraft structures;
- v. Components and systems in accordance with the methods prescribed in the relevant Maintenance Manuals and the applicable requirements and airworthiness.

3.2.3.6 Human Performance - Human performance and limitations relevant to the duties of an aircraft maintenance license holder;

3.2.4 Knowledge Requirements for The Rating:

3.2.4.1 The applicant for an airframe rating shall pass knowledge test covering at least the following areas-

- i. Wood structures;
- ii. Aircraft covering;
- iii. Aircraft finishes;
- iv. Sheet metal and non-metallic structures;
- v. Welding;
- vi. Assembly and rigging;
- vii. Airframe inspection;
- viii. Fuel systems;
- ix. Aircraft landing gear systems;
- x. Hydraulic and pneumatic power systems,
- xi. Cabin atmosphere control system
- xii. Aircraft instrument systems;
- xiii. Communication and navigation systems
- xiv. Aircraft fuel systems
- xv. Aircraft electrical systems
- xvi. Position and warning systems;
- xvii. Ice and rain control systems; and
- xviii. Fire protection systems.

3.2.4.2 The applicant for a power plant rating shall pass a knowledge test covering at least

the following areas-

- Reciprocating systems;
- i. Turbine engines;
- ii. Engine inspections;
- iii. Engine instrument systems;
- iv. Engine fire protection systems
- v. Engine electrical systems;
- vi. Lubrication systems;
- vii. Ignition and starting systems;
- viii. Fuel metering;
- ix. Engine fuel systems;
- x. Induction and engine airflow systems;
- xi. Engine cooling systems;
- xii. Engine exhaust and reverser systems;
- xiii. Propellers;
- xiv. Auxiliary power units.

3.2.4.3 The applicant for an avionics rating shall pass a knowledge test covering at least the following areas-

- i. Aircraft electrical systems;
- ii. Aircraft instrument systems;
- iii. Automatic flight control systems;
- iv. Aircraft radio and radio navigation systems;
- v. Aircraft navigation systems; and
- vi. Aircraft systems/components- avionics.

3.2.4.4 The applicant shall pass each section of the test before applying for the skills tests prescribed by the Regulations 6.6 of Part 1A of the Sierra Leone Civil Aviation Regulations.

3.2.5 Experience Requirements – Ratings

3.2.5.1 Regulation 6.5 of Part 1A of the Sierra Leone Civil Aviation Regulations, prescribe the experience requirements.

3.2.5.2 The applicant for the rating must have completed the prescribed period of aircraft maintenance experience. This experience must be relevant to the rating applied for and maintenance experience on civil operating aircraft.

- i. The experience referred to above should include maintenance on an aircraft structures, power plant, mechanical, electrical and avionics systems, replacement of Line Replaceable Units (LRU's) including engines and propellers, defects, trouble shooting and rectification, system function and operation checks and power plant performance runs.
- ii. Applicants for issue or renewal of a rating in Airframe, Power plant and Avionics must meet prescribed minimum specific periods of aviation maintenance engineering experience as specified in Regulation 6.5

Each applicant for an AME license or rating must pass a skill test on the license or rating that he/she seeks. The tests cover the applicant's basic skill in performing practical projects on the subjects covered by the Knowledge test for the license or rating, and shall contain at least the subjects in the implementing Standard

3.4.2.3 and the applicable STS appropriate to the license or rating sought.

Note: *However, whatever the case may be, the applicant is required to have acquired the basic theoretical knowledge required for the license, the basic skills, and maintenance practices experience that ensures basic practical competence.*

3.2.6 Applying for A Rating

a. The appropriate application form for initial issue of an AMEL is submitted to the Authority with the following attachments as applicable:

- (i) Course Certificates;
- (ii) Schedule of work experience (or the Aircraft Maintenance Engineer's Experience Log- Book)

b. The application shall not be accepted if it is not appropriately filled, certified by an authorised person of the AMO/AOC holder where the applicant works and the required supporting documents have been attached.

In case the application is rejected, the applicant will be notified in writing the reasons for rejection.

3.2.7 Rating Examination

- a. An applicant for a rating will be examined on the subjects in paragraph 3.2.2 and 3.2.3.
- b. The examination for the issue of ratings are based on the knowledge and skill level requirement specified in the Regulation 6.4 and 6.5 of Parts 1A of the Sierra Leone Civil Aviation Regulations, comprising of an examination paper for each knowledge relevant to the rating applied for.
- c. The examination for the issue of an AMEL rating consists of written examination papers made up of multiple choice/and practical questions and skill test consisting of oral and practical.
- d. The skill test is offered only after all the written examination papers have been passed.
- e. The skill test shall include questions on
 - i. The rating being sought for;
 - ii. Aircraft maintenance engineering practices and procedures;
 - iii. Air Legislation and Requirements relevant to rating.
- f. **Results:**
 - i. The candidates shall be notified about the results in writing within ten (10) working days after sitting the examination
 - ii. A license will be issued only after successful pass level has been achieved in all papers relevant to the rating including skill test.

3.2.8 Extension of Rating Examinations

The examination requirements for license extension to include another rating are the same as described above, however candidates will be examined only in the knowledge and skill areas in the extension of rating applied for that have not been already examined and passed

3.2.9 Failure of Rating Examinations

- a. On the failure of a rating knowledge test, the candidate may apply for a re-sit after a period of at least three (3) months or as advised in writing by the Authority. The candidate is required to submit a new application and record of additional work experience.
- b. A candidate is allowed three successive attempts at the skill test for a rating provided that all the attempts take place within twelve months (12) of the first attempt. A candidate that fails a third skill test shall have to repeat the full license application process.

3.3 Applying for A Type Rating

3.3.1 Application for A Type Rated License

- a. The application is submitted to the Authority through the Personnel Licensing Office using appropriately completed application form for a type rating.
- b. The following attachments are required as applicable:
 - i. Type Course Certificate with results of not less than 75% from a Part 147, Approved Maintenance Organization, Approved Training Organization or Manufacturer;
 - ii. Schedule of work experience (or the Aircraft Maintenance Engineers Experience Log- Book)
- c. It is important for the applicant to ensure the application has been properly filled and all required documents are attached before submitting it to the Authority.
- d. An application for a Type Rating shall be accepted by the Authority only

if:

- i. The applicant already holds the appropriate Rating;
- ii. The aircraft is of a type, or the engine or system installed in a type that is registered in Sierra Leone and in respect of which a Certificate of Airworthiness is in force or has been applied for.

Note: For all pressurised airframes, rotorcrafts, gas turbine engines and their associated systems, the Authority requires the applicant to have undergone an Authority's acceptance aircraft type, engine and/or systems maintenance course.

- e. Where the applicant is required to undergo an approved type aircraft and systems training, the applicant must give evidence of satisfactory completion of that training.

3.3.2 Experience Requirements – Type Ratings

- a. Subject to subparagraph (b) below, general extension of a license to include a Type Rating does not normally require a period of general experience additional to that required for the relevant ratings which must be held before a Type Rating will be granted. However a satisfactory record of maintenance experience appropriate to the Type applied for must be submitted as part of the application

- b. An application for a Type Rating from a holder of a rating which was gained following successful completion of an Approved *ab-initio Course* must show confirmed evidence that he or she has obtained at least 12 months relevant aircraft engineering experience with an AMO engaged in maintenance of an operational type aircraft in addition to that gained during the course.
- c. The summarised experience record to be submitted should indicate that the applicant has gained type maintenance experience on all relevant type systems, components and structures in regards to their condition, assembly, function, mandatory inspection and modification as applicable to an operating aircraft.
- d. The experience documented in the Record of Aircraft Maintenance Engineers Experience Log-Book (or schedule of work experience) must have been gained within the three years including the last six months before the application at an approved maintenance organisation or AOC holder. It should have been appropriately signed and stamped by an authorised person of the AMO or AOC holder as confirmation.

3.3.3 Type Rating

- a. Once the condition in 3.3.3(b) (i) (i.e. 75% score in a course conducted by an approved Maintenance /Training organization or Manufacturers), 3.3.1(b) (ii) (i.e. working experience) and all other conditions in 3.3.2 are satisfied, then the type rating would be endorsed on the applicants license.
- b. The Authority reserves the right to conduct skill test where necessary

3.4 Licence Renewal

3.4.1 Licence Renewal Information and Requirements

- a. It is the responsibility of the License holder to ensure that his or her License remains valid, it is also important to know that license validity dates are not back-dated.
- b. A holder of an Aircraft Maintenance Engineers License may apply for renewal of license at most sixty (60) days and at least fourteen (14) days before the expiry period. Application for AMEL renewal shall be made by completing and submitting to the Authority the prescribed application form for AMEL renewal which has been dully signed and certified by an authorised person and proof of the renewal fee payment.

The requirement for AMEL renewal makes reference to regulation 6.8 of Part 1A of the Sierra Leone Civil Aviation Regulations. In general however, the holder is required to provide evidence of having been engaged in the maintenance of operating aircraft for periods totalling at least 6 months during the 24 months before

- c. application for renewal.
- d. Licences are renewed for a period of two (2) years after the applicant has met the requirements for renewal.

3.4.2 Reissue. If the AME licence has expired, the applicant shall meet the lapsed licence requirements as follows:

- (i) If the lapsed period is less than six (6) months, the holder shall present evidence to the Authority of compliance with 2.6.2.9 (b) of this regulation
- (ii) if the lapsed period is more than two (2) years but not more ten (10) years holder shall have received refresher training acceptable to the Authority and pass Aircraft Maintenance Engineer Licence General paper examination and shall pass a skill test on the areas of operation contained in the CAA STSs for the AME – General, and any associated ratings.
- (iii) if the lapsed period is more than ten (10) years, an applicant shall meet all requirements for the initial issue of Aircraft Maintenance Engineering licence.

3.4.3 Validation of Foreign Aircraft Maintenance Engineers' Licences

Refer to Part 1A of the Sierra Leone Civil Aviation Regulations for details and procedures.

3.4.4 Conversion of Foreign Aircraft Maintenance Engineer Licences and Ratings.

Refer to Part 1A of the Sierra Leone Civil Aviation Regulations for details and procedures