STATE OF LIBYA
MINISTRY OF TRANSPORT
CIVIL AVIATION AUTHORITY

دولة ليبيا
وزارة المواصلات
مصلحة الطيران المدني

LYCAR Part-145

Libyan Civil Aviation Regulation

Part-145 MAINTENANCE ORGANIZATION APPROVALS

Second issue, Mar 2025

Approved by and published under the authority of the President of LYCAA.

Issue date: Mar 2025

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RECORD OF REVISIONS

No.	Date	Description / Highlights
Issue 1	August 2016	Initial issue
Issue 2	Mar 2025	- Completing missing parts - Adding Section B: Authority requirements - Integrating AMCs & GMs - Applying e-regulation linking

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FOREWORD

1. The regulation contained herein is adopted under the provision of Article N5 of Libyan Civil Aviation Law N6 of 2005 and issued and signed up by the Director General of Libyan Civil Aviation by virtue of powers vested from the Minister of Transport under the resolution N154 issued on 13.05.2015.

2. The Libyan Civil Aviation Regulation of Continuing Airworthiness establishes technical requirements and administrative procedures to ensure the continuing airworthiness of aircraft, components, parts and appliances as well as the approval of organizations and personnel involved in these tasks.

3. This regulation is in compliance with ICAO Annexes and SARPs and it has also adapted regulation, associated compliance or interpretative material issued by EASA as Acceptable Means of Compliance (AMCs) and Guidance Materials (GMs) whenever possible.

4. The information contained herein is subject to constant review in the light of changing regulations and requirements. No subscriber or other reader should act on the basis of any such information without taking appropriate professional advice when/as indicated/required. Although, every effort has been made to ensure accuracy, the Libyan Civil Aviation Authority (LYCAA) shall not be held responsible for loss or damage caused by errors, omissions, misprints or misinterpretation of the content hereof.

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

6. Copies of this regulation can be obtained from the Safety Department of the LYCAA or can be downloaded on the official website: www.caa.gov.ly

7. Transition Period: The Libyan civil aviation industry is required to meet the compliancy requirements of this regulation within three months after its official publication. All new applications, after the publication of this regulation, will meet the requirements of this issue of regulation.

Published on 17 Mar 2025, And signed by:

Dr. Mohamed M. Shlebik
President of Libyan Civil Aviation Authority

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Definitions

(a) A complex motor-powered aircraft means:

(1) An airplane

(i) Above 5700 Kg MTOM, or

(ii) Certificated for more than 19 seated passengers, or

(iii) Certificated for operation with at least 2 pilots, or

(iv) Equipped with turbojet engine(s) or more than 1 turboprop engine.

(2) A helicopter

(i) Above 3175 Kg MTOM, or

(ii) Certificated for more than 9 seated passengers, or

(iii) Certificated for operation with at least 2 pilots, or

(3) A tilt rotor aircraft.

(b) For the purpose of LYCAR, Category 1 "Light Aircraft" (LA1) means the following aircrafts:

i. an airplane, sailplane or powered sailplane with a Maximum Take-off Mass (MTOM) less than 1000 kg that is not classified as complex motor-powered aircraft;

ii. a balloon with a maximum design lifting gas or hot air volume of not more than 3400 m^3 for hot air balloons, 1050 m^3 for gas balloons, 300 m^3 for tethered gas balloons;

iii. an airship designed for not more than two occupants and a maximum design lifting gas or hot air volume of not more than 2500 m^3 for hot air airships and 1000 m^3 for gas airships.

(c) For the purpose of LYCAR, Category 2 "Light Aircraft "(LA2) means the following aircraft:

i. an airplane with a Maximum Take-off Mass (MTOM) of 2 000 kg or less that is not classified as complex motor-powered aircraft;
ii. a sailplane or powered sailplane of 2.000 kg MTOM or less;
iii. a balloon;
iv. a hot air ship;
v. a gas airship complying with all of the following characteristics:
   - 3 % maximum static heaviness,
   - non-vectored thrust (except reverse thrust),
   - conventional and simple design of structure, control system and ballonet system, and
   - non-power assisted controls;
vi. a very Light Rotorcraft.

(d) For the purpose of LYCAR, 'LSA aircraft' means a light sport airplane which has all of the following characteristics:

i. a Maximum Take-off Mass (MTOM) of not more than 600 kg;
ii. a maximum stalling speed in the landing configuration (VS0) of not more than 45 knots Calibrated Airspeed (CAS) at the aircraft's maximum certificated take-off mass and most critical center of gravity;
iii. a maximum seating capacity of no more than two persons, including the pilot;
iv. a single, non-turbine engine fitted with a propeller;
v. a non-pressurized cabin;

'**Certifying staff**' means personnel responsible for the release of an aircraft or a component after maintenance;

'**Commercial specialized operations**' means those operations subject to the requirements of in LYCAR-OPS;

'**Component'** means any engine, propeller, part or appliance;

'**Critical maintenance task**' means a maintenance task that involves the assembly or any disturbance of a system or any part on an aircraft, engine or propeller that, if an error occurred during its performance, could directly endanger the flight safety;

'**Large Aircraft**' means an aircraft, classified as an airplane with a maximum takeoff mass of more than 5700 kg, or a multi-engined helicopter.

'**Limited operations**' means the operations of other-than-complex motor-powered aircraft for:

(a) cost-shared flights by private individuals, on the condition that the direct cost is shared by all the occupants of the aircraft, pilot included and the number of persons sharing the direct costs is limited to six;

(b) competition flights or flying displays, on the condition that the remuneration or any valuable consideration given for such flights is limited to recovery of direct costs and a proportionate contribution to annual costs, as well as prizes of no more than a value specified by LYCAA;

(c) introductory flights, parachute dropping, sailplane towing or aerobatic flights performed either by an approved training organization having its principal place of business in Libya, or by an organization created with the aim of promoting aerial sport or leisure aviation, on the condition that the aircraft is operated by the organization on the basis of ownership or dry lease, that the flight does not generate profits distributed outside of the organization, and that whenever non-members of the organization are involved, such flights represent only a marginal activity of the organization;

For the purpose of LYCAR, “limited operations” are not considered as CAT operations or commercial specialized operations;

‘**Maintenance**’ means any one or combination of overhaul, repair, inspection, replacement, modification or defect rectification of an aircraft or component, with the exception of pre-flight inspection;

‘**Organization’** means a natural person, a legal person or part of a legal person.

‘**Pre-flight inspection**’ means the inspection carried out before flight to ensure that the aircraft is fit for the intended flight;

‘**Principal place of business**’ means the head office or the registered office of the undertaking within which the principal financial functions and operational control of the activities referred to in this Regulation are exercised.

SECTION A: TECHNICAL REQUIREMENTS

145.A.05 Applicability and effectivity

1. Organizations involved in the maintenance of complex motor-powered aircraft or of aircraft used for commercial air transport, engines, propeller, associated parts and distributors intended for fitment thereto, shall be approved in accordance with the provisions of this Part.
2. This Part is effective forthwith and shall be complied by all new/existing organizations.
3. Maintenance approvals issued in accordance with previous issue of this Part-145 shall continue to remain in force. However, such organizations may demonstrate compliance with the requirements of this issue of Part-145 within the transition period specified in the 'Foreword section of this Part'.
4. Personnel qualified to carry out and/or certify non-destructive test of aircraft structures and/or components, on the basis of a standard recognized by LYCAA may continue to carry out and/or certify such tests.

145.A.10 Scope

This Part-145 establishes the requirements to be met by an organization to qualify for the issue or continuation of an approval for the maintenance of aircraft, engine, propeller, associated parts and distributors.

(a) Organizations regardless of their location, may only be granted approval if the LYCAA is satisfied that there is a need for such approval to maintain aircraft/aircraft components and when in compliance with this Part-145.

(b) Notwithstanding sub-paragraph (a), organizations located outside Libya will be approved when working in accordance with the conditions detailed in an international maintenance agreement between the LYCAA and another State's Authority that ensures the equivalent safety standard to this Part- 145.

AMC TO 145.A.10 Scope

1. Line Maintenance should be understood as any maintenance that is carried out before flight to ensure that the aircraft is fit for the intended flight.

   (a) Line Maintenance may include:

   - Trouble shooting.
   - Defect rectification.
   - Component replacement with use of external test equipment if required.

     Component replacement may include components such as engines and propellers.
   - Scheduled maintenance and/or checks including visual inspections that will detect obvious unsatisfactory conditions/discrepancies but do not require extensive in-depth inspection. It may also include internal structure, systems

and power plant items which are visible through quick opening access panels/doors.

- Minor repairs and modifications which do not require extensive disassembly and can be accomplished by simple means.

(b) For temporary or occasional cases (ADs, SBs), the Quality Manager may accept base maintenance tasks to be performed by a line maintenance organization provided all requirements are fulfilled as defined by the LYCAA.

(c) Maintenance tasks falling outside these criteria are considered to be Base Maintenance.

(d) Aircraft maintained in accordance with 'progressive' type programs should be individually assessed in relation to this paragraph. In principle, the decision to allow some 'progressive' checks to be carried out, should be determined by the assessment that all tasks within the particular check can be carried out safely to the required standards at the designated line maintenance station.

2. Where the organization uses facilities, both inside and outside Libya, such as satellite facilities, sub-contractors, line stations, etc., such facilities may be included in the approval without being identified on the approval certificate subject to the maintenance organization exposition, identifying the facilities and containing procedures to control such facilities and the LYCAA being satisfied that they form an integral part of the approved maintenance organization.

GM TO 145.A.10 Scope

This Guidance Material (GM) provides guidance on how the smallest organizations satisfy the intent of Part-145:

1. By inference, the smallest maintenance organization would only be involved in a limited number of light aircraft, or aircraft components, used for commercial air transport. It is therefore a matter of scale; light aircraft do not demand the same level of resources, facilities or complex maintenance procedures as the large organization.

2. It is recognized that a Part-145 approval may be required by two quite different types of small organizations, the first being the light aircraft maintenance hangar, the second being the component maintenance workshop, e.g., small piston engines, radio equipment, etc.

3. Where only one person is employed (in fact having the certifying function and others), these organizations approved under Part-145 may use the alternatives provided in below point 3.1 limited to the following:

    - Class A2 Base and Line maintenance of airplanes of 5 700 kg and below (piston engines only).
    - Class A3 Base and Line maintenance of single-engined helicopters of less than 3 175 kg.
    - Class A4 Aircraft other than A1, A2 and A3
    - Class B2 Piston engines with maximum output of less than 450 HP.
    - Class C Components.
    - Class D1 Non-Destructive Testing (NDT) and D2 Other Specialized Services

- Sub-Part D Distributor of aeronautical parts.

3.1. 145.A.30 (b): The minimum requirement is for one full-time person, who meets the Part-66 requirements for certifying staff and holds the position of 'accountable manager, maintenance engineer and is also certifying staff. No other person may issue a certificate of release to service and therefore if absent, no maintenance may be released during such absence.

3.1.1. The quality system function of 145.A.65(c) may be contracted to an appropriate organization approved under Part-145 or to a person with appropriate technical knowledge and extensive experience of quality audits employed on a part-time basis, with the agreement of the LYCAA.

Note

Full-time for the purpose of Part-145 means not less than thirty-five (35) hours per week except during vacation periods.

3.1.2. 145.A.35. In the case of an approval based on one person using a subcontracted quality monitoring arrangement, the requirement for a record of certifying staff is satisfied by the submission to and acceptance by the LYCAA. With only one person, the requirement for a separate record of authorization is unnecessary because the LYCAA approval schedule defines the authorization. An appropriate statement, to reflect this situation, should be included in the exposition.

3.1.3. 145.A.65 (c). It is the responsibility of the contracted quality monitoring organization or person to make a minimum of two (2) visits per twelve (12) months and it is the responsibility of this organization or person to carry out such monitoring on the basis of one (1) pre-announced visit and one (1) not announced visit to the organization.

It is the responsibility of the organization to comply with the findings of the contracted quality monitoring organization or the person.

CAUTION

it should be understood that if the contracted organization or the above-mentioned person loses or gives up its approval, then the organization's approval will be suspended.

4. Recommended operating procedure for a Part-145 approved maintenance organization based upon up to 10 persons involved in maintenance:

4.1. 145.A.30 (b): The normal minimum requirement is for the employment on a full-time basis of two persons who meet the 'competent authorities' requirements for certifying staff, whereby one holds the position of 'maintenance engineer' and the other holds the position of 'quality audit engineer'.

4.2. Either person can assume the responsibilities of the accountable manager providing that they can comply in full with the applicable elements of 145.A.30(a), but the 'maintenance engineer' should be the certifying person to retain the independence of the 'quality audit engineer' to carry out audits. Nothing prevents either engineer

from undertaking maintenance tasks providing that the 'maintenance engineer' issues the certificate of release to service.

4.3. The 'quality audit engineer' should have similar qualifications and status to the 'maintenance engineer' for reasons of credibility, unless he/she has a proven track-record in aircraft quality assurance, in which case some reduction in the extent of maintenance qualifications may be permitted.

4.4. In cases where the LYCAA agrees that it is not practical for the organization to nominate a post holder for the quality monitoring function, this function may be contracted in accordance to paragraph 3.1.1.

145.A.15 Application

(a) An application for maintenance organization approval or for the amendment of an existing maintenance organization approval shall be made in a form and manner prescribed by the LYCAA and submitted with the required number of copies of the maintenance organization's exposition or amendment thereto.

(b) Applicant for initial certificate shall provide the LYCAA with documentation demonstrating how they will comply with requirements established in this Regulation.

145.A.20 Terms of approval

The organization shall specify the scope of work deemed to constitute approval in its exposition (Appendix II to this Part 145 contains a table of all classes and ratings).

AMC TO 145.A.20 Terms of approval

The following table identifies the ATA specification 2200 chapter for the category C component rating. If the maintenance manual (or equivalent document) does not follow the ATA Chapters, the corresponding subjects still apply to the applicable C rating.

CLASS	RATING	ATA CHAPTERS
COMPONENTS OTHER THAN COMPLETE ENGINES OR APU	C1 Air Condition & Press	
	C2 Auto Flight	22
	C3 Comms and Nav	23 - 34
	C4 Doors - Hatches	52
	C5 Electrical Power & Light	24 – 33 - 85
	C6 Equipment	25 - 38 - 44 – 45 - 50
	C7 Engine – APU	49 - 71 - 72 - 73 - 74 - 75 - 76- 77 - 78 - 79 - 80 - 81 - 82 - 83
	C8 Flight Controls	27 - 55 - 57.40 - 57.50 -57.60 - 57.70
	C9 Fuel	28 - 47
	C10 Helicopters - Rotor	62 - 64 - 66 - 67
	C11 Helicopter - Trans	63 - 65
	C12 Hydraulic Power	29
	C13 Indicating/Recording Systems	31 – 42 - 46

	C14 Landing Gear	32
	C15 Oxygen	35
	C16 Propeller	61
	C17 Pneumatic & Vacuum	36-37
	C18 Protection ice/rain/fire	26-30
	C19 Windows	56
	C20 Structural	53 - 54 - 57.10 - 57.20 - 57.30
	C21 Water Ballast	41
	C22 Propulsion Augmentation	84

145.A.25 Facility requirements

The organization shall ensure that:

(a) Facilities are provided appropriate for all planned work, ensuring in particular, protection from the weather elements. Specialized workshops and bays are segregated as appropriate, to ensure that environmental and work area contamination is unlikely to occur.

1. For base maintenance of aircraft, aircraft hangars are both available and large enough to accommodate aircraft on planned base maintenance;

2. For component maintenance, component workshops are large enough to accommodate the components on planned maintenance.

(b) Office accommodation is provided for the management of the planned work referred to in point (a), and certifying staff so that they can carry out their designated tasks in a manner that contributes to good aircraft maintenance standards.

(c) The working environment including aircraft hangars, component workshops and office accommodation shall be appropriate for the task to be performed in particular, special requirements observed. Unless otherwise dictated by the particular task environment, the working environment must be such that the effectiveness of personnel is not impaired:

1. temperatures must be maintained such that personnel can carry out required tasks without undue discomfort.

2. dust and any other airborne contamination are kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident. Where dust/other airborne contamination results in visible surface contamination, all susceptible systems are sealed until acceptable conditions are re-established.

3. lighting is such as to ensure each inspection and maintenance task can be carried out in an effective manner.

4. noise shall not distract personnel from carrying out inspection tasks. Where it is impractical to control the noise source, such personnel are provided with the

necessary personal equipment to stop excessive noise causing distraction during inspection tasks.

5. where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions are observed. Specific conditions are identified in the maintenance data.

6. the working environment for line maintenance is such that the particular maintenance or inspection task can be carried out without undue distraction. Therefore, where the working environment deteriorates to an unacceptable level in respect of temperature, moisture, hail, ice, snow, wind, light, dust/other airborne contamination, the particular maintenance or inspection tasks must be suspended until satisfactory conditions are reestablished.

(d) Secure storage facilities are provided for components, equipment, tools and material. Storage conditions ensure segregation of serviceable components and material from unserviceable aircraft components, material, equipment and tools. The conditions of storage are in accordance with the manufacturer's instructions, provide adequate security and prevent deterioration of, and damage to, stored items such as parts, equipment, tools and material. Access to storage facilities is restricted to authorized personnel.

AMC TO 145.A.25(a) Facility requirements

1. Where the hangar is NOT owned by the organization, it may be necessary to establish proof of tenancy. In addition, sufficiency of hangar space to carry out planned base maintenance should be demonstrated by the preparation of a projected aircraft hangar visit plan relative to the maintenance program. The aircraft hangar visit plan should be updated on a regular basis.

2. Protection from the weather elements relates to the normal prevailing local weather elements that are expected throughout any twelve-month period. Aircraft hangar and component workshop structures should prevent the ingress of rain, hail, ice, snow, wind and dust, etc. Aircraft hangar and component workshop floors should be sealed to minimize dust generation.

3. For line maintenance of aircraft, hangars are not essential but it is recommended that access to hangar accommodation be demonstrated for usage during inclement weather for minor scheduled work and lengthy defect rectification.

4. Aircraft maintenance staff should be provided with an area where they may study maintenance instructions and complete maintenance records in a proper manner.

AMC TO 145.A.25(b) Facility requirements

It is acceptable to combine any or all of the office accommodation requirements into one office subject to the staff having sufficient room to carry out the assigned tasks.

In addition, as part of the office accommodation, aircraft maintenance staff should be provided with an area where they may study maintenance instructions and complete maintenance records in a proper manner.

AMC TO 145.A.25(d) Facility requirements

1. Storage facilities for serviceable aircraft components should be clean, well-ventilated and maintained at a constant dry temperature to minimize the effects of condensation. Manufacturer's storage recommendations should be followed for those aircraft components identified in such published recommendations.

2. Storage racks should be strong enough to hold aircraft components and provide sufficient support for large aircraft components such that the component is not distorted during storage.

3. All aircraft components, wherever practicable, should remain packaged in protective material to minimize damage and corrosion during storage.

145.A.30 Personnel requirements

(a) The maintenance organization shall nominate an accountable manager who, irrespective of other functions, is accountable on behalf of the organization, has corporate authority for ensuring that all maintenance required by the customer can be financed and carried out to the standard required by this Regulation.

The accountable manager shall:

1. ensure that all necessary resources are available to accomplish maintenance in accordance with requirement 145.A.65(b) to support the organization approval.

2. establish and promote the safety and quality policy specified in requirement 145.A.65 and the safety management system regulation.

3. demonstrate a basic understanding of this regulation.

(b) The organization's accountable manager shall nominate a person or group of persons whose responsibilities include ensuring that the maintenance organization is in compliance with this Part-145. Such person(s) shall ultimately be responsible to the accountable manager.

1. The person or persons nominated shall represent the maintenance management structure of the organization and be responsible for all functions specified in this regulation.

2. The person or persons nominated shall be identified and their credentials submitted in a form and manner established by LYCAA.

3. The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft or component maintenance and demonstrate a working knowledge of this regulation.

4. Procedures shall make clear who deputizes for any particular person in the case of lengthy absence of the said person.

(c) The accountable manager under point (a) shall appoint a person with responsibility for monitoring and checking compliance with the quality system, including the associated feedback system as required by requirement 145.A.65(c). The appointed person shall have direct access to the accountable manager to ensure that the accountable manager is kept properly informed on quality and compliance matters.

(d) The organization shall employ the necessary personnel to plan, perform, supervise, inspect and release the maintenance work to be performed. The organization shall have a maintenance man-hour plan showing that the organization has sufficient staff; monitored by the quality and safety management. In addition, the organization shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.

(e) The organization shall establish and control the competence of personnel involved in any maintenance, development of maintenance programs, management and/or quality audits in accordance with a procedure and to a standard agreed by the LYCAA. In addition to the necessary expertise related to the job function, competence must include an understanding of the application of human factors and human performance issues appropriate to that person's function in the organization. 'Human factors principles' means 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 of human performance. 'Human performance' means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

(f) The organization shall ensure that personnel who carry out and/or control a continued airworthiness non-destructive test of aircraft structures and/or components are appropriately qualified for the particular non-destructive test in accordance with a Standard recognized by the LYCAA. Personnel who carry out any other specialized task shall be appropriately qualified in accordance with officially recognized Standards. By derogation to this point, those personnel specified in below requirements (g) and (h)(1) and (h)(2), qualified in category B1 or B3 in accordance with Part- 66 may carry out and/or control color contrast dye penetrant tests.

(g) Any organization maintaining aircraft, except where stated otherwise in below requirement (j), shall in the case of aircraft line maintenance, have appropriate aircraft rated certifying staff qualified as category B1, B2, B3, as appropriate, in accordance with Part-66 and requirement 145.A.35.

In addition, such organizations may also use appropriately task trained certifying staff holding the privileges described in requirements Part-66 and qualified in accordance with Part-66 and requirement 145.A.35 to carry out minor scheduled line maintenance and

simple defect rectification. The availability of such certifying staff shall not replace the need for category B1, B2, B3 certifying staff, as appropriate.

(h) Any organization maintaining aircraft, except where stated otherwise in requirement (j) shall:

1. in the case of base maintenance of complex motor-powered aircraft, have appropriate aircraft type rated certifying staff qualified as category C in accordance with Part-66 and 145.A.35. In addition, the organization shall have sufficient aircraft type rated staff qualified as category B1 and B2 as appropriate in accordance with Part-66 and 145.A.35 to support the category C certifying staff.

    i. B1 and B2 support staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C certifying staff issues the certificate of release to service.

    ii. The organization shall maintain a register of any such B1 and B2 support staff.

    iii. The category C certifying staff shall ensure that compliance with above paragraph (i) has been met and that all work required by the customer has been accomplished during the particular base maintenance check or work package, and shall also assess the impact of any work not carried out with a view to either requiring its accomplishment or agreeing with the operator to defer such work to another specified check or time limit.

2. in the case of base maintenance of aircraft other than complex motor-powered aircraft, have either:

    i. appropriate aircraft rated certifying staff qualified as category B1, B2, B3, as appropriate, in accordance with Part-66 and requirement 145.A.35 or,

    ii. appropriate aircraft rated certifying staff qualified in category C assisted by support staff as specified in requirement 145.A.35(a)(i).

(i) Component certifying staff shall comply with Part-66 and 145.A.35.

(j) By derogation to requirements (g) and (h), the organization may use certifying staff qualified in accordance with the following provisions:

1. For organization facilities located outside Libya territory, certifying staff may be qualified in accordance with the national aviation regulations of the State in which the organization facility is registered subject to the conditions specified in Appendix IV to this Part-145.

2. For line maintenance carried out at a line station of an organization which is located outside Libya territory, the certifying staff may be qualified in accordance with the national aviation regulations of the State in which the line station is based, subject to the conditions specified in Appendix IV to this Part-145.

3. For a repetitive pre-flight airworthiness directive which specifically states that the flight crew may carry out such airworthiness directive, the organization may issue a limited certification authorization to the aircraft commander and/or the flight engineer on the basis of the flight crew license held. However, the organization shall ensure that sufficient practical training has been carried out to ensure that such aircraft commander or flight engineer can accomplish the airworthiness directive to the required standard.

4. In the case of aircraft operating away from a supported location, the organization may issue a limited certification authorization to the commander and/or the flight engineer on the basis of the flight crew license held subject to being satisfied that sufficient practical training has been carried out to ensure that the commander or flight engineer can accomplish the specified task to the required standard. The provisions of this point shall be detailed in an exposition procedure.

5. In the following unforeseen cases, where an aircraft is grounded at a location other than the main base where no appropriate certifying staff are available, the organization contracted to provide maintenance support may issue a one-off certification authorization:

    i. to one of its employees holding equivalent type authorizations on aircraft of similar technology, construction and systems; or

    ii. to any person with not less than five years maintenance experience and holding a valid ICAO aircraft maintenance license rated for the aircraft type requiring certification provided there is no organization appropriately approved under this Part at that location and the contracted organization obtains and holds on file evidence of the experience and the license of that person. When maintenance is carried out by an LYCAA non-approved maintenance organization, the maintenance release shall be completed and signed by a person appropriately licensed in accordance with ICAO Annex 1 and 5 (i) to certify that the maintenance work performed has been completed satisfactory and in accordance with approved data and procedures acceptable to the LYCAA.

    All such cases as specified in this point must be reported to the LYCAA within seven (07) days after issuing such certification authorization. The organization issuing the one-off authorization shall ensure that any such maintenance that could affect flight safety is rechecked by an appropriately approved organization.

(k) The maintenance organization shall ensure that all maintenance personnel receive initial and continuation training appropriate to their assigned tasks and responsibilities. The training program established by the maintenance organization shall include training in knowledge and skills related to human performance, including coordination with other maintenance personnel and flight crew.

AMC TO 145.A.30(a) Personnel requirements

With regard to the accountable manager, it is normally intended to mean the chief executive officer of the approved maintenance organization, who by virtue of position has overall (including in particular financial) responsibility for running the organization. The accountable manager may be the accountable manager for more than one organization and is not required to be necessarily knowledgeable on technical matters as the maintenance organization exposition defines the maintenance standards. When the accountable manager is not the chief executive officer, the LYCAA will need to be assured that such an accountable manager has direct access to chief executive officer and has a sufficiency of 'maintenance funding' allocation.

AMC TO 145.A.30(b) Personnel requirements

1. Dependent upon the size of the organization, the Part-145 functions may be subdivided under individual managers or combined in any number of ways.

2. The organization should have, dependent upon the extent of approval, a base maintenance manager, a line maintenance manager, a workshop manager, a quality manager and a safety manager, all of whom should report to the accountable manager, except in small Part-145 organization where any one manager may also be the accountable manager, as determined by the LYCAA, he/she may also be the line maintenance manager or the workshop manager.

3. The base maintenance manager is responsible for ensuring that all maintenance required to be carried out in the hangar, plus any defect rectification carried out during base maintenance, is carried out to the design and quality standards specified in 145.A.65(b). The base maintenance manager is also responsible for any corrective action resulting from the quality compliance monitoring of 145.A.65(c).

4. The line maintenance manager is responsible for ensuring that all maintenance required to be carried out on the line including line defect rectification is carried out to the standards specified in 145.A.65(b) and also responsible for any corrective action resulting from the quality compliance monitoring of 145.A.65(c).

5. The workshop manager is responsible for ensuring that all work on aircraft components is carried out to the standards specified in 145.A.65(b) and also responsible for any corrective action resulting from the quality compliance monitoring of 145.A.65(c).

6. The quality manager and safety manager responsibilities are specified respectively in 145.A.30(c) and AMC to 145.A.30(c)5.

7. Notwithstanding the example sub-paragraphs 2 to 6 titles, the organization may adopt any title for the foregoing managerial positions but should identify to the LYCAA the titles and persons chosen to carry out these functions.

8. Where an organization chooses to appoint managers for all or any combination of the identified Part-145 functions because of the size of the undertaking, it is necessary that these managers report ultimately through either the base maintenance manager or line

maintenance manager or workshop manager or quality manager, as appropriate, to the accountable manager.

Note:

Certifying staff may report to any of the managers specified depending upon which type of control the approved maintenance organization uses (for example licensed engineers/independent inspection/dual function supervisors, etc.) so long as the quality compliance monitoring staff specified in 145.A.65(c)(1) remain independent.

AMC TO 145.A.30(c) Personnel requirements

1. Monitoring the quality system includes requesting remedial action as necessary by the accountable manager and the nominated persons referred to in 145.A.30(b).

2. The role of the quality manager is to ensure that the activities of the organization are monitored for compliance with the applicable regulatory requirements, and any additional requirements as established by the organization, and that these activities are being carried out properly under the supervision of the nominated persons referred to in 145.A.30 (b).

3. The quality manager should be responsible for ensuring that the quality program is properly implemented, maintained, and continually reviewed and improved.

   The quality manager should:

   (a) have direct access to the accountable manager;

   (b) be able to demonstrate relevant knowledge, background and appropriate experience related to the activities of the organization, including knowledge and experience in quality system; and

   (c) have access to all parts of the organization, and as necessary, any subcontracted organization.

4. In the case of a non-complex organization, this task may be exercised by the accountable manager provided he/she has demonstrated having the related competence as defined in point 3(c).

5. The safety manager is responsible for the development, administration, and maintenance of effective safety management processes as part of the management system in accordance with 145.A.65.

6. In the case the same person acts as quality manager and as safety manager, the accountable manager, with regard to his/her direct accountability for safety, should ensure that sufficient resources are allocated to both functions, taking into account the size of the organization, and the nature and complexity of its activities.

AMC TO 145.A.30(d) Personnel requirements

1. 'Has sufficient staff' means that the organization employs or contracts competent staff, as detailed in the man-hour plan, of which at least half the staff that perform maintenance in each workshop, hangar or flight line on any shift should be employed to ensure organizational stability.

   For the purpose of meeting a specific operational necessity, a temporary increase of the proportion of contracted staff may be permitted to the organization by the LYCAA, in accordance with an approved procedure which should describe the extent, specific duties, and responsibilities for ensuring adequate organization stability.

   For the purpose of this subparagraph, employed means the person is directly employed as an individual by the maintenance organization approved under Part-145, whereas contracted means the person is employed by another organization and contracted by that organization to the maintenance organization approved under Part-145.

2. The maintenance man-hour plan should take into account all maintenance activities carried out outside the scope of the Part-145 approval. The planned absence (for training, vacations, etc.) should be considered when developing the man-hour plan.

3. The maintenance man-hour plan should relate to the anticipated maintenance work load, except that when the organization cannot predict such workload, due to the short-term nature of its contracts, then such plan should be based upon the minimum maintenance workload needed for commercial viability. Maintenance work load includes all necessary work such as, but not limited to, planning, maintenance record checks, production of worksheets/cards in paper or electronic form, accomplishment of maintenance, inspection and the completion of maintenance records.

4. In the case of aircraft base maintenance, the maintenance man-hour plan should relate to the aircraft hangar visit plan as specified in AMC to 145.A.25(a).

5. In the case of aircraft component maintenance, the maintenance man-hour plan should relate to the aircraft component planned maintenance as specified in 145.A.25(a)(2).

6. The quality monitoring compliance function man-hours should be sufficient to meet the requirement of 145.A.65(c) which means taking into account AMC to 145.A.65(c). Where quality monitoring staff perform other functions, the time allocated to such functions needs to be taken into account in determining quality monitoring staff numbers.

7. The maintenance man-hour plan should be reviewed at least every three (3) months and updated when necessary.

8. Significant deviation from the maintenance man-hour plan should be reported through the departmental manager to the quality manager, the safety manager and the accountable manager for review. Significant deviation means more than a 25% shortfall in available man-hours during a calendar month for any one of the functions specified in 145.A.30(d).

AMC1 TO 145.A.30(e) Personnel requirements

Competence should be defined as a measurable skill or standard of performance, knowledge and understanding, taking into consideration attitude and behavior.

The referenced procedure requires amongst others that planners, mechanics, specialized services staff, supervisors, certifying staff and support staff, whether employed or contracted, are assessed for competence before unsupervised work commences and competence is controlled on a continuous basis.

Competence should be assessed by evaluation of:

- on-the-job performance and/or testing of knowledge by appropriately qualified personnel, and,
- records for basic, organizational, and/or product type and differences training, and,
- experience records.

Validation of the above could include a confirmation check with the organization(s) that issued such document(s). For that purpose, experience/training may be recorded in a document such as a log book.

As a result of this assessment, an individual's qualification should determine:

- which level of ongoing supervision would be required or whether unsupervised work could be permitted.
- whether there is a need for additional training.

A record of such qualification and competence assessment should be kept.

This should include copies of all documents that attest to qualification, such as the license and/or any authorization held, as applicable.

For a proper competence assessment of its personnel, the organization should consider that:

1. In accordance with the job function, adequate initial and recurrent training should be provided and recorded to ensure continued competence so that it is maintained throughout the duration of employment/contract.

2. All staff should be able to demonstrate knowledge of and compliance with the maintenance organization procedures, as applicable to their duties.

3. All staff should be able to demonstrate an understanding of human factors and human performance issues in relation with their job function and be trained as per AMC-2 145.A.30(e).

4. To assist in the assessment of competence and to establish the training needs analysis, job descriptions are recommended for each job function in the organization. Job descriptions should contain sufficient criteria to enable the required competence assessment.

5. Criteria should allow the assessment to establish that, among others (titles might be different in each organization):

- Managers are able to properly manage the work output, processes, resources and priorities described in their assigned duties and responsibilities in a safe compliant manner in accordance with regulations and organization procedures.
- Planners are able to interpret maintenance requirements into maintenance tasks, and have an understanding that they have no authority to deviate from the maintenance data.
- Supervisors are able to ensure that all required maintenance tasks are carried out and, where not completed or where it is evident that a particular maintenance task cannot be carried out to the maintenance data, then such problems will be reported to the 145.A.30(c) person for appropriate action. In addition, for those supervisors, who also carry out maintenance tasks, that they understand such tasks should not be undertaken when incompatible with their management responsibilities.
- Mechanics are able to carry out maintenance tasks to any standard specified in the maintenance data and will notify supervisors of defects or mistakes requiring rectification to re-establish required maintenance standards.
- Specialized services staff are able to carry out specialized maintenance tasks to the standard specified in the maintenance data. They should be able to communicate with supervisors and report accurately when necessary.
- Support staff are able to determine that relevant tasks or inspections have been carried out to the required standard.
- Certifying staff are able to determine when the aircraft or aircraft component is ready to release to service and when it should not be released to service.
- Quality staff are able to monitor compliance with Part-145 identifying noncompliance in an effective and timely manner so that the organization may remain in compliance with Part-145.
- Staff having designated safety management responsibilities are familiar with the relevant processes in terms of hazard identification, risk management, and monitoring of safety performance.
- All staff are familiar with the safety policy and the procedures and tools that can be used for internal safety reporting.

Competence assessment should be based upon the procedure specified in GM5 to 145.A.30(e).

AMC2 TO 145.A.30(e) Personnel requirements

Human factors with respect to the understanding of the application of human factors and human performance issues, all maintenance organization personnel should have received an initial and continuation human factors training. This should concern to a minimum:

- Post-holders, managers, supervisors;
- Certifying staff, support staff and mechanics;
- Technical support personnel such as planners, engineers, technical record staff;
- Quality & Safety staff;
- Specialized services staff;
- Human factors staff/human factors trainers;
- Store department staff, purchasing department staff;
- Ground equipment operators.

1. Initial human factors training should cover all the topics of the training syllabus specified in GM1 145.A.30(e) either as a dedicated course or else integrated within other training. The syllabus may be adjusted to reflect the particular nature of the organization. The syllabus may also be adjusted to meet the particular nature of work for each function within the organization. For example:

   - small organizations not working in shifts may cover in less depth subjects related to teamwork and communication;
   - planners may cover in more depth the scheduling and planning objective of the syllabus and in less depth the objective of developing skills for shift working.

   All personnel, including personnel being recruited from any other organization should receive initial human factors training compliant with the organization's training standards prior to commencing actual job function, unless their competence assessment justifies that there is no need for such training. Newly directly employed personnel working under direct supervision may receive training within six (6) months after joining the maintenance organization.

2. The purpose of human factors continuation training is primarily to ensure that staff remain current in terms of human factors and also to collect feedback on human factors issues. Consideration should be given to the possibility that such training has the involvement of the quality department. There should be a procedure to ensure that feedback is formally passed from the trainers to the quality department to initiate action where necessary.

   Human factors continuation training should be of an appropriate duration in each One-year period in relation to relevant quality audit findings and other internal/external sources of information on human errors in maintenance available to the organization.

3. Human factors training may be conducted by the maintenance organization itself, or independent trainers, or any training organizations acceptable to the LYCAA.

4. The human factors training procedures should be specified in the maintenance organization exposition.

AMC3 TO 145.A.30(e) Personnel requirements

CDCCL Training

Additional training in fuel tank safety as well as associated inspection standards and maintenance procedures should be required for maintenance organization's technical personnel, especially technical personnel involved in the compliance of CDCCL tasks.

AMC4 TO 145.A.30(e) Personnel requirements

EWIS Training

Competence assessment should include the verification for the need of additional EWIS training when relevant.

AMC5 TO 145.A.30(e) Personnel requirements

Training - Personnel involved in quality system / compliance monitoring

1. Correct and thorough training is essential to optimize compliance in every organization. In order to achieve significant outcomes of such training, the organization should ensure that all personnel understand the objectives as laid down in the organization's management system documentation.

2. Those responsible for managing the compliance monitoring function should receive training on this task. Such training should cover the requirements of compliance monitoring, manuals and procedures related to the task, audit techniques, reporting, and recording.

3. Time should be provided to train all personnel involved in compliance management and for briefing the remainder of the personnel. The allocation of time and resources should be governed by the volume and complexity of the activities concerned.

AMC6 TO 145.A.30(e) Personnel requirements

Safety training

1. All personnel should receive safety training as appropriate for their safety management related responsibilities. Such training could be classroom-based or computer-based training. Adequate records of all safety training provided should be kept.

2. Safety training should be delivered by the safety manager or a competent trainer and may be conducted by the maintenance organization itself, or independent trainers, or any training organizations acceptable to the LYCAA.

GM1 TO 145.A.30(e) Personnel requirements

Training syllabus for initial human factors training

The training syllabus below identifies the topics and subtopics to be addressed during the human factors training.

The maintenance organization may combine, divide, change the order of any subject of the syllabus to suit its own needs, as long as all subjects are covered to a level of detail appropriate to the organization and its personnel.

Some of the topics may be covered in separate training (health and safety, management, supervisory skills, etc.) in which case duplication of training is not necessary.

Where possible, practical illustrations and examples should be used, especially accident and incident reports.

Topics should be related to existing legislation, where relevant. Topics should be related to existing guidance/advisory material, where relevant (e.g., ICAO HF Digests and Training Manual). Topics should be related to maintenance engineering where possible; too much unrelated theory should be avoided.

1. General/Introduction to human factors
   1.1. Need to address human factors
   1.2. Statistics
   1.3. Incidents
2. Safety Culture/Organizational factors
3. Human Error
   3.1. Error models and theories
   3.2. Types of errors in maintenance tasks
   3.3. Violations
   3.4. Implications of errors
   3.5. Avoiding and managing errors
   3.6. Human reliability
4. Human performance & limitations
   4.1. Vision
   4.2. Hearing
   4.3. Information-processing
   4.4. Attention and perception
   4.5. Situational awareness
   4.6. Memory
   4.7. Claustrophobia and physical access
   4.8. Motivation
   4.9. Fitness/Health
   4.10. Stress
   4.11. Workload management
   4.12. Fatigue
   4.13. Alcohol, medication, drugs

- 4.14. Physical work
- 4.15. Repetitive tasks/complacency

5. Environment
   - 5.1. Peer pressure
   - 5.2. Stressors
   - 5.3. Time pressure and deadlines
   - 5.4. Workload
   - 5.5. Shift Work
   - 5.6. Noise and fumes
   - 5.7. Illumination
   - 5.8. Climate and temperature
   - 5.9. Motion and vibration
   - 5.10. Complex systems
   - 5.11. Hazards in the workplace
   - 5.12. Lack of manpower
   - 5.13. Distractions and interruptions
6. Procedures, information, tools and practices
   - 6.1. Visual Inspection
   - 6.2. Work logging and recording
   - 6.3. Procedure - practice/mismatch/norms
   - 6.4. Technical documentation - access and quality
   - 6.5. Critical maintenance tasks and error-capturing methods (independent inspection, re-inspection, etc.)
7. Communication
   - 7.1. Shift/Task handover
   - 7.2. Dissemination of information
   - 7.3. Cultural differences
8. Teamwork
   - 8.1. Responsibility
   - 8.2. Management, supervision and leadership
   - 8.3. Decision making
9. Professionalism and integrity
   - 9.1. Keeping up to date; currency
   - 9.2. Error provoking behavior
   - 9.3. Assertiveness
10. Organization’s HF program
    - 10.1. Safety risk assessment
    - 10.2. Confidential internal reporting scheme
    - 10.3. Reporting of errors and hazards
    - 10.4. Safety policy as related to non-punitive reporting and just culture
    - 10.5. Occurrence investigation process
    - 10.6. Action to address problems
    - 10.7. Feedback

GM2 TO 145.A.30(e) Personnel requirements

Human factors trainer

A competent Human Factors trainer should meet the following criteria:

1. attended training that is at least equivalent to the LYCAA Part-145 Maintenance Human Factors Initial training syllabus defined in GM1 to 145.A.30(e);
2. received instruction in training techniques, and training development compatible with the skills to influence attitudes and behaviors;
3. has worked for a minimum of three years within the aviation industry, or possesses a suitable academic background;
4. has an appropriate level of understanding of Human Factors in the maintenance environment in relation to the organization's HF program (module 10 of GM1 to 145.A.30(e)).

GM3 TO 145.A.30(e) PERSONNEL REQUIREMENTS

Definitions

1. 'Human factors' is anything that affects human performance which means 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 of human performance.
2. 'Human performance' means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

GM4 TO 145.A.30(e) Personnel requirements

Safety training

1. The scope of safety training and related training program will differ significantly depending on the size and complexity of the organization. Safety training should reflect the evolving management system, and the changing roles of the personnel who makes it work.
2. In recognition of this, training should be provided to management and staff at least:
   (a) during the initial implementation of safety management processes;
   (b) for all new staff or personnel recently appointed for any safety management related task;
   (c) on a regular basis to refresh their knowledge and to understand changes to the management system;
   (d) when changing roles which affects their safety management roles and responsibilities; and
   (e) when performing specialist safety roles, such as: safety manager, safety investigator, focal point for Emergency Response Planning, and Safety Auditor.

GM5 TO 145.A.30(e) Personnel requirements

Competence assessment procedure

The organization should develop a procedure describing the process of competence assessment of personnel. The procedure should specify:

- persons responsible for this process,
- when the assessment should take place,
- credits from previous assessments,
- validation of qualification records,
- means and methods for the initial assessment,
- means and methods for the continuous control of competence including feedback on personnel performance,
- competences to be observed during the assessment in relation with each job function,
- actions to be taken when assessment is not satisfactory,
- recording of assessment results.

For example, according to the job functions and the scope, size and complexity of the organization, the assessment may consider the following (the table is not exhaustive):

	Managers	Planners	Supervisor	Certifying Staff and Support Staff	Mechanics	Specialized service Staff	Quality Staff	Safety Staff
Knowledge of applicable officially recognized standards						X	X	X
Ability to understand and perform Root Causes Analysis and Safety Risk Assessment	X		X				X	X
Knowledge of auditing techniques: planning, conducting and reporting							X	X
Knowledge of human factors, human performance, limitations and fatigue	X	X	X	X	X	X	X	XX
Knowledge of logistics processes	X	X	X					
Knowledge of organization capabilities, privileges and limitations	X	X	X	X		X	X	X
Knowledge of Part-M, Part-145 and any other relevant regulations	X	X	X	X			X	X
Knowledge of relevant parts of the maintenance organization exposition and procedures	X	X	X	X	X	X	X	X
Knowledge of occurrence reporting system and understanding of the importance of reporting occurrences, incorrect maintenance data and existing or potential defects		X	X	X	X	X		X
Knowledge of safety risks linked to the working environment	X	X	X	X	X	X	X	X
Knowledge of Safety Management Systems and Just Culture	X	X	X	X	X	X	X	X
Knowledge on CDCCL when relevant	X	X	X	X	X	X	X	
Knowledge on EWIS when relevant	X	X	X	X	X	X	X	
Understanding of professional integrity, behavior and attitude towards safety	X	X	X	X	X	X	X	X
Understanding of conditions for ensuring continuing airworthiness of aircraft and components				X			X	
Understanding of his/her own human performance and limitations	X	X	X	X	X	X	X	
Understanding of personnel authorizations and limitations	X	X	X	X	X	X	X	
Understanding critical task		X	X	X	X		X	X

	Managers	Planners	Supervisor	Certifying Staff and Support Staff	Mechanics	Specialized service Staff	Quality Staff	Safety Staff
Ability to compile and control completed work cards		X	X	X				
Ability to consider human factor, human performance, limitation and fatigue	X	X	X	X			X	X
Ability to determine required qualifications for task performance		X	X	X				
Ability to identify and rectify existing and potential unsafe conditions			X	X	X	X	X	X
Ability to manage third parties involved in maintenance activity		X	X					
Ability to confirm proper accomplishment of maintenance tasks			X	X	X	X		
Ability to identify and properly plan performance of critical task		X	X	X				
Ability to prioritize tasks and report discrepancies		X	X	X	X			
Ability to process the work requested by the operator		X	X	X				
Ability to promote the safety and quality policy	X		X				X	X
Ability to properly process removed, uninstalled and rejected parts			X	X	X	X		
Ability to properly record and sign for work accomplished			X	X	X	X		
Ability to recognize the acceptability of parts to be installed prior to fitment				X	X			
Ability to split complex maintenance tasks into clear stages		X						
Ability to understand work orders, work cards and refer to and use applicable maintenance data		X	X	X	X	X	X	
Ability to use information systems	X	X	X	X	X	X	X	X
Ability to use, control and be familiar with required tooling and/or equipment			X	X	X	X		
Adequate communication and literacy skills	X	X	X	X	X	X	X	X

	Managers	Planners	Supervisor	Certifying Staff and Support Staff	Mechanics	Specialized service Staff	Quality Staff	Safety Staff
Analytical and proven auditing skills (for example, objectivity, fairness, open-mindedness, determination, …)							X	X
Maintenance error investigation skills							X	X
Resources management and production planning skills	X	X	X					
Teamwork, decision-making and leadership skills	X		X				X	X
Ability to encourage a positive safety culture and apply a just culture	X		X				X	X
Knowledge of Emergency Response Plan	X	X	X	X	X	X	X	X
Knowledge of Emergency Response Plan	X		X	X			X	X

AMC TO 145.A.30(f) Personnel requirements

1. Continued airworthiness non-destructive testing means such testing specified by the type certificate holder /aircraft or engine or propeller manufacturer in accordance with the maintenance data as specified in 145.A.45 for in service aircraft/aircraft components for the purpose of determining the continued fitness of the product to operate safely.
2. Appropriately qualified means to Level 1, 2 or 3 as defined by the European Standard EN 4179 dependent upon the non-destructive testing function to be carried out.
3. Notwithstanding the fact that Level 3 personnel may be qualified via EN 4179 to establish and authorize methods, techniques, etc., this does not permit such personnel to deviate from methods and techniques published by the type certificate holder/manufacturer in the form of continued airworthiness data, such as in non-destructive test manuals or service bulletins, unless the manual or service bulletin expressly permits such deviation.
4. Particular non-destructive test means any one or more of the following: Dye penetrant, magnetic particle, eddy current, ultrasonic and radiographic methods including X ray and gamma ray.
5. It should be noted that new methods are and will be developed, such as, but not limited to thermography and shearography, which are not specifically addressed by EN 4179. Until the time this agreed standard is established, such methods should be carried out in accordance with the particular equipment manufacturer's recommendations including any training and examination process to ensure competence of the personnel in the process.

6. Any maintenance organization approved under Part-145 that carries out NDT should establish NDT specialist qualification procedures detailed in the exposition and accepted by the LYCAA.
7. Boroscoping and other techniques such as delamination coin tapping are non-destructive inspections rather than non-destructive testing. Notwithstanding such differentiation, the maintenance organization should establish an exposition procedure accepted by the LYCAA to ensure that personnel who carry out and interpret such inspections are properly trained and assessed for their competence in the process. Non-destructive inspections, not being considered as NDT by Part-145 are not listed in Appendix II under class rating D1.
8. The referenced standards, methods, training and procedures should be specified in the maintenance organization exposition.
9. Any such personnel who intend to carry out and/or control a non-destructive test for which they were not qualified prior to the effective date of Part-145 should qualify for such nondestructive test in accordance with EN 4179, MIL-STD-410E, ATA Specification 105, or any other standard acceptable to the LYCAA.
10. In this context, officially recognized standard means those standards established or published by an official body whether having legal personality or not, which are widely recognized by the air transport sector as constituting good practice.

AMC TO 145.A.30(g) Personnel requirements

1. For the purposes of Part--66 Category A and Category B2 personnel, minor scheduled line maintenance means any minor scheduled inspection/check up to and including a weekly check specified in the aircraft maintenance program. For aircraft maintenance programs that do not specify a weekly check, the LYCAA will determine the most significant check that is considered equivalent to a weekly check.
2. Typical tasks permitted after appropriate task training to be carried out by the Part-66 Category A and Category B2 personnel for the purpose of these personnel issuing an aircraft certificate of release to service as specified in 145.A.50 as part of minor scheduled line maintenance or simple defect rectification are contained in the following list:
    (a) Replacement of wheel assemblies.
    (b) Replacement of wheel brake units.
    (c) Replacement of emergency equipment.
    (d) Replacement of ovens, boilers and beverage makers.
    (e) Replacement of internal and external lights, filaments and flash tubes.
    (f) Replacement of windscreen wiper blades.
    (g) Replacement of passenger and cabin crew seats, seat belts and harnesses.
    (h) Closing of cowlings and re-fitment of quick access inspection panels.
    (i) Replacement of toilet system components but excluding gate valves.
    (j) Simple repairs and replacement of internal compartment doors and placards but excluding doors forming part of a pressure structure.

(k) Simple repairs and replacement of overhead storage compartment doors and cabin furnishing items.

(l) Replacement of static wicks.

(m) Replacement of aircraft main and APU aircraft batteries.

(n) Replacement of in-flight entertainment system components other than public address.

(o) Routine lubrication and replenishment of all system fluids and gases.

(p) The de-activation only of sub-systems and aircraft components as permitted by the operator's minimum equipment list where such de-activation is agreed by the LYCAA as a simple task.

(q) Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers or the use of special tools.

(r) Any other task agreed by the LYCAA as a simple task for a particular aircraft type. This may include defect deferment when all the following conditions are met:

- There is no need for troubleshooting; and
- The task is in the MEL; and
- The maintenance action required by the MEL is agreed by the LYCAA to be simple.

In the particular case of helicopters, and in addition to the items above, the following:

(s) removal and installation of Helicopter Emergency Medical Service (HEMS) simple internal medical equipment.

(t) removal and installation of external cargo provisions (i.e., external hook, mirrors) other than the hoist.

(u) removal and installation of quick release external cameras and search lights.

(v) removal and installation of emergency float bags, not including the bottles.

(w) removal and installation of external doors fitted with quick release attachments.

(x) removal and installation of snow pads/skid wear shoes/slump protection pads.

No task which requires troubleshooting should be part of the authorized maintenance actions. Release to service after rectification of deferred defects should be permitted as long as the task is listed above.

3. The requirement of having appropriate aircraft rated certifying staff qualified as category B1, B2, B3, as appropriate, in the case of aircraft line maintenance does not imply that the organization must have B1, B2 and B3 personnel at every line station. The MOE should have a procedure on how to deal with defects requiring B1, B2 or B3 certifying staff.

4. The LYCAA may accept that in the case of aircraft line maintenance, an organization has only B1, B2 or B3 certifying staff, as appropriate, provided that the LYCAA is satisfied that the scope of work, as defined in the Maintenance Organization Exposition, does not need the availability of all B1, B2 and B3 certifying staff. Special attention should be taken to

clearly limit the scope of scheduled and non-scheduled line maintenance (defect rectification) to only those tasks that can be certified by the available certifying staff category.

AMC TO 145.A.30(h) Personnel requirements

In accordance with 145.A.30(h) and 145.A.35, the qualification requirements (basic license, aircraft ratings, recent experience and continuation training) are identical for certifying staff and for support staff. The only difference is that support staff cannot hold certification privileges when performing this role since during base maintenance the release to service will be issued by category C certifying staff.

Nevertheless, the organization may use as support staff (for base maintenance) persons who already hold certification privileges for line maintenance.

AMC TO 145.A.30(j)(4) Personnel requirements

1. For the issue of a limited certification authorization:

   (a) the commander should hold either an air transport pilots license (ATPL), or a commercial pilots license (CPL).

   (b) The flight engineer should hold either an ATPL, CPL or a national flight engineer license acceptable to the LYCAA on the aircraft type.

   In addition, the limited certification authorization is subject to the maintenance organization exposition containing procedures to address the personnel requirements of 145.A.30(e) and associated AMC and guidance material.

   The procedures should be accepted by the LYCAA and should include as a minimum:

   (a) Completion of adequate maintenance airworthiness regulation training.

   (b) Completion of adequate task training for the specific task on the aircraft. The task training should be of sufficient duration to ensure that the individual has a thorough understanding of the task to be completed and will involve training in the use of associated maintenance data.

   (c) Completion of the procedural training as specified in Part-145.

2.

(i) Typical tasks that may be certified and/or carried out by the commander holding an ATPL or CPL are minor maintenance or simple checks included in the following list:

   (a) Replacement of internal lights, filaments and flash tubes.

   (b) Closing of cowlings and re-fitment of quick access inspection panels.

   (c) Role changes e.g., stretcher fit, dual controls, FLIR, doors, photographic equipment, etc.

(d) Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools.

(e) Any check/replacement involving simple techniques consistent with this AMC and as agreed by the LYCAA.

(ii) Holders of flight engineer license acceptable to the LYCAA on the aircraft type, may only exercise this limited certification authorization privilege when performing the duties of a flight engineer.

In addition to paragraph 2(i)(a) to (e) other typical minor maintenance or simple defect rectification tasks that may be carried out are included in the following list:

(a) Replacement of wheel assemblies.

(b) Replacement of simple emergency equipment that is easily accessible.

(c) Replacement of ovens, boilers and beverage makers.

(d) Replacement of external lights.

(e) Replacement of passenger and cabin crew seats, seat belts and harnesses.

(f) Simple replacement of overhead storage compartment doors and cabin furnishing items.

(g) Replacement of static wicks.

(h) Replacement of aircraft main and APU aircraft batteries.

(i) Replacement of in-flight entertainment system components other than public address.

(j) The de-activation only of sub-systems and aircraft components as permitted by the operator's minimum equipment list where such de-activation is agreed by the LYCAA as a simple task.

(k) Re-setting of tripped circuit breakers under the guidance of maintenance control.

(l) Any other task agreed by the LYCAA as a simple task for a particular aircraft type.

3. The validity of the authorization should have a finite life of twelve (12) months subject to satisfactory recurrent training on the applicable aircraft type.

GM TO 145.A.30(j)(4) Personnel requirements (flight crew)

For the holder of a flight engineer license acceptable to the LYCAA, FCL regulation details the following subjects:

Familiarization with basic maintenance procedures, to give additional technical background knowledge, especially with respect to the implication of systems malfunctions, and to train the applicant in maintenance related to the Minimum equipment list (MEL).

The theoretical knowledge instruction consists of 100 hours and includes the following elements:

1. Airframe and systems
2. Electrics
3. Power-plant and emergency equipment
4. Flight instruments and automatic flight control systems

Practical skills training provided by an organization approved under Part-145 is given which includes thirty-five (35) hours practical experience in the following subjects:

- Fuselage and flight controls,
- Engines,
- Instruments,
- Landing gear and brakes,
- Cabin/cockpit/emergency equipment,
- De-icing/anti-icing related maintenance activities;
- Ground handling and servicing,
- Certificate of completion.

Following successful completion of the technical training, the training organization carrying out the theoretical knowledge instruction and/or the practical skill training should provide the applicant with a certificate of satisfactory completion of the course, or part thereof.

AMC TO 145.A.30(j)(5 Personnel requirements

1. For the purposes of this sub-paragraph ‘unforeseen’ means that the aircraft grounding could not reasonably have been predicted by the operator because the defect was unexpected due to being part of a hitherto reliable system.

2. A one-off authorization should only be considered for issue by the quality department of the contracted organization after it has made a reasoned judgment that such a requirement is appropriate under the circumstances and at the same time maintaining the required airworthiness standards. The organization’s quality department will need to assess each situation individually prior to the issuance of a one-off authorization.

3. A one-off authorization should not be issued where the level of certification required could exceed the knowledge and experience level of the person it is issued to. In all cases, due consideration should be given to the complexity of the work involved and the availability of required tooling and/or test equipment needed to complete the work.

AMC TO 145.A.30(j)(5)(i) Personnel requirements

In those situations, where the requirement for a one-off authorization to issue a CRS for a task on an aircraft type for which certifying staff does not hold a type-rated authorization has been identified, the following procedure is recommended:

1. Flight crew should communicate full details of the defect to the operator's supporting maintenance organization. If necessary, the supporting maintenance organization will then request the use of a one-off authorization from the quality department.

2. When issuing a one-off authorization, the quality department of the organization should verify that:

   (a) Full technical details relating to the work required to be carried out have been established and passed on to the certifying staff.

   (b) The organization has an approved procedure in place for coordinating and controlling the total maintenance activity undertaken at the location under the authority of the one-off authorization.

   (c) The person to whom a one-off authorization is issued has been provided with all the necessary information and guidance relating to maintenance data and any special technical instructions associated with the specific task undertaken. A detailed step by step worksheet has been defined by the organization, communicated to the one-off authorization holder.

   (d) The person holds authorizations of equivalent level and scope on other aircraft type of similar technology, construction and systems.

3. The one-off authorization holder should sign off the detailed step by step worksheet when completing the work steps. The completed tasks should be verified by visual examination and/or normal system operation upon return to an appropriately approved Part-145 maintenance facility.

AMC TO 145.A.30(j)(5)(ii) Personnel requirements

This paragraph addresses staff not employed by the maintenance organization who meet the requirements of 145.A.30(j)(5). In addition to the items listed in AMC to 145.A.30(j)(5)(i), paragraph 1, 2(a), (b) and (c) and 3 the quality department of the organization may issue such one-off authorization providing full qualification details relating to the proposed certifying personnel are verified by the quality department and made available at the location.

145.A.35 Certifying staff and support staff

(a) In addition to the appropriate requirements of requirements 145.A.30(g) & (h), the organization shall ensure that certifying staff and support staff have an adequate understanding of the relevant aircraft and/or components to be maintained together with the associated organization procedures. In the case of certifying staff, this shall be accomplished before the issue or re-issue of the certification authorization.

1. 'Support staff' means those staff holding an aircraft maintenance license under Part-66 in category B1, B2 and/or B3 with the appropriate aircraft ratings, working in a base maintenance environment while not necessarily holding certification privileges.

2. 'Relevant aircraft and/or components', means those aircraft or components specified in the particular certification authorization.

3. 'Certification authorization' means the authorization issued to certifying staff by the organization and which specifies the fact that they may sign certificates of release to service within the limitations stated in such authorization on behalf of the approved organization.

(b) Excepting those cases listed in requirements 145.A.30(j) and Part-66, the organization may only issue a certification authorization to certifying staff in relation to the basic categories or subcategories and any type rating listed on the aircraft maintenance license as required by Part-66, subject to the license remaining valid throughout the validity period of the authorization and the certifying staff remaining in compliance with Part-66.

(c) The organization shall ensure that all certifying staff and support staff are involved in at least six (6) months of actual relevant aircraft or component maintenance experience in any consecutive two (2) year period.

For the purpose of this point, 'involved in actual relevant aircraft or component maintenance' means that the person has worked in an aircraft or component maintenance environment and has either exercised the privileges of the certification authorization and/or has actually carried out maintenance on at least some of the aircraft type or aircraft group systems specified in the particular certification authorization.

(d) The organization shall ensure that all certifying staff and support staff receive sufficient continuation training in each two (2) year period to ensure that such staff have up-to-date knowledge of relevant technology, organization procedures and human factor issues.

(e) The organization shall establish a program for initial and continuation training for certifying staff and support staff, including a procedure to ensure compliance with the relevant requirements of 145.A.35 as the basis for issuing certification authorizations under this Part to certifying staff, and a procedure to ensure compliance with Part- 66.

(f) Except where any of the unforeseen cases of requirement 145.A.30(j)(5) apply, the organization shall assess all prospective certifying staff for their competence, qualification and capability to carry out their intended certifying duties in accordance with a procedure

as specified in the exposition prior to the issue or re-issue of a certification authorization under this regulation.

(g) When the conditions of above requirements (a), (b), (d), (f) and, where applicable, requirement (c) have been fulfilled by the certifying staff, the organization shall issue a certification authorization that clearly specifies the scope and limits of such authorization. Continued validity of the certification authorization is dependent upon continued compliance with requirements (a), (b), (d), and where applicable, (c).

(h) The certification authorization must be in a style that makes its scope clear to the certifying staff and any authorized person who may require to examine the authorization. Where codes are used to define scope, the organization shall make a code translation readily available. 'Authorized person' means the officials of the competent authorities, LYCAA and the ICAO contracting State who has responsibility for the oversight of the maintained aircraft or component.

(i) The person responsible for the quality system shall also remain responsible on behalf of the organization for issuing certification authorizations to certifying staff. Such person may nominate other persons to actually issue or revoke the certification authorizations in accordance with a procedure as specified in the exposition.

(j) The organization shall maintain a record of all certifying staff and support staff, which shall contain:

1. the details of any aircraft maintenance license held under Part-66, and;
2. all relevant training completed, and;
3. the scope of the certification authorizations issued, where relevant, and;
4. particulars of staff with limited or one-off certification authorizations.

The organization shall retain the record for at least three years after the staff referred to in this requirement have ceased employment with the organization or as soon as the authorization has been withdrawn. In addition, upon request, the maintenance organization shall furnish the staff referred to in this point with a copy of their personal record on leaving the organization.

The staff referred to in this point shall be given access on request to their personal records as detailed above.

(k) The organization shall provide certifying staff with a copy of their certification authorization in either a documented or electronic format.

(l) Certifying staff shall produce their certification authorization to any authorized person within 24 hours.

(m) The minimum age for certifying staff and support staff is twenty-one (21) years.

(n) The holder of a category A aircraft maintenance license may only exercise certification privileges on a specific aircraft type following the satisfactory completion of the relevant category A aircraft task training carried out by an organization appropriately approved in accordance with Part-145 or Part-147. This training shall include practical hands on training and theoretical training as appropriate for each task authorized. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment carried out by the organization.

(o) The holder of a category B2 aircraft maintenance license may only exercise the certification privileges described in requirement Part-66 following the satisfactory completion of:

i. the relevant category A aircraft task training, and,

ii. six (6) months of documented practical experience covering the scope of the authorization that will be issued.

The task training shall include practical hands on training and theoretical training as appropriate for each task authorized. Satisfactory completion of training shall be demonstrated by an examination or by workplace assessment. Task training and examination/assessment shall be carried out by the maintenance organization issuing the certifying staff authorization. The practical experience shall be also obtained within such maintenance organization.

AMC TO 145.A.35(a) Certifying staff and support staff

1. Holding a Part-66 license with the relevant type/group rating, or a national qualification in the case of components, does not mean by itself that the holder is qualified to be authorized as certifying staff and/or support staff. The organization is responsible to assess the competence of the holder for the scope of maintenance to be authorized.

2. The sentence 'the organization shall ensure that certifying staff and support staff have an adequate understanding of the relevant aircraft and/or components to be maintained together with the associated organization procedure' means that the person has received training and has been successfully assessed on:

   - the type of aircraft or component;
   - the differences on:
     - the particular model/variant;
     - the particular configuration.

   The organization should specifically ensure that the individual competencies have been established with regard to:

   - relevant knowledge, skills and experience in the product type and configuration to be maintained, taking into account the differences between the generic aircraft type rating training that the person received and the specific configuration of the aircraft to be maintained.

- appropriate attitude towards safety and observance of procedures.

- knowledge of the associated organization and operator procedures (i.e. handling and identification of components, MEL use, Technical Log use, independent checks, etc.).

3. Some special maintenance tasks may require additional specific training and experience, including but not limited to:

   - in-depth troubleshooting;
   - very specific adjustment or test procedures;
   - rigging;
   - engine run-up, starting and operating the engines, checking engine performance characteristics, normal and emergency engine operation, associated safety precautions and procedures;
   - extensive structural/system inspection and repair;
   - other specialized maintenance required by the maintenance program.

   For engine run-up training, simulators and/or real aircraft should be used.

4. The satisfactory assessment of the competence should be conducted in accordance with a procedure approved by the LYCAA (item 3.4 of the MOE, as described in AMC to 145.A.70(a)).

5. The organization should hold copies of all documents that attest the competence and recent experience for the period described in 145.A.35(j).

AMC TO 145.A.35(b) Certifying staff and support staff

The organization issues the certification authorization when satisfied that compliance has been established with the appropriate paragraphs of Part-145 and Part-66. In granting the certification authorization the maintenance organization approved under Part-145 needs to be satisfied that the person holds a valid Part-66 aircraft maintenance license and may need to confirm such fact with the LYCAA.

AMC TO 145.A.35(d) Certifying staff and support staff

1. Continuation training is a two-way process to ensure that certifying staff remain current in terms of procedures, human factors and technical knowledge and that the organization receives feedback on the adequacy of its procedures and maintenance instructions. Due to the interactive nature of this training, consideration should be given to the possibility that such training has the involvement of the quality system and safety management key personnel to ensure that feedback is actioned. Alternatively, there should be a procedure to ensure that feedback is formally passed from the training department to the quality system and safety management key personnel to initiate action.

2. Continuation training should cover changes in relevant requirements such as Part-145, changes in organization procedures and the modification standard of the products being maintained plus human factor issues identified from any internal or external analysis of

incidents. It should also address instances where staff failed to follow procedures and the reasons why particular procedures are not always followed.

In many cases the continuation training will reinforce the need to follow procedures and ensure that incomplete or incorrect procedures are identified to the company in order that they can be corrected. This does not preclude the possible need to carry out an audit of such procedures.

3. Continuation training should be of sufficient duration in each two (2) year period to meet the intent of 145.A.35(d) and may be split into a number of separate elements. 145.A.35(d) requires such training to keep certifying staff updated in terms of relevant technology, procedures and human factors issues which means it is one part of ensuring quality. Therefore, sufficient duration should be related to relevant quality audit findings and other internal/external sources of information available to the organization on human errors in maintenance. This means that in the case of an organization that maintains aircraft with few relevant quality audit findings, continuation training could be limited to days rather than weeks, whereas a similar organization with a number of relevant quality audit findings, such training may take several weeks.

   For an organization that maintains aircraft components, the duration of continuation training would follow the same philosophy but should be scaled down to reflect the more limited nature of the activity. For example, certifying staff who release hydraulic pumps may only require a few hours of continuation training whereas those who release turbine engine may require a few days of such training. The content of continuation training should be related to relevant quality audit findings and it is recommended that such training is reviewed at least once in every 24-month period.

4. The method of training is intended to be a flexible process and could, for example, include a Part-147 continuation training course, aeronautical college courses, internal short duration courses, seminars, etc. The elements, general content and length of such training should be specified in the maintenance organization exposition, unless such training is undertaken by an organization approved under Part-147, then such details may be specified under the approval and cross referenced in the maintenance organization exposition.

AMC TO 145.A.35(e) Certifying staff and support staff

The program for continuation training should list all certifying staff and support staff and when training will take place, the elements of such training and an indication that it was carried out reasonably on time as planned. Such information should subsequently be transferred to the certifying staff and support staff record as required by 145.A.35(j).

AMC TO 145.A.35(f) Certifying staff and support staff

As stated in 145.A.35(f), except where any of the unforeseen cases of 145.A.30(j)(5) applies, all prospective certifying staff and support staff should be assessed for competence related to their intended duties in accordance with AMCs 1, 2, 3 and 4 to 145.A.30(e), as applicable.

AMC TO 145.A.35(j) Certifying staff and support staff

1. The following minimum information as applicable should be kept on record in respect of each certifying staff and support staff:

    (a) Name
    (b) Date of Birth
    (c) Basic Training
    (d) Type Training
    (e) Continuation Training
    (f) Experience
    (g) Qualifications relevant to the authorization
    (h) Scope of the authorization
    (i) Date of first issue of the authorization
    (j) If appropriate - expiry date of the authorization
    (k) Identification Number of the authorization

2. The record may be kept in any format but should be controlled by the organization's quality system. This does not mean that the quality department should run the record system.

3. Persons authorized to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorized manner or that such confidential records become accessible to unauthorized persons.

4. The LYCAA is an authorized person when investigating the records system for initial and continued approval or when the LYCAA has cause to doubt the competence of a particular person.

AMC 145.A.35(n) Certifying staff and support staff

1. It is the responsibility of the Part-145 organization issuing the category A certifying staff authorization to ensure that the task training received by this person covers all the tasks to be authorized. This is particularly important in those cases where the task training has been provided by a Part-147 organization or by a Part-145 organization different from the one issuing the authorization.

2. Appropriately approved in accordance with Part-147 means an organization holding an approval to provide category A task training for the corresponding aircraft type.

3. Appropriately approved in accordance with Part-145 means an organization holding a maintenance organization approval for the corresponding aircraft type.

AMC 145.A.35(o) Certifying staff and support staff

1. The privilege for a B2 license holder to release minor scheduled line maintenance and simple defect rectification in accordance with Part-66 can only be granted by the Part-145 approved organization where the license holder is employed/contracted after meeting all the requirements specified in 145.A.35(o). This privilege cannot be transferred to another Part-145 approved organization.

2. When a B2 license holder already holds a certifying staff authorization containing minor scheduled line maintenance and simple defect rectification for a particular aircraft type, new tasks relevant to category A can be added to that type without requiring another six (6) months of experience. However, task training (theoretical plus practical hands-on) and examination/assessment for these additional tasks is still required.

3. When the certifying staff authorization intends to cover several aircraft types, the experience may be combined within a single 6-month period.

4. For the addition of new types to the certifying staff authorization, another six (6) months should be required unless the aircraft is considered similar per Part-66 to the one already held.

5. The term six (6) months of experience' may include full-time employment or part-time employment. The important aspect is that the person has been involved during a period of six (6) months (not necessarily every day) in those tasks which are going to be part of the authorization.

145.A.40 Equipment, tools and material

(a) The organization shall have available and use the necessary technical data, equipment, tools and material to perform the approved scope of work.

    1. Where the manufacturer specifies a particular tool or equipment, the organization shall use that tool or equipment, unless the use of alternative tooling or equipment is agreed by the LYCAA via procedures specified in the exposition.

    2. Equipment and tools must be permanently available, except in the case of any tool or equipment that is so infrequently used that its permanent availability is not necessary. Such cases shall be detailed in an exposition procedure.

    3. An organization approved for base maintenance shall have sufficient aircraft access equipment and inspection platforms/docking such that the aircraft can be properly inspected.

(b) The organization shall ensure that all tools, equipment and particularly test equipment, as appropriate, are controlled and calibrated according to an officially recognized standard at a frequency to ensure serviceability and accuracy. Records of such calibrations and traceability to the standard used shall be kept by the organization.

AMC TO 145.A.40(a) Equipment, tools and material

Once the applicant for approval has determined the intended scope of approval for consideration by the LYCAA, it will be necessary to show that all tools and equipment as specified in the maintenance data can be made available when needed. All such tools and equipment that require to be controlled in terms of servicing or calibration by virtue of being necessary to measure specified dimensions and torque figures, etc., should be clearly identified and listed in a control register including any personal tools and equipment that the organization agrees can be used.

AMC TO 145.A.40(b) Equipment, tools and material

1. The control of these tools and equipment requires that the organization has a procedure to inspect/service and, where appropriate, calibrate such items on a regular basis and indicate to users that the item is within any inspection or service or calibration time-limit. A clear system of labelling all tooling, equipment and test equipment is therefore necessary giving information on when the next inspection or service or calibration is due and if the item is unserviceable for any other reason where it may not be obvious. A register should be maintained for all precision tooling and equipment together with a record of calibrations and standards used.

2. Inspection, service or calibration on a regular basis should be in accordance with the equipment manufacturers' instructions except where the organization can show by results that a different time period is appropriate in a particular case.

3. In this context, officially recognized standard means those standards established or published by an official body whether having legal personality or not, which are widely recognized by the air transport sector as constituting good practice.

145.A.42 Components

(a) No component may be fitted unless it is in satisfactory condition, has been appropriately release to service on LYCAA Form 1 or equivalent, and is marked in accordance with Part-21, unless otherwise specified there, or in this regulation.

(b) All components shall be classified and appropriately segregated into the following categories:

1. Components which are in a satisfactory condition, released on a LYCAA Form 1 or equivalent and marked in accordance with Part-21.

2. Unserviceable components which shall be maintained in accordance with this Regulation.

3. Unsalvageable components which are classified in accordance with 145.A.42 (e).

4. Standard parts used on an aircraft, engine, propeller or other aircraft component when specified in the manufacturer’s illustrated Parts Catalog and/or the maintenance data.

5. Material, both raw and consumable, used in the course of maintenance when the organization is satisfied that the material meets the required specification and has appropriate traceability. All material shall be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement as well as the manufacturing and supplier source.

(c) Prior to installation of a component, the organization shall ensure that the particular component is eligible to be fitted when different modification and/or airworthiness directive standards may be applicable.

(d) The organization may fabricate a restricted range of parts to be used in the scope of undergoing work within its own facilities provided procedures are identified in the exposition.

(e) Components which have reached their certified life limit or contain a non-repairable defect shall be classified as unsalvageable and shall not be permitted to re-enter the component supply system unless certified life limits have been extended or a repair solution has been approved in according with Part-21.

(f) Standard parts shall only be fitted to an aircraft when the maintenance data specifies the particular standard part. Standard parts shall only be fitted when accompanied by evidence of conformity traceable to the applicable standard.

(g) Material being either raw material or consumable material shall only be used on an aircraft or a component when the aircraft or component manufacturer states so in relevant maintenance data or as specified in this Part. Such material shall only be used when the materiel meets the requirements, the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.

AMC TO 145.A.42(a) Components

LYCAA Form 1 or equivalent

A document equivalent to a LYCAA Form 1 may be:

1. EASA Form 1;

2. US FAA Form 8130-3;

3. A release document issued by an organization under the terms of a bilateral agreement signed by Libya;

4. In the case of new aircraft components that were released from manufacturing prior to the Part 21 compliance, the component should be accompanied by a Form One issued by an organization approved by a LYCAA;

5. Prior approval from LYCAA must be obtained for the acceptance of parts with release documents other than the above mentioned.

GM1 TO 145.A.42(b)(2) Components

Unserviceable components

(a) The organization should ensure the proper identification of any unserviceable components. The unserviceable status of the component should be clearly declared on a tag together with the component identification data and any information that is useful to define actions that are necessary to be taken. Such information should state, as applicable, in-service times, maintenance status, preservation status, failures, defects or malfunctions reported or detected, exposure to adverse environmental conditions, and whether the component is installed on an aircraft that was involved in an accident or incident. Means should be provided to prevent unintentional separation of this tag from the component.

(b) Unserviceable components should typically undergo maintenance due to:

1. expiry of the service life limit as defined in the aircraft maintenance program;
2. non-compliance with the applicable airworthiness directives and other continuing airworthiness requirements mandated by the Authority;
3. absence of the necessary information to determine the airworthiness status or eligibility for installation;
4. evidence of defects or malfunctions; or
5. being installed on an aircraft that was involved in an incident or accident likely to affect the component's serviceability.

AMC TO 145.A.42(b)(3) Components

Unsalvageable components

The following types of components should typically be classified as unsalvageable:

(a) components with non-repairable defects, whether visible or not to the naked eye;

(b) components that do not meet design specifications, and cannot be brought into conformity with such specifications;

(c) components subjected to unacceptable modification or rework that is irreversible;

(d) certified life-limited parts that have reached or exceeded their certified life limits, or have missing or incomplete records;

(e) components whose airworthy condition cannot be restored due to exposure to extreme forces, heat or adverse environmental conditions;

(f) components for which conformity with an applicable airworthiness directive cannot be accomplished;

(g) components for which maintenance records and/or traceability to the manufacturer cannot be retrieved.

AMC TO 145.A.42(b)(4) Components

Standard parts

(a) Standard parts are parts that are manufactured in complete compliance with an established industry, LYCAA, competent authority or other government specification which includes design, manufacturing, test and acceptance criteria, and uniform identification requirements. The specification should include all the information that is necessary to produce and verify conformity of the part. It should be published so that any party may manufacture the part. Examples of specifications are National Aerospace Standards (NAS), Army-Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), SAE Sematec, Joint Electron Device Engineering Council, Joint Electron Tube Engineering Council, and American National Standards Institute (ANSI), EN Specifications, etc.

(b) To designate a part as a standard part, the TC holder may issue a standard parts manual accepted by the competent authority of the original TC holder or may make reference in the parts catalogue to the specification to be met by the standard part. Documentation that accompanies standard parts should clearly relate to the particular parts and contain a conformity statement plus both the manufacturing and supplier source. Some materials are subject to special conditions, such as storage conditions or life limitation, etc., and this should be included in the documentation and/or the material's packaging.

(c) An LYCAA Form 1 or acceptable airworthiness release certificate is not normally issued and, therefore, none should be expected.

AMC TO 145.A.42(b)(5) Components

Material

(a) Consumable material is any material which is only used once, such as lubricants, cements, compounds, paints, chemical dyes and sealants, etc.

(b) Raw material is any material that requires further work to make it into a component part of the aircraft, such as metal, plastic, wood, fabric, etc.

(c) Material both raw and consumable should only be accepted when satisfied that it is to the required specification. To be satisfied, the material and/or its packaging should be marked with the applicable specification and, where appropriate, the batch number.

(d) Documentation that accompanies all materials should clearly relate to the particular material and contain a conformity statement plus both the manufacturing and supplier source. Some materials are subject to special conditions, such as storage conditions or life

limitation, etc., and this should be included in the documentation and/or the material's packaging.

(e) An LYCAA Form 1 or acceptable airworthiness release certificate should not be issued for such materials and, therefore, none should be expected. The material specification is normally identified in the (S)TC holder's data except in the case where the Authority has agreed otherwise.

GM2 TO 145.A.42(b) Components

Examples of suppliers

A supplier could be any source that provides components, standard parts or materials to be used for maintenance. Possible sources could be: Part-145 organizations, production organizations, operators, stockist, distributors, brokers, aircraft owners/lessees, etc.

GM3 TO 145.A.42(b) Components

Supplier evaluation

(a) The following elements should be considered for the initial and recurrent evaluation of a supplier's quality system to ensure that the component and/or material is supplied in satisfactory condition:

1. availability of appropriate up-to-date regulations, specifications (such as component handling/storage data) and standards;
2. standards and procedures for the training of personnel and competency assessment;
3. procedures for shelf-life control;
4. procedures for handling of electrostatic sensitive devices;
5. procedures for identifying the source from which components and materials were received;
6. purchasing procedures that identify documentation to accompany components and materials for subsequent use by approved Part-145 maintenance organizations;
7. procedures for incoming inspection of components and materials;
8. procedures for control of measuring equipment that provide for appropriate storage, usage, and for calibration when such equipment is required;
9. procedures to ensure appropriate storage conditions for components and materials that are adequate to protect the components and materials from damage and/or deterioration. Such procedures should comply with the manufacturers' recommendations and relevant standards;

10. procedures for adequate packing and shipping of components and materials to protect them from damage and deterioration, including procedures for proper shipping of dangerous goods (e.g., ICAO and ATA specifications);

11. procedures for detecting and reporting of suspected unapproved components;

12. procedures for handling unsalvageable components in accordance with applicable regulations and standards;

13. procedures for batch splitting or redistribution of lots and handling of the related documents;

14. procedures for notifying purchasers of any components that have been shipped and have later been identified as not conforming to the applicable technical data or standard;

15. procedures for recall control to ensure that components and materials shipped can be traced and recalled if necessary;

16. procedures for monitoring the effectiveness of the quality system.

(b) Suppliers which are certified to officially recognized standards that have a quality system that includes the elements specified in (a) may be acceptable; such standards include:

1. EN/AS9120;

2. ASA-100;

3. EASO 2012;

4. FAA AC 00-56.

5. The use of such suppliers does not exempt the organization from its obligations under 145.A.42 to ensure that supplied components and materials are in satisfactory condition and meet the applicable criteria of 145.A.42.

(c) Supplier evaluation may depend on different factors, such as the type of component, whether or not the supplier is the manufacturer of the component, the TC holder or a maintenance organization, or even specific circumstances such as aircraft on ground. This evaluation may be limited to a questionnaire from the Part-145 organization to its suppliers, a desktop evaluation of the supplier's procedures or an on-site audit, if deemed necessary.

AMC1 TO 145.A.42(c) Components

Acceptance of components for installation

(a) The procedures for the acceptance of components, standard parts and materials should have the objective of ensuring that the components, standard parts and materials are in satisfactory condition and meet the organization's requirements. These procedures should be based upon incoming inspections which include:

1. physical inspection of the components, standard parts and materials;

2. review of the accompanying documentation and data, which should be acceptable in accordance with 145.A.42(a).

(b) For the acceptance of components, standard parts and materials from suppliers, the above procedures should include supplier evaluation procedures.

GM1 TO 145.A.42(c) Components

Incoming physical inspection

(a) To ensure that components, standard parts and materials are in satisfactory condition, the organization should perform incoming physical inspections.

(b) The incoming physical inspection should be performed before the component is installed on the aircraft

(c) The following list, although not exhaustive, contains typical checks to be performed:

1. verify the general condition of the components and their packaging in relation to damages that could affect their integrity;

2. verify that the shelf life of the component has not expired;

3. verify that items are received in the appropriate package in respect of the type of the component: e.g., correct ATA 300 or electrostatic sensitive devices packaging, when necessary;

4. verify that the component has all plugs and caps appropriately installed to prevent damage or internal contamination. Care should be taken when tape is used to cover electrical connections or fluid fittings/openings because adhesive residues can insulate electrical connections and contaminate hydraulic or fuel units.

(d) Items (fasteners, etc.) purchased in batches should be supplied in a package. The packaging should state the applicable specification/standard, part number, batch number, and the quantity of the items. The documentation that accompanies the material should contain the applicable specification/standard, part number, batch number, supplied quantity, and the manufacturing sources. If the material is acquired from different batches, acceptance documentation for each batch should be provided.

GM2 TO 145.A.42(c) Components

Installation of components

Components, standard parts and materials should only be installed when they are specified in the applicable maintenance data. This could include parts catalogue (IPC), service bulletins (SBs), aircraft maintenance manual (AMM), component maintenance manual (CMM), etc. So, the installation of a component, standard part or material can only be done after checking the applicable maintenance data.

This check should ensure that the part number, modification status, limitations, etc., of the component, standard part or material are the ones specified in the applicable maintenance data of the particular aircraft or component (i.e., IPC, SB, AMM, CMM, etc.) where the component, standard part or material is going to be installed. The organization should establish procedures to ensure that this check is performed before installation.

AMC1 TO 145.A.42(d) Components

Fabrication of parts for installation

(a) The agreement of the Authority on the fabrication of parts by the approved maintenance organization should be formalized through the approval of a detailed procedure in the Maintenance Organization Exposition (MOE). This AMC contains principles and conditions to be taken into account for the preparation of an acceptable procedure.

(b) Fabrication, inspection, assembly and test should be clearly within the technical and procedural capability of the organization.

(c) All necessary data to fabricate the part should be approved either by the type certificate (TC) holder, or Part-21 design organization approval holder, or supplemental type certificate (STC) holder.

(d) Items that are fabricated by an organization approved under Part-145 may only be used by that organization in the course of overhaul, maintenance, modifications, or repair of aircraft or components, performing work at its own facilities. The permission to fabricate does not constitute approval for manufacture, or to supply externally, and the parts do not qualify for LYCAA Form 1 certification. This prohibition also applies to the bulk transfer of surplus inventory, in that locally fabricated parts are physically segregated and excluded from any delivery certification.

(e) Fabrication of parts, modification kits, etc., for onward supply and/or sale may not be conducted by an organization that is approved under Part-145.

(f) The data specified in (c) may include repair procedures that involve the fabrication of parts. Where the data on such parts is sufficient to facilitate fabrication, the parts may be fabricated by an organization that is approved under Part-145. Care should be taken to ensure that the data include details of part numbering, dimensions, materials, processes, and any special manufacturing techniques, special raw material specification and/or incoming inspection requirement, and that the approved organization has the necessary capability to fabricate those parts. That capability should be defined by way of exposition

content. Where special processes or inspection procedures are defined in the approved data which are not available at the organization, the organization cannot fabricate the part unless the TC/STC holder gives an approved alternative.

(g) Examples of fabrication within the scope of a Paert-145 approval may include but are not limited to the following:

1. fabrication of bushes, sleeves and shims;
2. fabrication of secondary structural elements and skin panels;
3. fabrication of control cables;
4. fabrication of flexible and rigid pipes;
5. fabrication of electrical cable looms and assemblies;
6. formed or machined sheet metal panels for repairs.

All the above-mentioned fabricated parts should be in accordance with the data provided in the overhaul or repair manuals, modification schemes and service bulletins, drawings, or should be otherwise approved by the competent authority.

Note: It is not acceptable to fabricate any item to pattern unless an engineering drawing of the item is produced which includes any necessary fabrication process and which is acceptable to the Authority.

(h) Where a TC holder or an approved production organization is prepared to make available complete data which is not referred to in the aircraft manuals or service bulletins but provides manufacturing drawings for items specified in parts lists, the fabrication of these items is not considered to be within the scope of an approval unless agreed otherwise by the competent authority in accordance with a procedure specified in the exposition.

(i) Inspection and identification

Any locally fabricated part should be subject to inspection before, separately, and preferably independently from any inspection of its installation. The inspection should establish full compliance with the relevant manufacturing data, and the part should be unambiguously identified as fit for use by stating conformity to the approved data. Adequate records should be maintained of all such fabrication processes including heat treatment and final inspections. All parts, except those that do not have enough space, should carry a part number which clearly relates it to the manufacturing/inspection data. In addition to the part's number, the organization's identity should be marked on the part for traceability purposes.

AMC TO 145.A.42(e) Components

Segregation of components

(a) Unserviceable components should be identified and stored in a secure location that is under the control of the maintenance organization until a decision is made on the future status of such components. The organization that declared the component to be unserviceable may transfer its custody after identifying it as unserviceable to the aircraft owner provided that such transfer is reflected in the aircraft logbook, or engine logbook, or component logbook.

(b) 'Secure location under the control of an approved maintenance organization' refers to a secure location whose security is the responsibility of the approved maintenance organization. This may include facilities that are established by the organization at locations different from the main maintenance facilities. These locations should be identified in the relevant procedures of the organization.

(c) In the case of unsalvageable components, the organization should:

1. retain such component in the secure location referred to in paragraph (b);

2. arrange for the component to be mutilated in a manner that ensures that they are beyond economic salvage or repair before disposing it; or

3. mark the component indicating that it is unsalvageable, when in agreement with the component owner, the component is disposed for legitimate non-flight uses (such as training and education aids, research and development), or for non-aviation applications, mutilation is often not appropriate. Alternatively, to marking, the original part number or data plate information can be removed or a record kept of the disposal of the components.

145.A.43 Control of unserviceable components

(a) A component shall be considered unserviceable in any one of the following circumstances:

1. expiry of the service life limit as defined in the maintenance program;

2. non-compliance with the applicable airworthiness directives and other continuing airworthiness requirement mandated by the Authority;

3. absence of the necessary information to determine the airworthiness status or eligibility for installation;

4. evidence of defects or malfunctions; and

5. involvement in an incident or accident likely to affect its serviceability.

(b) Unserviceable components shall be identified and stored in a secure location under the control of the maintenance organization until a decision is made on the future status of such component. Nevertheless, for aircraft not used in commercial air transport other

than large aircraft, the organization that declared the component unserviceable may transfer its custody after identifying it as unserviceable, to the aircraft owner provided that such transfer is reflected in the aircraft logbook, or engine logbook, or component logbook.

(c) In the case of unsalvageable components, the organization shall:

1. retain such component in the paragraph (b) location, or;

2. arrange for the component to be mutilated in a manner that ensures that it is beyond economic salvage or repair before relinquishing responsibility for such component.

(d) Notwithstanding paragraph (c), the organization may transfer responsibility of components classified as unsalvageable to an organization for training or research without mutilation.

AMC TO 145.A.43(a) Control of unserviceable components

(a) The following types of components should typically be classified as unsalvageable:

1. Components with non-repairable defects, whether visible or not to the naked eye;

2. Components that do not meet design specifications, and cannot be brought into conformity with such specifications;

3. Components subjected to unacceptable modification or rework that is irreversible;

4. Certified life-limited parts that have reached or exceeded their certified life limits, or have missing or incomplete records;

5. Components that cannot be returned to airworthy condition due to exposure to extreme forces, heat or adverse environment;

6. Components for which conformity with an applicable airworthiness directive cannot be accomplished;

7. Components for which maintenance records and/or traceability to the manufacturer cannot be retrieved.

(b) It is common practice for owners of aircraft components to dispose of unsalvageable components by selling, discarding, or transferring such items. In some instances, these items have reappeared for sale and in the active parts inventories of the aviation community. Misrepresentation of the status of components and the practice of making such items appear serviceable have resulted in the use of unsalvageable nonconforming components. Therefore, organizations disposing of unsalvageable aircraft components should consider the possibility of such components later being misrepresented and sold as serviceable components. Caution should be exercised to ensure that unsalvageable components are disposed of in a manner that does not allow them to be returned to service.

AMC TO 145.A.43(b) Control of unserviceable components

(a) The organization should ensure proper identification of any unserviceable components.

(b) The unserviceable status of the component should be clearly declared on a tag together with the component identification data and any information useful to define actions necessary to be taken. Such information should state, as applicable, in-service times, maintenance status, preservation status, failures, defects or malfunctions reported, or detected exposure to adverse environmental conditions if the component has been involved in or affected by an accident/incident. Means should be provided to prevent unwanted separation of this tag from the component.

(c) 'A Secure location under the control of an approved maintenance organization' refers to a secure location whose security is the responsibility of the approved maintenance organization. This may include facilities that are established by the organization at locations different from the main maintenance facilities. These locations should be identified in the relevant procedures of the organization.

AMC TO 145.A.43(c) Control of unserviceable components

Mutilation of components

(a) Mutilation should be accomplished in such a manner that the components become permanently unusable for their original intended use. Mutilated components should not be able to be reworked or camouflaged to provide the appearance of being serviceable, such as by re-plating, shortening and re-threading long bolts, welding, straightening, machining, cleaning, polishing, or repainting.

(b) Mutilation may be accomplished by one or a combination of the following procedures:

1. grinding;
2. burning;
3. removal of a major lug or other integral feature;
4. permanent distortion of parts;
5. cutting a hole with cutting torch or saw;
6. melting;
7. sawing into many small pieces; and
8. any other method accepted by the Authority on a case-by-case basis

(c) The following procedures are examples of mutilation that are often less successful because they may not be consistently effective:

1. stamping or vibro-etching;
2. spraying with paint;
3. small distortions, incisions, or hammer marks;
4. identification by tag or markings;
5. drilling small holes;
6. sawing in two pieces only.

(d) Since manufacturers producing approved aircraft components should maintain records of serial numbers for 'retired', certified, life-limited, or other critical components, the organization that mutilates a component should provide the original manufacturer with the data plate and/or serial number and final disposition of the component.

AMC TO 145.A.43(d) Control of unserviceable components

A maintenance organization may choose, in agreement with the component's owner, to release an unsalvageable component for legitimate non-flight uses, such as for training and education, research and development. In such instances, mutilation may not be appropriate. The following methods should be used to prevent the component re-entering the aviation supply system:

1. Permanently marking or stamping the component, as 'NOT SERVICEABLE.' (Ink stamping is not an acceptable method);
2. Removing original part number identification;
3. Removing data plate identification;
4. Maintaining a tracking or accountability system, by serial number or other individualized data, to record transferred unsalvageable aircraft component, and;
5. including written procedures concerning disposal of such components in any agreement or contract transferring such components.

Note: Unsalvageable components should not be released to any person or organization that is known to return unsalvageable components back into the aviation supply system, due to the potential safety threat.

145.A.45 Maintenance data

(a) The organization shall hold and use applicable current maintenance data in the performance of maintenance, including modifications and repairs with the applicable forms established by the LYCAA.

'Applicable' means relevant to any aircraft, component or process specified in the organization's approval class rating schedule and in any associated capability list. In the case of maintenance data provided by an operator or customer, the organization shall hold such data when the work is in progress, with the exception of the need to comply with requirement 145.A.55(c).

(b) For the purposes of this Part, applicable maintenance data shall be any of the following:

1. Any applicable requirement, procedure, operational directive or information issued by the authority responsible for the oversight of the aircraft or component;

2. Any applicable airworthiness directive issued by the authority responsible for the oversight of the aircraft or component;

3. Instructions for continuing airworthiness, issued by type certificate holders, supplementary type certificate holders, any other organization required to publish such data by Part-21 and in the case of aircraft or components from third countries the airworthiness data mandated by the LYCAA;

4. Any applicable standard, such as but not limited to, maintenance standard practices recognized by the LYCAA as a good standard for maintenance;

5. Any applicable data issued in accordance with requirement (d).

(c) The organization shall establish procedures to ensure that if found, any inaccurate, incomplete or ambiguous procedure, practice, information or maintenance instruction contained in the maintenance data used by maintenance personnel is recorded and notified to the author of the maintenance data.

(d) The organization may only modify maintenance instructions in accordance with a procedure specified in the maintenance organization exposition. With respect to those changes, the organization shall demonstrate that they result in equivalent or improved maintenance standards and shall inform the type-certificate holder of such changes. Maintenance instructions for the purposes of this point means instructions on how to carry out the particular maintenance task: they exclude the engineering design of repairs and modifications.

(e) The organization shall provide a common work card or worksheet system to be used throughout relevant parts of the organization. In addition, the organization shall either transcribe accurately the maintenance data contained in points (b) and (d) onto such work cards or worksheets or make precise reference to the particular maintenance task or tasks contained in such maintenance data. Work cards and worksheets may be computer generated and held on an electronic database subject to both adequate safeguards against

unauthorized alteration and a back-up electronic database which shall be updated within twenty-four (24) hours of any entry made to the main electronic database. Complex maintenance tasks shall be transcribed onto the work cards or worksheets and subdivided into clear stages to ensure a record of the accomplishment of the complete maintenance task.

Where the organization provides a maintenance service to an aircraft operator who requires their work card or worksheet system to be used then such work card or worksheet system may be used. In this case, the organization shall establish a procedure to ensure correct completion of the aircraft operators' work cards or worksheets.

(f) The organization shall ensure that all applicable maintenance data is readily available for use when required by maintenance personnel.

(g) The organization shall establish a procedure to ensure that maintenance data it controls is kept up to date. In the case of operator/customer controlled and provided maintenance data, the organization shall be able to show that either it has written confirmation from the operator/customer that all such maintenance data is up to date or it has work orders specifying the amendment status of the maintenance data to be used or it can show that it is on the operator/customer maintenance data amendment list.

AMC TO 145.A.45(b) Maintenance data

1. Except as specified in sub-paragraph (5), each maintenance organization approved under Part-145 should hold and use the following minimum maintenance data relevant to the organization’s approval class rating: all maintenance related Regulation and associated AMCs, approval specifications and Guidance Material, all applicable national maintenance requirements and notices which have not been superseded by any requirement, procedure or directive and all applicable airworthiness directives plus any airworthiness directive supplied by a contracted operator or customer as well as Critical Design Configuration Control Limitations.

2. In addition to sub-paragraph 1, an organization with an approval class rating in category A - Aircraft, should hold and use the following maintenance data where published: the appropriate sections of the operator’s aircraft maintenance program, aircraft maintenance manual, repair manual, supplementary structural inspection document, corrosion control document, service bulletins, service letters, service instructions, modification leaflets, NDT manual, parts catalogue, type certificate data sheet and any other specific document issued by the type certificate or supplementary type certificate holder as maintenance data.

3. In addition to subparagraph (1), an organization with an approval class rating in category B - Engines/APUs, should hold and use the following maintenance data where published: the appropriate sections of the engine/APU maintenance and repair manual, service bulletins, service letters, modification leaflets, non-destructive testing (NDT) manual, parts catalogue, type certificate data sheet and any other specific document issued by the type certificate holder as maintenance data.

4. In addition to sub-paragraph (1), an organization with an approval class rating in category C - Components other than complete engines/APUs, should hold and use the following maintenance data where published: the appropriate sections of the vendor maintenance and repair manual, service bulletins and service letters plus any document issued by the type certificate holder as maintenance data on whose product the component may be fitted when applicable.

5. Appropriate sections of the sub-paragraphs (2) to (4) additional maintenance data means in relation to the maintenance work scope at each particular maintenance facility. For example, a base maintenance facility should have almost complete set(s) of the maintenance data whereas a line maintenance facility may need only the maintenance manual and the parts catalogue.

6. An organization only approved in class rating category D – Specialized services, should hold and use all applicable specialized service(s) process specifications.

AMC TO 145.A.45(c) Maintenance data

1. The referenced procedure should ensure that when maintenance personnel discover inaccurate, incomplete or ambiguous information in the maintenance data they should record the details. The procedure should then ensure that the Part-145 approved maintenance organization notifies the problem to the author of the maintenance data in a timely manner. A record of such communications to the author of the maintenance data should be retained by the Part-145 approved organization until such time as the type certificate holder has clarified the issue by e.g., amending the maintenance data.

2. The referenced procedure should be specified in the maintenance organization exposition.

AMC TO 145.A.45(d) Maintenance data

The referenced procedure should address the need for a practical demonstration by the mechanic to the quality personnel of the proposed modified maintenance instruction. When satisfied, the quality personnel should approve the modified maintenance instruction and ensure that the type certificate or supplementary type certificate holder is informed of the modified maintenance instruction. The procedure should include a paper/electronic traceability of the complete process from start to finish and ensure that the relevant maintenance instruction clearly identifies the modification. Modified maintenance instructions should only be used in the following circumstances:

1. Where the type certificate / supplementary type certificate holder’s original intent can be carried out in a more practical or more efficient manner.

2. Where the type certificate / supplementary type certificate holder’s original intent cannot be achieved by following the maintenance instructions. For example, where a component cannot be replaced following the original maintenance instructions.

3. For the use of alternative tools / equipment.

Important Note: Critical Design Configuration Control Limitations (CDCCL) are airworthiness limitations. Any modification of the maintenance instructions linked to CDCCL constitutes an aircraft modification that should be approved in accordance with Part-21.

AMC TO 145.A.45(e) Maintenance data

1. The maintenance organization should:

   - transcribe accurately the maintenance data onto such work cards or worksheets, or

   - make precise reference to the particular maintenance task(s) contained in such maintenance data, which already identifies the task as a CDCCL where applicable.

2. 'Relevant parts of the organization' means with regard to aircraft base maintenance, aircraft line maintenance, engine workshops, mechanical workshops and avionic workshops. Therefore, engine workshops for example should have a common system throughout such engine workshops that may be different to that in the aircraft base maintenance.

3. The work-cards should differentiate and specify, when relevant, disassembly, accomplishment of task, reassembly and testing. In the case of a lengthy maintenance task involving a succession of personnel to complete such a task, it may be necessary to use supplementary work cards or worksheets to indicate what was actually accomplished by each individual person.

AMC TO 145.A.45(f) Maintenance data

1. Data being made available to personnel maintaining aircraft means that the data should be available in close proximity to the aircraft being maintained for supervisors, mechanics and certifying staff to study.

2. Where computer systems are used, the number of computer terminals should be sufficient in relation to the size of the work program to enable easy access, unless the computer system can produce paper copies. Where microfilm or microfiche readers/printers are used, a similar requirement is applicable.

AMC TO 145.A.45(g) Maintenance data

To keep data up-to-date, a procedure should be set up to monitor the amendment status of all data and maintain a check that all amendments are being received by being a subscriber to any document amendment scheme. Special attention should be given to TC related data such as certification life limited parts, airworthiness limitations and Airworthiness Limitation Items (ALI), etc.

145.A.47 Production planning

(a) The organization shall have a system appropriate to the amount and complexity of work to plan the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities in order to ensure the safe completion of the maintenance work.

(b) The planning of maintenance tasks, and the organizing of shifts, shall take into account human performance limitations.

(c) When it is required to hand over the continuation or completion of maintenance tasks for reasons of a shift or personnel changeover, relevant information shall be adequately communicated between outgoing and incoming personnel.

AMC TO 145.A.47(a) Production planning

1. Depending on the amount and complexity of work generally performed by the maintenance organization, the planning system may range from a very simple procedure to a complex organizational set-up including a dedicated planning function in support of the production function.

2. For the purpose of Part-145, the production planning function includes two complementary elements:

    - scheduling the maintenance work ahead, to ensure that it will not adversely interfere with other work as regards the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities.

    - during maintenance work, organizing maintenance teams and shifts and provide all necessary support to ensure the completion of maintenance without undue time pressure.

3. When establishing the production planning procedure, consideration should be given to the following:

    - logistics,

    - inventory control,

    - square meters of accommodation,

    - man-hours estimation,

    - man-hours availability,

    - preparation of work,

    - hangar availability,

    - environmental conditions (access, lighting standards and cleanliness),

- co-ordination with internal and external suppliers, etc.

- scheduling critical maintenance tasks during periods when staff are likely to be most alert.

AMC1 TO 145.A.47(b) Production planning

Fatigue risk management

(a) In order to manage the fatigue related risk of personnel, as an aviation hazard, the organization should:

1. as part of its safety policy develop and maintain a policy for the management of fatigue related risk and define the related procedures;

2. define and use a work schedule scheme with maximum work and minimum rest hours not exceeding the limitations laid down in the prevailing Labor Law;

   Where temporary derogations and opt-outs to the prevailing Labor Law are agreed between the organization and its personnel, the organization should conduct and document a risk assessment and take the necessary actions to mitigate the applicable risks;

3. ensure existing reporting systems enable the identification of fatigue related hazards;

4. assess and manage the risks of such fatigue related hazard reports in accordance with the organization's safety risk management procedures, and monitor the effectiveness of related risk mitigation actions implemented; and

5. provide training on the management of fatigue.

(b) By derogation from point (a)(2) above, when the organization does not apply the maximum work and minimum rest hours laid down in the Labor Law, it should establish as part of its management system a fatigue risk management scheme acceptable to the LYCAA.

AMC2 TO 145.A.47(b) Production planning

Duty time schedule

(a) The duty time schedule should address, at a minimum, the following topics:

1. Maximum scheduled hours/day;

2. Maximum hours with overtime;

3. Maximum hours/month;

4. Minimum rest between shifts (based on shift length); and

5. Minimum uninterrupted rest hours per week.

All of the above must consider time of day work shift.

(b) Reasonable work hour limits should not be exceeded merely for management convenience even when staff is willing to work extended hours. When maximum work hours are exceeded, the organization and the individual staff member should have a written plan on how the fatigue risk will be mitigated. This may include:

1. additional supervision and independent inspection;
2. limitation of tasks to non-safety critical;
3. use of additional rest breaks; and
4. permission to nap in accordance with guidelines approved by the organization.

GM TO 145.A.47(b) Production planning

Limitations of human performance, in the context of planning safety related tasks, refers to the upper and lower limits, and variations, of certain aspects of human performance (Circadian rhythm /24 hours body cycle) which personnel should be aware of when planning work and shifts.

AMC TO 145.A.47(c) Production planning

The primary objective of the changeover / handover information is to ensure effective communication at the point of handing over the continuation or completion of maintenance actions. Effective task and shift handover depends on three basic elements:

1. The outgoing person's ability to understand and communicate the important elements of the job or task being passed over to the incoming person.
2. The incoming person's ability to understand and assimilate the information being provided by the outgoing person.
3. A formalized process for exchanging information between outgoing and incoming persons and a planned shift overlap and a place for such exchanges to take place.

145.A.48 Performance of maintenance

(a) All maintenance shall be performed by qualified personnel, following the methods, techniques, standards, and instructions specified in the 145.A.45 maintenance data.

(b) An independent inspection shall be carried out after any critical maintenance task, unless otherwise specified in this Part-145 or agreed by the Authority.

(c) Only the authorized certifying staff, according to 145.A.35 can decide, using 145.A.45 maintenance data, whether an aircraft defect hazards seriously the flight safety and, therefore, decide when and which rectification action shall be taken before further flight, and which defect rectification can be deferred. However, this does not apply when:

1. the approved minimum equipment list as mandated by the Authority is used by the pilot; or

2. aircraft defects are defined as being acceptable by the Authority.

(d) The organization shall establish procedures to ensure that:

1. After completion of all maintenance, a general verification must be carried out to ensure the aircraft or component is clear of all tools, equipment, and any other extraneous parts and material, and that all access panels removed have been refitted.

2. an error capturing method is implemented after the performance of any critical maintenance task.

3. the risk of multiple errors during maintenance and the risk of errors being repeated in identical maintenance tasks are minimized

AMC1 145.A.48(b) Performance of maintenance

Independent inspections

Note:

An ‘authorized person’ is a person formally authorized by the maintenance organization to perform or supervise a maintenance task. An ‘authorized person’ is not necessarily ‘certifying staff’.

A ‘sign-off’ is a statement issued by the ‘authorized person’ which indicates that the task or group of tasks has been correctly performed. A ‘sign-off’ relates to one step in the maintenance process and is, therefore, different to a certificate of release to service.

Independent inspection is one possible error-capturing method.

(a) What is an independent inspection?

An independent inspection is an inspection performed by an 'independent qualified person' of a task carried out by an 'authorized person', taking into account that:

1. the 'authorized person' is the person who performs the task or supervises the task and they assume the full responsibility for the completion of the task in accordance with the applicable maintenance data;

2. the 'independent qualified person' is the person who performs the independent inspection and attests the satisfactory completion of the task and that no deficiencies have been found. The 'independent qualified person' does not issue a certificate of release to service; therefore, they are not required to hold certification privileges;

3. the 'authorized person' issues the certificate of release to service or signs off the completion of the task after the independent inspection has been carried out satisfactorily;

4. the work card system used by the organization should record the identification of both persons and the details of the independent inspection as necessary before the certificate of release to service or sign-off for the completion of the task is issued.

(b) Qualifications of persons performing independent inspections

The organization should have procedures to demonstrate that the 'independent qualified person' has been trained and has gained experience in the specific inspection to be performed. The organization could consider making use of, for example:

1. staff holding a certifying staff or support staff or sign-off authorization or equivalent necessary to release or sign off the critical maintenance task;

2. staff holding a certifying staff or support staff or sign-off authorization or equivalent necessary to release or sign off similar task in a product of similar category and having received specific practical training in the task to be inspected;

3. a commander holding a limited certification authorization in accordance with 145.A.30(j)(4) and having received adequate practical training and having enough experience in the specific task to be inspected and on how to perform independent inspection.

(c) How to perform an independent inspection?

An independent inspection should ensure correct assembly, locking and sense of operation. When inspecting control systems that have undergone maintenance, the independent qualified person should consider the following points independently:

1. all those parts of the system that have actually been disconnected or disturbed should be inspected for correct assembly and locking;

2. the system as a whole should be inspected for full and free movement over the complete range;

3. cables should be tensioned correctly with adequate clearance at secondary stops;

4. the operation of the control system as a whole should be observed to ensure that the controls are operating in the correct sense;

5. if different control systems are interconnected so that they affect each other, all the interactions should be checked through the full range of the applicable controls; and

6. software that is part of the critical maintenance task should be checked, for example: version, compatibility with aircraft configuration.

(d) What to do in unforeseen cases when only one person is available?

Reinspection:

1. Reinspection is an error-capturing method subject to the same conditions as an independent inspection is, except that the 'authorized person' performing the maintenance task is also acting as 'independent qualified person' and performs the inspection.

2. Reinspection, as an error-capturing method, should only be performed in unforeseen circumstances when only one person is available to carry out the task and perform the independent inspection. The circumstances cannot be considered unforeseen if the person or organization has not assigned a suitable 'independent qualified person' to that particular line station or shift.

3. The certificate of release to service is issued after the task has been performed by the 'authorized person' and the reinspection has been carried out satisfactorily. The work card system used by the organization should record the identification and the details of the reinspection before the certificate of release to service for the task is issued.

AMC2 145.A.48(b) Performance of maintenance

Critical maintenance tasks

(a) The procedure should ensure that the following maintenance tasks are reviewed to assess their impact on flight safety:

1. tasks that may affect the control of the aircraft flight path and attitude, such as installation, rigging and adjustments of flight controls;

2. aircraft stability control systems (autopilot, fuel transfer);

3. tasks that may affect the propulsive force of the aircraft, including installation of aircraft engines, propellers and rotors; and

4. overhaul, calibration or rigging of engines, propellers, transmissions and gearboxes.

(b) The procedure should describe which data sources are used to identify critical maintenance tasks. Several data sources may be used, such as:

1. information from the design approval holder;
2. accident reports;
3. investigation and follow-up of incidents;
4. occurrence reporting;
5. flight data analysis;
6. results of audits;
7. normal operations monitoring schemes; and
8. feedback from training.

AMC TO 145.A.48(c) Performance of maintenance

Critical Design Configuration Control Limitations (CDCCL)

The organization should ensure that when performing maintenance, the CDCCL are not compromised. The organization should pay particular attention to possible adverse effects of any change to the wiring of the aircraft, even of a change not specifically associated with the fuel tank system.

For example, it should be common practice to identify segregation of fuel gauging system wiring as a CDCCL. The organization can prevent adverse effects associated with changes to the wiring by standardizing maintenance practices through training, and not through periodic inspections. Training should be provided to avoid indiscriminate routing and splicing of wire and to provide comprehensive knowledge of critical design features of fuel tank systems that would be controlled by a CDCCL. Guidance on the training of maintenance organization personnel is provided in 145.A.30 (e).

AMC TO 145.A.48(d)(2) Performance of maintenance

Error-capturing methods

(a) Error-capturing methods are those actions defined by the organization to detect maintenance errors made when performing maintenance.

(b) The organization should ensure that the error-capturing methods are adequate for the work and the disturbance of the system. A combination of several actions (visual inspection, operational check, functional test, rigging check) may be necessary in some cases.

AMC TO 145.A.48(d)(3) Performance of maintenance

The procedures should aim at:

(a) minimizing multiple errors and preventing omissions. Therefore, the procedures should specify:

1. that every maintenance task is signed off only after completion;

2. how the grouping of tasks for the purpose of sign-off allows critical steps to be clearly identified, and;

3. that work performed by personnel under supervision (i.e. temporary staff, trainees) is checked and signed off by an authorized person;

(b) minimizing the possibility of an error being repeated in identical tasks and, therefore, compromising more than one system or function. Thus, the procedures should ensure that no person is required to perform a maintenance task involving removal/installation or assembly/disassembly of several components of the same type fitted to more than one system, a failure of which could have an impact on safety, on the same aircraft or component during a particular maintenance check. However, in unforeseen circumstances when only one person is available, the organization may make use of reinspection as described in point (d) of AMC to 145.A.48(b).

145.A.50 Certification of maintenance

(a) A certificate of release to service shall be issued by appropriately authorized certifying staff on behalf of the organization when it has been verified that all maintenance ordered has been completed satisfactory and properly carried out by the organization in accordance with the approved data and the procedures described in the maintenance organization exposition specified in requirement 145.A.70, taking into account the availability and use of the maintenance data specified in requirement 145.A.45 and that there are no non-compliances which are known to endanger flight safety.

(b) A certificate of release to service shall be issued before flight at the completion of any maintenance including:

1. basic details of the maintenance carried out including detailed reference of the approved data used;

2. date such maintenance was completed;

3. when applicable, the identity of the approved maintenance organization, and;

4. the identity of the person or persons signing the release.

(c) New defects or incomplete maintenance work orders identified during the above maintenance shall be brought to the attention of the aircraft operator for the specific purpose of obtaining agreement to rectify such defects or completing the missing

elements of the maintenance work order. In the case where the aircraft operator declines to have such maintenance carried out under this point, point (e) is applicable.

(d) A certificate of release to service shall be issued at the completion of any maintenance on a component whilst off the aircraft. The authorized release certificate 'LYCAA Form 1' referred to in Part-M constitutes the component certificate of release to service except if otherwise specified in requirement Part-M. When an organization maintains a component for its own use, an LYCAA Form 1 may not be necessary depending upon the organization's internal release procedures defined in the exposition.

(e) By derogation to requirement (a), when the organization is unable to complete all maintenance ordered, it may issue a certificate of release to service within the approved aircraft limitations. The organization shall enter such fact in the aircraft certificate of release to service before the issue of such certificate.

(f) By derogation to requirements (a) and 145.A.42, when an aircraft is grounded at a location other than the main line station or main maintenance base due to the non-availability of a component with the appropriate release certificate, it is permissible to temporarily fit a component without the appropriate release certificate for a maximum of 30 flight hours or until the aircraft first returns to the main line station or main maintenance base, whichever is the sooner, subject to the aircraft operator agreement and said component having a suitable release certificate but otherwise in compliance with all applicable maintenance and operational requirements. Such components shall be removed by the above prescribed time limit unless an appropriate release certificate has been obtained in the meantime under requirements (a) and 145.A.42.

AMC TO 145.A.50(a) Certification of maintenance

'Endangers the flight safety' means any instances where safe operation could not be assured or which could lead to an unsafe condition. It typically includes, but is not limited to, significant cracking, deformation, corrosion or failure of primary structure, any evidence of burning, electrical arcing, significant hydraulic fluid or fuel leakage and any emergency system or total system failure. An airworthiness directive overdue for compliance is also considered a hazard to flight safety.

AMC TO 145.A.50(b) Certification of maintenance

1. The certificate of release to service should contain the following statement: 'Certifies that the work specified, except as otherwise specified, was carried out in accordance with Part-145 and in respect to that work the aircraft/aircraft component is considered ready for release to service'. Reference should also be made to the LYCAA Approved Maintenance Organization Certificate number.

2. It is acceptable to use an alternate abbreviated certificate of release to service consisting of the following statement 'Part-145 release to service' instead of the full certification statement specified in paragraph 1. When the alternate abbreviated certificate of release

to service is used, the introductory section of the technical log should include an example of the full certification statement from paragraph 1.

3. The certificate of release to service should relate to the task specified in the (S) TC holder's or operator's instructions or the aircraft maintenance program which itself may cross-refer to maintenance data.

4. The date such maintenance was carried out should include when the maintenance took place relative to any life or overhaul limitation in terms of date/flying hours/cycles/landings etc., as appropriate.

5. When extensive maintenance has been carried out, it is acceptable for the certificate of release to service to summarize the maintenance as long as there is a unique cross-reference to the work package containing full details of maintenance carried out. Dimensional information should be retained in the work-pack record.

AMC1 TO 145.A.50(d) Certification of maintenance

The purpose of the certificate (LYCAA Form 1) is to release assemblies/items/ components/parts (hereafter referred to as 'item(s)') after maintenance and to release maintenance work carried out on such items under the approval of the LYCAA and to allow items removed from one aircraft/aircraft component to be fitted to another aircraft/aircraft component.

The certificate is to be used for export/import purposes, as well as for domestic purposes, and serves as an official certificate for items from the manufacturer/maintenance organization to users.

It can only be issued by organizations approved by the LYCAA within the scope of the approval.

The certificate may be used as a rotable tag by utilizing the available space on the reverse side of the certificate for any additional information and dispatching the item with two copies of the certificate so that one copy may be eventually returned with the item to the maintenance organization. The alternative solution is to use existing rotable tags and also supply a copy of the certificate.

A certificate should not be issued for any item when it is known that the item is unserviceable, except in the case of an item undergoing a series of maintenance processes at several maintenance organizations, approved under Part-145, and the item needs a certificate for the previous maintenance process carried out for the next maintenance organization, approved under Part-145, to accept the item for subsequent maintenance processes. In such a case, a clear statement of limitation should be endorsed in Block 12.

AMC2 TO 145.A.50(d) Certification of maintenance

1. A component which has been maintained off the aircraft needs the issuance of a certificate of release to service for such maintenance and another certificate of release to service in regard to being installed properly on the aircraft when such action occurs. This requirement also applies to engine completely restored and engine modules.

   When an organization maintains a component for use by the same organization, an LYCAA Form 1 may not be necessary depending upon the organization's internal release procedures defined in the maintenance organization exposition.

2. In the case of the issue of an LYCAA Form 1 for components in storage before Part-145 and Part-21 became effective and not released on an LYCAA Form 1 or equivalent, in accordance with 145.A.42(a), or removed serviceable from a serviceable aircraft or an aircraft which has been withdrawn from service, the following applies:

   2.1. An LYCAA Form 1 may be issued for an aircraft component which has been:

   - Maintained before Part-145 became effective or manufactured before Part-21 became effective.

   - Used on an aircraft and removed in a serviceable condition. Examples include leased and loaned aircraft components.

   - Removed from aircraft which has been withdrawn from service, or from aircraft which has been involved in abnormal occurrences such as accidents, incidents, heavy landings or lightning strikes.

   - Maintained by an unapproved organization.

   2.2. An appropriately rated maintenance organization approved under Part-145 may issue an LYCAA Form 1 as detailed in this AMC subparagraph 2.5 to 2.9, as appropriate, in accordance with procedures detailed in the exposition as approved by the LYCAA. The appropriately rated organization is responsible for ensuring that all reasonable measures have been taken to ensure that only approved and serviceable aircraft components are issued an LYCAA Form 1 under this paragraph.

   2.3. For the purposes of this AMC No 2 only, appropriately rated means an organization with an approval class rating for the type of component or for the product in which it may be installed.

   2.4. An LYCAA Form 1 issued in accordance with this paragraph 2 should be issued by signing in block 14b and stating 'Inspected/Tested' in block 11. In addition, block 12 should specify:

   2.4.1. When the last maintenance was carried out and by whom.

2.4.2. If the component is unused, when the component was manufactured and by whom with a cross-reference to any original documentation which should be included with the Form.

2.4.3. A list of all airworthiness directives, repairs and modifications known to have been incorporated. If no airworthiness directives or repairs or modifications are known to be incorporated, then this should be so stated.

2.4.4. Detail of life used for service life-limited parts being any combination of fatigue, overhaul or storage life.

2.4.5. For any aircraft component having its own maintenance history record, reference to the particular maintenance history record as long as the record contains the details that would otherwise be required in block 12. The maintenance history record and acceptance test report or statement, if applicable, should be attached to the LYCAA Form 1.

2.5. New/unused aircraft components

2.5.1. Any unused aircraft component in storage without an LYCAA Form 1 up to the effective date(s) for Part-21 that was manufactured by an organization acceptable to the LYCAA, at that time, may be issued with an LYCAA Form 1 by an appropriately rated maintenance organization approved under Part-145. The LYCAA Form 1 should be issued in accordance with the following subparagraphs which should be included in a procedure within the maintenance organization manual.

Note 1: It should be understood that the release of a stored but unused aircraft component in accordance with this paragraph represents a maintenance release under Part-145 and not a production release under Part-21. It is not intended to bypass the production release procedure agreed by the LYCAA for parts and subassemblies intended for fitment on the manufacturers own production line.

(a) An acceptance test report or statement should be available for all used and unused aircraft components that are subjected to acceptance testing after manufacturing or maintenance as appropriate.

(b) The aircraft component should be inspected for compliance with the manufacturer's instructions and limitations for storage and condition including any requirement for limited storage life, inhibitors, controlled climate and special storage containers. In addition, or in the absence of specific storage instructions, the aircraft component should be inspected for damage, corrosion and leakage to ensure good condition.

(c) The storage life used of any storage life-limited parts should be established.

2.5.2. If it is not possible to establish satisfactory compliance with all applicable conditions specified in subparagraph 2.5.1(a) to (c) inclusive, the aircraft component should be disassembled by an appropriately rated organization and subjected to a check for incorporated airworthiness directives, repairs and

modifications and inspected/tested in accordance with the maintenance data to establish satisfactory condition and, if relevant, all seals, lubricants and life-limited parts should be replaced. Upon satisfactory completion after reassembly, the LYCAA Form 1 may be issued stating what was carried out and the reference of the maintenance data included.

2.6. Used aircraft components removed from a serviceable aircraft

2.6.1. Serviceable aircraft components removed from Libyan registered aircraft may be issued with an LYCAA Form 1 by an appropriately rated organization subject to compliance with this subparagraph.

(a) The organization should ensure that the component was removed from the aircraft by an appropriately qualified person.

(b) The aircraft component may only be deemed serviceable if the last flight operation with the component fitted revealed no faults on that component/related system.

(c) The aircraft component should be inspected for satisfactory condition including in particular damage, corrosion or leakage and compliance with any additional maintenance data.

(d) The aircraft record should be researched for any unusual events that could affect the serviceability of the aircraft component such as involvement in accidents, incidents, heavy landings or lightning strikes. Under no circumstances may an LYCAA Form 1 be issued, in accordance with this paragraph 2.6, if it is suspected that the aircraft component has been subjected to extremes of stress, temperatures or immersion which could affect its operation.

(e) A maintenance history record should be available for all used serialized aircraft components.

(f) Compliance with known modifications and repairs should be established.

(g) The flight hours/cycles/landings as applicable of any service life-limited parts including time since overhaul should be established.

(h) Compliance with known applicable airworthiness directives should be established.

(i) Subject to satisfactory compliance with this subparagraph 2.6.1, an LYCAA Form 1 may be issued and should contain the information as specified in paragraph 2.4 including the aircraft from which the aircraft component was removed.

2.6.2. Serviceable aircraft components removed from a foreign registered aircraft may only be issued with a LYCAA Form 1 if the components are leased or loaned

from the maintenance organization approved under Part-145 who retains control of the airworthiness status of the components. The LYCAA Form 1 may be issued and should contain the information as specified in paragraph 2.4 including the aircraft from which the aircraft component was removed.

2.7. Used aircraft components removed from an aircraft withdrawn from service

Serviceable aircraft components removed from a Libyan registered aircraft withdrawn from service may be issued with an LYCAA Form 1 by a maintenance organization approved under Part-145 subject to compliance with this subparagraph.

(a) Aircraft withdrawn from service are sometimes dismantled for spares. This is considered to be a maintenance activity and should be accomplished under the control of an organization approved under Part-145, employing procedures approved by the LYCAA.

(b) To be eligible for installation, components removed from such aircraft may be issued with an LYCAA Form 1 by an appropriately rated organization following a satisfactory assessment.

(c) As a minimum, the assessment will need to satisfy the standards set out in paragraphs 2.5 and 2.6 as appropriate. This should, where known, include the possible need for the alignment of scheduled maintenance that may be necessary to comply with the maintenance program applicable to the aircraft on which the component is to be installed.

(d) Irrespective of whether the aircraft holds a certificate of airworthiness or not, the organization responsible for certifying any removed component should ensure that the manner in which the components were removed and stored are compatible with the standards required by Part-145.

(e) A structured plan should be formulated to control the aircraft disassembly process. The disassembly is to be carried out by an appropriately rated organization under the supervision of certifying staff who will ensure that the aircraft components are removed and documented in a structured manner in accordance with the appropriate maintenance data and disassembly plan.

(f) All recorded aircraft defects should be reviewed and the possible effects these may have on both normal and standby functions of removed components are to be considered.

(g) Dedicated control documentation is to be used as detailed by the disassembly plan, to facilitate the recording of all maintenance actions and component removals performed during the disassembly process. Components found to be unserviceable are to be identified as such and quarantined pending a decision on the actions to be taken. Records of the maintenance accomplished to establish serviceability are to form part of the component maintenance history.

(h) Suitable Part-145 facilities for the removal and storage of removed components are to be used which include suitable environmental conditions, lighting, access equipment, aircraft tooling and storage facilities for the work to be undertaken. While it may be acceptable for components to be removed, given local environmental conditions, without the benefit of an enclosed facility, subsequent disassembly (if required) and storage of the components should be in accordance with the manufacturer's recommendations.

2.8. Used aircraft components maintained by organizations not approved in accordance with Part-145

For used components maintained by a maintenance organization not approved under Part-145, due care should be taken before acceptance of such components. In such cases, an appropriately rated maintenance organization approved under Part-145 should establish satisfactory conditions by:

(a) dismantling the component for sufficient inspection in accordance with the appropriate maintenance data;

(b) replacing all service life-limit components when no satisfactory evidence of life used is available and/or the components are in an unsatisfactory condition;

(c) reassembling and testing as necessary the component;

(d) completing all certification requirements as specified in 145.A.50.

2.9. Used aircraft components removed from an aircraft involved in an accident or incident

Such components should only be issued with the LYCAA Form 1 when processed in accordance with paragraph 2.7 and a specific work order including all additional necessary tests and inspections deemed necessary by the accident or incident. Such a work order may require input from the TC holder or original manufacturer as appropriate. This work order should be referenced in block 12.

GM TO 145.A.50(d) LYCAA Form 1 Block 12 'Remarks'

Examples of data to be entered in this block as appropriate:

- Maintenance documentation used, including the revision status, for all work performed and not limited to the entry made in block 11.
- A statement such as 'in accordance with the CMM' is NOT acceptable.
- NDT methods with appropriate documentation used when relevant.
- Compliance with airworthiness directives or service bulletins.
- Repairs carried out.

- Modifications carried out.
- Replacement parts installed.
- Life-limited parts status.
- Shelf-life limitations.
- Deviations from the customer work order.
- Release statements to satisfy a foreign Civil Aviation Authority maintenance requirement.
- Information needed to support shipment with shortages or re-assembly after delivery.
- References to aid traceability, such as batch numbers.

AMC TO 145.A.50(e) Certification of maintenance

1. Being unable to establish full compliance with sub-paragraph 145.A.50(a) means that the maintenance required by the aircraft operator could not be completed due either to running out of available aircraft maintenance downtime for the scheduled check or by virtue of the condition of the aircraft requiring additional maintenance downtime.

2. The aircraft operator is responsible for ensuring that all required maintenance has been carried out before flight and therefore 145.A.50(e) requires such operator to be informed in the case where full compliance with 145.A.50(a) cannot be achieved within the operator's limitations. If the operator agrees to the deferment of full compliance, then the certificate of release to service may be issued subject to details of the deferment, including the operator's authority, being endorsed on the certificate.

   Note: Whether or not the aircraft operator does have the authority to defer maintenance is an issue between the aircraft operator and the competent authority of the State of Registry or State of operator, as appropriate. In case of doubt concerning such a decision of the operator, the approved maintenance organization should inform its competent authority on such doubt, before issuing the certificate of release to service. This will allow competent authority to investigate the matter with the competent authority of the State of Registry or the State of the operator as appropriate.

3. The procedure should draw attention to the fact that 145.A.50(a) does not normally permit the issue of a certificate of release to service in the case of non-compliance and should state what action the mechanic, supervisor and certifying staff should take to bring the matter to the attention of the relevant department or person responsible for technical co-ordination with the aircraft operator so that the issue may be discussed and resolved with the aircraft operator. In addition, the appropriate person(s) as specified in 145.A.30(b) should be kept informed in writing of such possible non-compliance situations and this should be included in the procedure.

AMC TO 145.A.50(f) Certification of maintenance

1. Suitable release certificate means a certificate which clearly states that the aircraft component is serviceable; that clearly specifies the organization releasing said component together with details of the authority under whose approval the organization works including the approval or authorization reference.

2. Compliance with all other Part-145 and operator requirements means making an appropriate entry in the aircraft technical log, checking for compliance with type design standards, modifications, repairs, airworthiness directives, life limitations and condition of the aircraft component plus information on where, when and why the aircraft was grounded.

145.A.55 Maintenance records

(a) The organization shall retain all detailed maintenance record and work carried out. As a minimum, the organization shall retain records necessary to prove that all requirements have been met for the issue of the certificate of release to service, including subcontractor's release documents.

(b) The organization shall provide a copy of each certificate of release to service to the aircraft operator, together with a copy of any specific repair/modification data used for repairs/modifications carried out.

(c) The organization shall retain a copy of all detailed maintenance records and any associated maintenance data to show that all requirements for the signing of a maintenance release have been met for three (03) years from the date the aircraft or component to which the work relates was released from the organization.

    1. The records under this point shall be maintained in a form and format that ensures readability, protection from damage, alteration, theft, security and integrity of the records at all times.

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

       Note 2: Guidance material regarding electronic aircraft maintenance records is contained in ICAO Doc 9760.

    2. Computer backup discs, tapes, etc. shall be stored in a different location from that containing the working discs, tapes, etc., in an environment that ensures they remain in good condition.

    3. Where an organization approved under this Part-145 terminates its operation, all retained maintenance records covering the last three years shall be distributed to the last owner or customer of the respective aircraft or component or shall be stored as specified by the LYCAA.

AMC TO 145.A.55 Maintenance records

General

(a) The record keeping system should ensure that all records are accessible whenever needed within a reasonable time. These records should be organized in a way that ensures traceability and retrievability throughout the required retention period.

(b) Records should be kept in paper form, or in electronic format, or a combination of both. Records stored on microfilm or optical disc format are also acceptable. The records should remain legible throughout the required retention period. The retention period starts when the record has been created or last amended.

(c) Paper systems should use robust material which can withstand normal handling and filing. Computer systems should have, at least, one backup system which should be updated within twenty-four (24) hours of any new entry. Computer systems should include safeguards against the ability of unauthorized personnel to alter the data.

(d) All computer hardware used to ensure data backup should be stored in a different location from that containing the working data, and in an environment that ensures they remain in good condition. When hardware or software changes take place, special care should be taken that all necessary data continues to be accessible at least through the applicable retention period as defined in this Part.

GM TO 145.A.55(a) Maintenance records

(a) Properly executed and retained records provide owners, operators and maintenance personnel with information essential in controlling unscheduled and scheduled maintenance, and troubleshooting to eliminate the need for re-inspection and rework to establish airworthiness. As a minimum, records necessary to prove all requirements have been met for issuance of the certificate of release to service including sub-contractor's release documents should be retained. The prime objective is to have secure and easily retrievable records with comprehensive and legible contents. The aircraft record should contain basic details of all serialized aircraft components and all other significant aircraft components installed, to ensure traceability to such installed aircraft component documentation and associated maintenance data as specified in 145.A.45.

(b) Some gas turbine engines are assembled from modules and a true total time in service for a total engine is not kept. When owners and operators wish to take advantage of the modular design, then total time in service and maintenance records for each module is to be maintained. The maintenance records, as specified, are to be kept with the module and should show compliance with any mandatory requirements pertaining to that module.

(c) Reconstruction of lost or destroyed records can be done by reference to other records which reflect the time in service, research of records maintained by repair facilities and reference to records maintained by individual mechanics, etc. When these things have been done and the record is still incomplete, the owner/operator may make a statement in the new record describing the loss and establishing the time in service based on the

research and the best estimate of time in service. The reconstructed records should be submitted to the LYCAA for acceptance.

Note: Additional maintenance may be required.

(d) The maintenance record can be either a paper or computer system or any combination of both.

(e) Paper systems should use robust material which can withstand normal handling and filing. The record should remain legible throughout the required retention period.

(f) Computer systems may be used to control maintenance and/or record details of maintenance work carried out. Computer systems used for maintenance should have at least one backup system which should be updated at least within 24 hours of any maintenance. Each terminal is required to contain program safeguards against the ability of unauthorized personnel to alter the database.

AMC TO 145.A.55(C) Maintenance records

Associated maintenance data is specific information such as repair and modification data. This does not necessarily require the retention of all Aircraft Maintenance Manual, Component Maintenance Manual, IPC, etc. issued by the TC holder or STC holder. Maintenance records should refer to the revision status of the data used.

145.A.60 Occurrence reporting

(a) The organization shall report to the LYCAA, the state of registry and the organization responsible for the design of the aircraft or component any condition of the aircraft or component identified by the organization that has resulted or may result in an unsafe condition that hazards seriously the flight safety.

(b) The organization shall establish an internal occurrence reporting system as detailed in the exposition to enable the collection and evaluation of such reports, including the assessment and extraction of those occurrences to be reported under paragraph (a). This procedure shall identify adverse trends, corrective actions taken or to be taken by the organization to address deficiencies and include evaluation of all known relevant information relating to such occurrences and a method to circulate the information as necessary.

(c) The organization shall make such reports in a form and manner established by the LYCAA and ensures that they contain all pertinent information about the condition and evaluation of results known to the person or organization and details of the investigation and actions it intends to take to prevent similar occurrences in the future.

(d) Where the organization is contracted by a commercial operator to carry out maintenance, the organization shall also report to the operator any such condition affecting the operator's aircraft or component.

(e) The organization shall produce and submit such reports as soon as practicable but, in any case, within seventy-two (72) hours of the organization identifying the condition to which the report relates.

AMC TO 145.A.60(a) Occurrence reporting

Appendix V to 145.A.60(a) provides further guidance on occurrence reporting.

GM TO 145.A.60(a) Occurrence reporting

The organization responsible for the design is normally the TC holder of the aircraft, engine or propeller and/or if known the STC holder.

AMC TO 145.A.60(b) Occurrence reporting

1. The aim of occurrence reporting is to identify the factors contributing to incidents and to make the system resistant to similar errors.

2. An occurrence reporting system should enable and encourage free and frank reporting of any (potentially) safety related occurrence. This will be facilitated by the establishment of a just culture. An organization should ensure that personnel are not inappropriately punished for reporting or co-operating with occurrence investigations.

3. The internal reporting process should be closed-loop, ensuring that actions are taken internally to address safety hazards.

4. Feedback to reportees, both on an individual and more general basis, is important to ensure their continued support for the scheme.

GM TO 145.A.60(c) Occurrence reporting

Each report should contain at least the following information:

(i) Organization name and approval reference.

(ii) Information necessary to identify the subject aircraft and / or component.

(iii) Date and time relative to any life or overhaul limitation in terms of flying hours/cycles/landings, etc. as appropriate.

(iv) Details of the condition as required by 145.A.60(b).

(v) Any other relevant information found during the evaluation or rectification of the condition.

145.A.65 safety & quality policy, maintenance procedures & quality system

(a) The organization shall establish a safety and quality policy for the organization to be included in the exposition under 145.A.70.

(b) The organization shall establish procedures agreed by the LYCAA taking into account human factors and human performance to ensure good maintenance practices and compliance with all the relevant requirements prescribed in this Part-145. The procedures under this point shall:

1. ensure that a clear work order or contract has been agreed between the organization and the organization requesting maintenance to clearly establish the maintenance to be carried out so that aircraft and components may be released to service in accordance with 145.A.50, and;

2. cover all aspects of carrying out maintenance, including the provision and control of specialized services and lay down the standards to which the organization intends to work.

(c) The maintenance organization shall establish a quality system that includes the following:

1. Independent audits in order to monitor compliance with required aircraft/aircraft component standards and adequacy of the procedures to ensure that such procedures invoke good maintenance practices and airworthy aircraft/aircraft components. In the smallest organizations, the independent audit part of the quality system may be contracted when authorized by the LYCAA to another organization approved under this Part or a person with appropriate technical knowledge and proven satisfactory audit experience, and;

2. A quality feedback reporting system to the person or group of persons specified in requirement 145.A.30(b) and ultimately to the accountable manager that ensures proper and timely corrective action is taken in response to reports resulting from the independent audits established to meet paragraph (c)(1).

(d) The Part-145 approved maintenance organization (Except distributors organization) must establish a safety management system, that is commensurate with its size and the complexity of its aviation products or services.

(e) A safety management system shall clearly define lines of responsibility and accountability throughout a maintenance organization, including a direct accountability for safety on the part of senior management.

AMC TO 145.A.65(a) safety & quality policy, maintenance procedures & quality system

The safety and quality policy should as a minimum include a statement committing the organization to:

- Recognize safety as a prime consideration at all times.
- Apply Human factors principles.
- Encourage personnel to report maintenance related errors/incidents.
- Recognize that compliance with procedures, quality standards, safety standards and regulations is the duty of all personnel.
- Recognize the need for all personnel to cooperate with the quality auditors.

AMC TO 145.A.65(b) safety & quality policy, maintenance procedures & quality system

1. Maintenance procedures should be held current such that they reflect best practice within the organization. It is the responsibility of all organization's employees to report any differences via their organization's internal occurrence reporting mechanisms;
2. All procedures, and changes to those procedures, should be verified and validated before use;
3. All technical procedures should be designed and presented in accordance with good human factors principles.

GM TO 145.A.65(b)(1) safety & quality policy, maintenance procedures & quality system

Part-M provides guidance on the elements that need to be considered for the maintenance contract between the CAMO and the maintenance organization. The Part-145 organization should take into account these elements to ensure that a clear contract or work order has been concluded before providing maintenance services.

AMC TO 145.A.65(b)(2) safety & quality policy, maintenance procedures & quality system

Specialized services include any specialized activity, such as but not limited to, non-destructive testing requiring particular skills and/or qualification. 145.A.30(f) covers the qualification of personnel but, in addition, there is a need to establish maintenance procedures that cover the control of any specialized process.

AMC TO 145.A.65(c)(1) safety & quality policy, maintenance procedures & quality system

1. The primary objectives of the quality system are to enable the organization to ensure that it can deliver a safe product and that organization remains in compliance with the requirements.

2. An essential element of the quality system is the independent audit.

3. The independent audit is an objective process of routine sample checks of all aspects of the organization's ability to carry out all maintenance to the required standards and includes some product sampling as this is the end result of the maintenance process. It represents an objective overview of the complete maintenance related activities and is intended to complement the 145.A.50(a) requirement for certifying staff to be satisfied that all required maintenance has been properly carried out before issue of the certificate of release to service. Independent audits should include a percentage of random audits carried out on a sample basis when maintenance is being carried out. This means some audits during the night for those organizations that work at night.

4. Except as specified in sub-paragraphs (7) and (9) below, the independent audit should ensure that all aspects of Part-145 compliance are checked every twelve (12) months and may be carried out as a complete single exercise or subdivided over the twelve (12) months' period in accordance with a scheduled plan. The independent audit does not require each procedure to be checked against each product line when it can be shown that the particular procedure is common to more than one product line and the procedure has been checked every twelve (12) months without resultant findings. Where findings have been identified, the particular procedure should be rechecked against other product lines until the findings have been rectified, after which the independent audit procedure may revert back to twelve (12) months for the particular procedure.

5. Except as specified otherwise in subparagraph (7) below, the independent audit should sample check one product on each product line every twelve (12) months as a demonstration of the effectiveness of maintenance procedures compliance. It is recommended that procedures and product audits be combined by selecting a specific product example, such as an aircraft or engine or instrument and sample checking all the procedures and requirements associated with the specific product example to ensure that the end result should be an airworthy product.

   For the purpose of the independent audit, a product line includes any product under an Appendix II approval class rating as specified in the approval schedule issued to the particular organization.

   It therefore follows, for example, that a maintenance organization approved under Part-145 with a capability to maintain aircraft, repair engines, brakes and autopilots would need to carry out four complete audit sample checks each year except as specified otherwise in subparagraphs (5), (7) or (9).

6. The sample check of a product means to witness any relevant testing and visually inspect the product and associated documentation. The sample check should not involve repeat disassembly or testing unless the sample check identifies findings requiring such action.

7. Except as specified otherwise in sub-paragraph (9), where the smallest organization, that is an organization with a maximum of ten (10) personnel actively engaged in maintenance, chooses to contract the independent audit element of the quality system in accordance with 145.A.65(c)(1), it is conditional on the audit being carried out twice in every twelve (12) months period.

8. Except as specified otherwise in sub-paragraph (9), where the organization has line stations listed as per 145.A.75(d), the quality system should describe how these are integrated into the system and include a plan to audit each listed line station at a frequency consistent with the extent of flight activity at the particular line station. Except as specified otherwise in sub-paragraph (9), the maximum period between audits of a particular line station should not exceed twenty-four (24) months.

9. Except as specified otherwise in sub-paragraph (5), the LYCAA may agree to increase any of the audit time periods specified in this AMC 145.A.65(c)(1) by up to 100% provided that there are no safety related findings and subject to being satisfied that the organization has a good record of rectifying findings in a timely manner.

10. A report should be raised each time an audit is carried out describing what was checked and the resulting findings against applicable requirements, procedures and products.

11. The independence of the audit should be established by always ensuring that audits are carried out by personnel not responsible for the function, procedure or products being checked. It therefore follows that a large maintenance organization approved under Part-145, being an organization with more than about five hundred (500) maintenance staff should have a dedicated quality audit group whose sole function is to conduct audits, raise finding reports and follow up to check that findings are being rectified. For the medium sized maintenance organization approved under Part-145, being an organization with less than about five hundred (500) maintenance staff, it is acceptable to use competent personnel from one section/department not responsible for the production function, procedure or product to audit the section/department that is responsible subject to the overall planning and implementation being under the control of the quality manager. Organizations with a maximum of ten (10) maintenance staff actively engaged in carrying out maintenance, may contract the independent audit element of the quality system to another organization or a qualified and competent person approved by the LYCAA.

GM TO 145.A.65(c)(1) safety & quality policy, maintenance procedures & quality system

1. The purpose of this GM is to give guidance on just one acceptable working audit plan to meet part of the needs of 145.A.65(c)1. There is any number of other acceptable working audit plans.

2. The proposed plan lists the subject matter that should be covered by the audit and attempts to indicate applicability in the various types of workshops and aircraft facilities. The list should therefore be tailored for the particular situation and more than one list may be necessary. Each list should be shown against a timetable to indicate when the particular item is scheduled for audit and when the audit was completed.

PARA	Comment	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
145.A.25	-	Yes	Yes	Yes	Yes
145.A.30	-	Yes	Yes	Yes	Yes
145.A.35	-	Yes	Yes	Yes	Yes
145.A.36	-	Yes	Yes	Yes	Yes
145.A.40	-	Yes	Yes	Yes	Yes
145.A.42	-	Yes	Yes	Yes	Yes
145.A.43	-	Yes	Yes	Yes	Yes
145.A.45	-	Yes	Yes	Yes	Yes
145.A.47	-	Yes	Yes	Yes	Yes
145.A.48	-	Yes	Yes	If applicable	If applicable
145.A.50	-	Yes	Yes	Yes	Yes
145.A.55	-	Yes	Yes	Yes	Yes
145.A.60	-	Yes	Yes	Yes	Yes
145.A.65	-	Yes	Yes	Yes	Yes
2.1	MOE	Yes	Yes	Yes	Yes
2.2	MOE	Yes	Yes	Yes	Yes
2.3	MOE	Yes	Yes	Yes	Yes
2.4	MOE	Yes	Yes	Yes	Yes
2.5	MOE	Yes	Yes	Yes	Yes

PARA	Comment	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
2.6	MOE	Yes	Yes	Yes	Yes
2.7	MOE	Yes	Yes	Yes	Yes
2.8	MOE	Yes	Yes	Yes	Yes
2.9	MOE	Yes	Yes	Yes	Yes
2.10	MOE	Yes	No	No	No
2.11	MOE	Yes	Yes	Yes	Yes
2.12	MOE	Yes	Yes	Yes	Yes
2.13	MOE	Yes	Yes	Yes	Yes
2.14	MOE	Yes	Yes	Yes	Yes
2.15	MOE	Yes	No	No	No
2.16	MOE	Yes	Yes	Yes	Yes
2.17	MOE	If applicable	If applicable	If applicable	If applicable
2.18	MOE	Yes	Yes	Yes	Yes
2.19	MOE	Yes	Yes	Yes	Yes
2.20	MOE	Yes	Yes	Yes	Yes
2.21	MOE	If applicable	If applicable	If applicable	If applicable
2.22	MOE	Yes	Yes	No	No
2.23	MOE	Yes	No	No	No
2.24	MOE	Yes	Yes	Yes	Yes
2.25	MOE	Yes	Yes	Yes	Yes
2.26	MOE	Yes	Yes	Yes	Yes
2.27	MOE	Yes	Yes	Yes	Yes
2.28	MOE	Yes	Yes	Yes	Yes
2.29	MOE	Yes	No	No	No
2.30	MOE	Yes	No	No	No
L2.1	MOE	If applicable	No	No	No
L2.2	MOE	If applicable	No	No	No
L2.3	MOE	If applicable	No	No	No
L2.4	MOE	If applicable	No	No	No
L2.5	MOE	If applicable	No	No	No
L2.6	MOE	If applicable	No	No	No
L2.7	MOE	If applicable	No	No	No
3.9	MOE	If applicable	If applicable	If applicable	If applicable
3.10	MOE	If applicable	If applicable	If applicable	If applicable
3.11	MOE	If applicable	If applicable	If applicable	If applicable
3.12	MOE	Yes	Yes	Yes	Yes
3.13	MOE	Yes	Yes	Yes	Yes
3.14	MOE	Yes	Yes	Yes	Yes

PARA	Comment	HANGAR	ENGINE Workshop	MECH Workshop	AVIONIC Workshop
145.A.70	-	Yes	Yes	Yes	Yes
145.A.75	-	Yes	Yes	Yes	Yes
145.A.80	-	Yes	Yes	Yes	Yes
145.A.85	-	If applicable	If applicable	If applicable	If applicable
145.A.95	-	If applicable	If applicable	If applicable	If applicable

Note: In the line station case, all line stations should be audited at the frequency agreed with LYCAA within the limits of AMC 145.A.65(c)(1).

AMC TO 145.A.65(c)(2) safety & quality policy, maintenance procedures & quality system

1. An essential element of the quality system is the quality feedback system.

2. The quality feedback system may not be contracted to outside persons. The principal function of the quality feedback system is to ensure that all findings resulting from the independent quality audits of the organization are properly investigated and corrected in a timely manner and to enable the accountable manager to be kept informed of any safety issues and the extent of compliance with Part-145.

3. The independent quality audit reports referenced in AMC to 145.A.65(c)(1) sub-paragraph (10) should be sent to the relevant department(s) for rectification action giving target rectification dates. Rectification dates should be discussed with such department(s) before the quality department or nominated quality auditor confirms such dates in the report. The relevant department(s) are required by 145.A.65(c)(2) to rectify findings and inform the quality department or nominated quality auditor of such rectification.

4. The accountable manager should hold regular meetings with staff to check progress on rectification except that in the large organizations such meetings may be delegated on a day-to-day basis to the quality manager subject to the accountable manager meeting at least twice per year with the senior staff involved to review the overall performance and receiving at least a half yearly summary report on findings of non-compliance.

5. All records pertaining to the independent quality audit and the quality feedback system should be retained for at least two (2) years after the date of clearance of the finding to which they refer, or for such periods as to support changes to the AMC to 145.A.65(c)(1) sub-paragraph (9) audit time periods, whichever is the longer.

145.A.70 Maintenance Organization Exposition

(a) 'Maintenance organization exposition' means the document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the organization intends to comply with Part-145.

The organization shall provide for the use and guidance of maintenance personnel concerned a maintenance organization exposition, which may be issued in separate parts, containing the following information:

1. A statement signed by the accountable manager confirming that the maintenance organization exposition and any referenced associated manuals define the organization's compliance with this Part-145 and will be complied with at all times. When the accountable manager is not the chief executive officer of the organization, then such chief executive officer shall countersign the statement;

2. A general description of the scope of work authorized under the organization's terms of approval, a description of the organization's procedures, of quality and safety policy as specified by requirement 145.A.65;

3. The title(s) and name(s) of the persons nominated accepted by LYCAA under requirement 145.A.30;

4. The duties and responsibilities of the persons nominated under requirement 145.A.30 and specified in subparagraph (3), including matters on which they may deal directly with the LYCAA on behalf of the Part-145 Approved Maintenance Organization;

5. An organization chart showing associated chains of responsibility between the persons nominated under requirement 145.A.30(b) specified in subparagraph (3);

6. A list of certifying staff and support staff (if need it) and staff responsible for the development and processing of the maintenance program, with their scope of their authorization and of their approval;

7. A general description of manpower resources;

8. A general description of the organization's facilities located at each address specified in the Part-145 approved maintenance organization`s certificate of approval;

9. A specification of the approved maintenance organization's scope of work relevant to the extent of approval;

10. The notification procedure of 145.A.85 for Part-145 Approved maintenance organization changes and a description of the procedures for implementing changes affecting the approval of the maintenance organization.

11. The maintenance organization exposition amendment procedure;

Note: Sub-paragraphs (1) to (11) inclusive constitutes the management part of the maintenance organization exposition.

12. The Part-145 Approved maintenance organizations procedures, quality and safety systems established by the organization under requirements 145.A.25 to 145.A.90 and any additional procedure followed in accordance with Part-M;

    12.1. A description of the procedures used to establish the competence of the maintenance personnel required by this Part-145.

    12.2. A description of the method used for the completion and retention of the maintenance records required by 145. A.55.

    12.3. A description of the procedures for preparing the maintenance release and the circumstances under which the release is to be signed.

    12.4. A description of the procedures for complying with the information reporting requirements of 145. A.60.

    12.5. A description of the procedure for receiving, assessing, amending and distributing within the maintenance organization all necessary airworthiness data from the organization responsible for the type design.

13. A list of aircraft operators, if appropriate, to which the Part-145 approved maintenance organization provides a maintenance service.

14. A list of sub-contractors, if appropriate, as specified in 145.A.75(b) including a description of the maintenance function contracted to each sub-contractor.

15. A list of line stations, where applicable, as specified in requirement 145.A.75(d);

16. A list of contracted Part-145 approved maintenance organizations, if appropriate.

(b) The maintenance organization exposition shall be amended as necessary to keep the information contained therein up-to-date. The exposition and any subsequent amendment shall be approved by the LYCAA.

(c) Copies of all amendments to the maintenance organization exposition shall be furnished promptly to all organizations and persons to whom the manual has been issued.

(d) Notwithstanding paragraph (b), minor amendment to the exposition may be approved through an exposition procedure, subject to the criteria of the minor amendment is defined in the exposition.

(e) Notwithstanding paragraphs (a) and (b), the LYCAA may accept the exposition produced by the organization supplemented by specific control procedures to address the differences to ensure compliance with Part-145.

Note: Guidance material on the content of a maintenance organization's procedures manual is contained in ICAO Doc 9760.

AMC TO 145.A.70(a) Maintenance Organization Exposition

The following information should be included in the maintenance organization exposition:

1. The information specified in 145.A.70(a) subparagraphs (6) and (12) to (16) inclusive, whilst a part of the maintenance organization exposition, may be kept as separate documents or on separate electronic data files subject to the management part of said exposition containing a clear cross-reference to such documents or electronic data files.

2. The exposition should contain the information, as applicable, specified in this AMC. The information may be presented in any subject order as long as all applicable subjects are covered. Where an organization uses a different format, for example, to allow the exposition to serve for more than one approval, then the exposition should contain a cross-reference Annex using this list as an index with an explanation as to where the subject matter can be found in the exposition.

3. The exposition should contain information, as applicable, on how the maintenance organization complies with Critical Design Configuration Control Limitations' (CDCCL) instructions.

4. Small maintenance organizations may combine the various items to form a simple exposition more relevant to their needs.

5. The operator may use electronic data processing (EDP) for publication of the maintenance organization exposition. The maintenance organization exposition should be made available to the LYCAA in a form acceptable to the LYCAA. Attention should be paid to the compatibility of EDP publication systems with the necessary dissemination of the maintenance organization exposition, both internally and externally.

PART 0 GENERAL ORGANIZATION

0.0 Introduction
0.1 General Info – Background, Name, Address, Tel & Fax address& email address
0.2 Table of Content
0.3 List of Effective pages
0.4 List of Revision/Amendment
0.5 Distribution List
0.6 Glossary and Abbreviation

PART 1 MANAGEMENT

1.1 Corporate commitment by the accountable manager
1.2 Safety and quality policy
1.3 Management personnel
1.4 Duties and responsibilities of the management personnel
1.5 Management organization chart
1.6 List of certifying staff and support staff
1.7 Manpower resources
1.8 General description of the facilities at each address intended to be approved
1.9 Organizations intended scope of work
1.10 Notification procedure to the LYCAA regarding changes to the organization's activities/approval/location/personnel
1.11 Exposition amendment procedures including, if applicable, delegated procedures

PART 2 MAINTENANCE PROCEDURES

2.1 Supplier evaluation and subcontract control procedure
2.2 Acceptance/inspection of aircraft components and material from outside contractors
2.3 Storage, tagging and release of aircraft components and material to aircraft maintenance
2.4 Acceptance of tools and equipment
2.5 Calibration of tools and equipment
2.6 Use of tooling and equipment by staff (including alternate tools)
2.7 Cleanliness standards of maintenance facilities
2.8 Maintenance instructions and relationship to aircraft/aircraft component manufacturers' instructions including updating and availability to staff
2.9 Repair procedure
2.10 Aircraft maintenance program compliance
2.11 Airworthiness directives procedure
2.12 Optional modification procedure
2.13 Maintenance documentation in use and its completion
2.14 Technical record control
2.15 Rectification of defects arising during base maintenance
2.16 Release to service procedure
2.17 Records for the operator
2.18 Reporting of defects to the LYCAA/operator/manufacturer

2.19 Return of defective aircraft components to store
2.20 Defective components to outside contractors
2.21 Control of computer maintenance record systems
2.22 Control of man-hour planning versus scheduled maintenance work
2.23 Critical maintenance tasks and error-capturing methods
2.24 Reference to specific maintenance procedures such as –
- Engine running procedures
- Aircraft pressure run procedures
- Aircraft towing procedures
- Aircraft taxiing procedures

2.25 Procedures to detect and rectify maintenance errors.
2.26 Shift/task handover procedures
2.27 Procedures for notification of maintenance data inaccuracies and ambiguities, to the type certificate holder
2.28 Production planning procedures
2.29 Development and approval processing for maintenance programs for LA2 aircraft not involved in commercial operations

PART L2 ADDITIONAL LINE MAINTENANCE PROCEDURES

L2.1 Line maintenance control of aircraft components, tools, equipment, etc.
L2.2 Line maintenance procedures related to servicing/fueling/de-icing, including inspection for/removal of de-icing/anti-icing fluid residues, etc.
L2.3 Line maintenance control of defects and repetitive defects
L2.4 Line procedure for completion of technical log
L2.5 Line procedure for pooled parts and loan parts
L2.6 Line procedure for return of defective parts removed from aircraft
L2.7 Line procedure for critical maintenance tasks and error-capturing methods

PART 3 MANAGEMENT SYSTEM PROCEDURES

3.1 Quality audit of organization procedures
3.2 Quality audit of aircraft
3.3 Quality audit remedial action procedure
3.4 Certifying staff and support staff qualification and training procedures
3.5 Certifying staff and support staff records
3.6 Quality audit personnel
3.7 Qualifying inspectors
3.8 Qualifying mechanics
3.9 Aircraft or aircraft component maintenance tasks exemption process control
3.10 Concession control for deviation from organizations' procedures
3.11 Qualification procedure for specialized activities such as NDT welding, etc.
3.12 Control of manufacturers and other maintenance working teams
3.13 Human factors training procedure
3.14 Competence assessment of personnel
3.15 Reserved

3.16 Procedure for the issue of a recommendation to the LYCAA for the issue of a Part-66 license (limited to the case where the LYCAA approval for the Part-145 and for the Part-66 license is the same). (Reserved).
3.17 Hazard identification and safety risk management schemes.
3.18 Safety action planning
3.19 Safety performance monitoring
3.20 Incident investigation and safety reporting
3.21 Emergency response planning
3.22 Management of change (including organizational changes with regard to safety responsibilities)
3.23 Safety promotion
3.24 Management system record keeping

PART 4 CONTRACTS

4.1 Contracting operators
4.2 Operator procedures and paperwork
4.3 Operator record completion
4.4 Procedure for issuing the one-off authorization as per 145.A.30 (j) (5), if nominated by the operator

PART 5 APPENDICES

5.1 Sample of documents
5.2 List of Subcontractors as per 145.A.75(b), including a description of the maintenance function contracted to each Sub-contractor.
5.3 List of Line maintenance locations as per 145.A.75(d)
5.4 List of contracted organizations as per 145.A.70(a)(16)

GM TO 145.A.70(a) Maintenance Organization Exposition

1. The purpose of the maintenance organization exposition (MOE) is to set forth the procedures, means and methods of the organization.

2. Compliance with its contents will assure compliance with the requirements of Part-145, which is a prerequisite to obtaining and retaining an approved maintenance organization certificate.

3. 145.A.70(a)(1) to (a)(11) constitutes the 'management' part of the MOE and therefore could be produced as one document and made available to the person(s) specified under 145.A.30(b) who should be reasonably familiar with its contents. 145.A.70(a)(6) list of certifying staff, B1 and B2 support staff may be produced as a separate document.

   Note: 145.A.70(a)(9) scope of work (such as a capability list) may be produced as a separate document subject to the agreement of the LYCAA.

4. 145.A.70(a)(12) constitutes the working procedures of the organization and therefore as stated in the requirement may be produced as any number of separate procedures manuals. It should be remembered that these documents should be cross-referenced from the management MOE.

5. Personnel are expected to be familiar with those parts of the manuals that are relevant to the maintenance work they carry out.

6. The organization should specify in the MOE who should amend the manual particularly in the case where there are several parts.

7. The quality manager should be responsible for monitoring the amendment of the MOE, unless otherwise agreed by the LYCAA, including associated procedures manuals and submission of the proposed amendments to the LYCAA. However, the LYCAA may agree via a procedure stated in the amendment section of the MOE that some defined class of amendments may be incorporated without prior approval by the LYCAA.

8. The MOE should cover four main parts:

   (a) The management MOE covering the parts specified earlier.

   (b) The maintenance procedures covering all aspects of how aircraft components may be accepted from outside sources and how aircraft will be maintained to the required standard.

   (c) The quality system procedures including the methods of qualifying mechanics, inspection, certifying staff and quality audit personnel.

   (d) Contracting operator procedures and paperwork.

9. The accountable manager's exposition statement as specified under 145.A.70(a)(1) should embrace the intent of the following paragraph and in fact this statement may be used without amendment. Any modification to the statement should not alter the intent.

> This exposition and any associated referenced manuals define the organization and procedures upon which the LYCAA CAR 145 approval is based as required by 145. A.70. These procedures are approved by the undersigned and should be complied with, as applicable, when work orders are being progressed under the terms of the CAR 145 approval.
>
> It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the LYCAA from time to time where these new or amended regulations are in conflict with these procedures.
>
> It is understood that the LYCAA will approve this organization whilst the LYCAA is satisfied that the procedures are being followed and work standards maintained. It is further understood that the LYCAA reserves the right to suspend, limit or revoke the approval of the organization if the LYCAA has evidence that procedures are not followed or standards not upheld.
>
> Signed ..... Dated .....
>
> Accountable Manager..... (Position).....
>
> For and on behalf of (Organization's name) .....

Note: Whenever the accountable manager changes, it is important to ensure that the new accountable manager signs the paragraph (9) statement at the earliest opportunity. Failure to carry out this action could invalidate the Part-145 approval.

10. When an organization holds other LYCAA approvals which contains a requirement for an exposition, a supplement covering the differences will suffice to meet the requirements except that the supplement should have an index showing where those parts missing from the supplement are covered.

11. The 145.A.65(a) quality policy should embrace the intent of the following paragraph:

"*Only by providing the standard of quality and service demanded by our customers, and constantly striving to maintain and improve the standard, can we continue to be a respected provider of services.*

The basic quality requirements to achieve the standard are laid down in the exposition.

Quality standards are the responsibility of all personnel and it is the duty of all personnel to comply with this policy, to strive to both maintain and improve quality standards at every opportunity."

12. Part-145 approved maintenance organizations located in Libya should use the exposition format prescribed in AMC to 145.A.70(a), however, additional supplements addressing the

requirements of another authority may be permitted to be included in the maintenance organization exposition.

13. However, organizations located outside Libya approved by another authority against the regulations of that authority (such us the FAA/EASA) may use a common exposition provided that all Part-145 requirements are met and the management part of the 145.A.70 maintenance organization exposition be addressed in unique section of the common exposition. Differences between the Part-145 requirements and the requirements of the other authority/authorities should be identified and indicated. The common exposition should have an index showing where those parts pertaining to the Part-145 are covered.

145.A.75 Privileges of the organization

In accordance with the exposition, the organization shall be entitled to carry out the following tasks:

(a) Maintain any aircraft and/or component for which it is approved at the locations identified in the approval certificate and in the exposition;

(b) Arrange for maintenance of any aircraft or component for which it is approved at another organization that is working under the quality system of the organization. This refers to work being carried out by an organization not itself appropriately approved to carry out such maintenance under this Part, and is limited to the work scope permitted under procedures laid down in requirement 145.A.65(b). This work scope shall not include a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module;

(c) Maintain any aircraft or any component for which it is approved at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance, subject to the conditions specified in the exposition;

(d) Maintain any aircraft and/or component for which it is approved at a location identified as a line maintenance location capable of supporting minor maintenance and only if the organization exposition both permits such activity and lists such locations;

(e) Issue certificates of release to service in respect of completion of maintenance in accordance with requirement 145.A.50;

(f) Develop the maintenance program and process its approval in accordance with requirement Part-M for LA2 aircraft not involved in commercial operations, under the conditions specified in requirement Part-M, and limited to the aircraft ratings listed in the approval certificate.

AMC TO 145.A.75(b) Privileges of the organization

1. Working under the quality system of an organization appropriately approved under Part-145 (sub-contracting) refers to the case of one organization, not itself appropriately approved to Part-145, that carries out aircraft line maintenance or minor engine maintenance or maintenance of other aircraft components or a specialized service as a subcontractor for an organization appropriately approved under Part-145. To be appropriately approved to subcontract, the organization should have a procedure for the control of such subcontractors as described below. Any approved maintenance organization that carries out maintenance for another approved maintenance organization within its own approval scope is not considered to be subcontracting for the purpose of this paragraph.

   Note: for those organizations approved under Part-145 that are also certificated by the FAA under FAR-145 or any other ICAO contracting State, it should be noted that the regulations of those States are more restrictive in respect of maintenance activities that can be contracted or sub-contracted to another maintenance organization. It is therefore recommended that any listing of contracted or sub-contracted maintenance organizations should identify which meet the Part-145 criteria and which meet the FAR-145 criteria and the regulation of those States.

2. Maintenance of engines or engine modules other than a complete workshop maintenance check or overhaul is intended to mean any maintenance that can be carried out without disassembly of the core engine or, in the case of modular engines, without disassembly of any core module.

   This means that the complete workshop maintenance check of an engine module or overhaul of an engine module can be accepted using the LYCAA Form 1 or equivalent release form as specified under 145.A.42.

3. Fundamentals of sub-contracting under Part-145

   3.1. The fundamental reasons for allowing an organization approved under Part-145 to subcontract certain maintenance tasks are:

   (a) To permit the acceptance of specialized maintenance services, such as, but not limited to, plating, heat treatment, plasma spray, fabrication of specified parts for minor repairs / modifications, etc., without the need for direct approval by the LYCAA in such cases.

   (b) To permit the acceptance of aircraft maintenance, up to but not including a base maintenance check as specified in 145.A.75(b), by organizations not appropriately approved under Part-145 when it is unrealistic to expect direct approval by the LYCAA. The LYCAA will determine when it is unrealistic, but in general it is considered unrealistic if only one or two organizations intend to use the sub-contract organization.

   (c) To permit the acceptance of component maintenance.

(d) To permit the acceptance of engine maintenance, up to but not including a workshop maintenance check or overhaul of an engine or engine module as specified in 145.A.75(b), by organizations not appropriately approved under Part-145 when it is unrealistic to expect direct approval by the LYCAA. The determination of unrealistic is as per sub-paragraph (b).

3.2. When maintenance is carried out under the sub-contract control system, it means that for the duration of such maintenance, the Part-145 approval has been temporarily extended to include the sub-contractor. It therefore follows that those parts of the subcontractor`s facilities, personnel and procedures involved with the maintenance organization's products undergoing maintenance should meet Part-145 requirements for the duration of that maintenance and it remains the organization's responsibility to ensure such requirements are satisfied.

3.3. For the criteria specified in sub-paragraph 3.1, the organization is not required to have complete facilities for maintenance that it needs to sub-contract but it should have its own expertise to determine that the sub-contractor meets the necessary standards. However, an organization cannot be approved unless it has the in-house facilities, procedures and expertise to carry out the majority of maintenance for which it wishes to be approved in terms of the number of class ratings.

3.4. The organization may find it necessary to include several specialist sub-contractors to enable it to be approved to completely certify the release to service of a particular product. Examples could be specialist welding, electro-plating, painting, etc. To authorize the use of such subcontractors, the LYCAA will need to be satisfied that the organization has the necessary expertise and procedures to control such sub-contractors.

3.5. An organization working outside the scope of its approval schedule is deemed to be not approved. Such an organization may in this circumstance operate only under the subcontract control of another organization approved under Part-145.

3.6. Authorization to sub-contract is indicated by the LYCAA accepting the maintenance organization exposition containing a specific procedure on the control of sub-contractors.

4. Principal Part-145 procedures for the control of sub-contractors not approved under Part-145

4.1. A pre-audit procedure should be established whereby the maintenance organization's subcontract control section, which may also be the 145.A.65(c) quality system independent audit section, should audit a prospective subcontractor to determine whether those services of the subcontractor that it wishes to use meets the intent of Part-145.

4.2. The organization approved under Part-145 needs to assess to what extent it will use the sub-contractor`s facilities. As a general rule, the organization should require its own paperwork, approved data and material/spare parts to be used, but it could permit the use of tools, equipment and personnel from the sub-contractor as long as

such tools, equipment and personnel meet the requirement of Part-145. In the case of subcontractors who provide specialized services, it may for practical reasons be necessary to use their specialized services personnel, approved data and material subject to acceptance by the organization approved under CAR 145.

4.3. Unless the sub-contracted maintenance work can be fully inspected on receipt by the organization approved under Part-145, it will be necessary for such organization to supervise the inspection and release from the sub-contractor. Such activities should be fully described in the organization procedure. The organization will need to consider whether to use its own staff or authorize the sub-contractor's staff.

4.4. The certificate of release to service may be issued either at the sub-contractor or at the organization facility by staff issued a certification authorization in accordance with 145.A.30 as appropriate, by the organization approved under Part-145. Such staff would normally come from the organization approved under Part-145 but may otherwise be a person from the sub-contractor who meets the approved maintenance organization certifying staff standard which itself is approved by the LYCAA, via the maintenance organization exposition. The certificate of release to service and the Form 1 will always be issued under the maintenance organization approval reference.

4.5. The sub-contract control procedure will need to record audits of the sub-contractor, to have a corrective action follow up plan and to know when sub-contractors are being used. The procedure should include a clear revocation process for sub-contractors who do not meet the Part-145 approved maintenance organization's requirements.

4.6. The Part-145 quality audit staff will need to audit the sub-contract control section and sample audit sub-contractors unless this task is already carried out by the quality audit staff as stated in sub-paragraph 4.1.

4.7. The contract between the Part-145 approved maintenance organization and the subcontractor should contain a provision for the LYCAA to have right of access to the sub-contractor.

145.A.80 Limitations on the organization

The organization shall only maintain an aircraft or component for which it is approved when all the necessary facilities, equipment, tooling, material, maintenance data and certifying staff are available.

AMC TO 145.A.80 Limitations on the organization

This paragraph is intended to cover the situation where the larger organization may temporarily not hold all the necessary tools, equipment, etc., for an aircraft type or variant specified in the organization's approval. This paragraph means that the LYCAA needs not amend the approval to delete the aircraft type or variants on the basis that it is a temporary situation and there is a commitment from the organization to re-acquire tools, equipment etc. before maintenance on the type may recommence.

145.A.85 Changes to the organization

The organization shall notify the LYCAA, and any foreign Civilian Aviation Authority which issued the maintenance organization approval, of any proposal to carry out any of the following changes before such changes take place to enable the LYCAA to determine continued compliance with this Part and to amend, if necessary, the approval certificate, except that in the case of proposed changes in personnel not known to the management beforehand, these changes must be notified at the earliest opportunity:

1. the name of the organization;
2. the main location of the organization;
3. additional locations of the organization;
4. the accountable manager;
5. any of the persons nominated under requirement 145.A.30(b);
6. the facilities, equipment, tools, material, procedures, work scope, certifying staff that could affect the approval.
7. the organization's documentation as required by this Regulation, safety policy and procedures.

145.A.90 Continued validity

(a) An approval shall be issued for a duration not exceeding One year. It shall remain valid subject to:

1. the organization remaining in compliance with Part-145, in accordance with the provisions related to the handling of findings as specified under requirement 145.B.50, and;

2. the LYCAA being granted access to the organization to determine continued compliance with this Part-145, and;

3. the certificate not being surrendered or revoked.

(b) Upon surrender or revocation, the approval shall be returned to the LYCAA.

Note: The maintenance organization shall pay any charges prescribed by LYCAA to get the approval or the continued validity approval.

145.A.95 Findings

(a) A level 1 finding is any significant non-compliance with requirements laid down in Part-145 which lowers the safety standard and hazards seriously the flight safety.

(b) A level 2 finding is any non-compliance with requirements laid down in this Part-145 which could lower the safety standard and possibly hazard the flight safety.

(c) A level 3 finding (Observation) is a minor irregularity which are considered as observations and warrant attention.

(d) After receipt of notification of findings from the LYCAA, the holder of the maintenance organization approval shall identify the root cause of each finding and define an action plan, including corrective and preventive actions to address the finding(s) and prevent reoccurrence to the satisfaction of the LYCAA. The action plan must be complied with within the period agreed with the LYCAA. Action may be taken by the LYCAA to suspend or revoke the credential of the persons nominated or suspend in whole or part the approval or reduce the duration of validity of certificate or charge a fine in case of failure by an organization to comply within the timescale granted by the LYCAA.

SECTION B: PROCEDURE FOR COMPETENT AUTHORITIES

145.B.01 Scope

This section establishes the administrative procedures which the LYCAA shall follow when exercising its tasks and responsibilities regarding issuance, continuation, change, suspension or revocation of approvals of maintenance organizations under this Part-145.

145.B.10 LYCAA

1. General

   The LYCAA has responsibilities for the issuance, continuation, change, suspension or revocation of a maintenance approval. LYCAA should establish documented procedures and an organizational structure.

2. Resources

   The number of staff must be appropriate to carry out the requirements as detailed in this section.

3. Qualification and training

   All staff involved in approvals under this Part-145 must:

   (a) be appropriately qualified and have all necessary knowledge, experience and training to perform their allocated tasks.

   (b) have received training/continuation training on this Part-145 where relevant, including its intended meaning and standard.

4. Procedures

   LYCAA should establish procedures detailing how compliance with this Section B is accomplished.

   The procedures should be reviewed and amended to ensure continued compliance.

5. LYCAA shall ensure that sensitive aviation security information is not transmitted when distributing mandatory continuing airworthiness information.

6. LYCAA shall ensure that sensitive aviation security information is securely transmitted to the appropriate authority in the State of Design in accordance with the requirements of ICAO Annex 17.

   Note: Guidance material on the transmission of sensitive aviation security information is contained in Doc 9760.

AMC TO 145.B.10(1) LYCAA - General

1. In deciding upon the required organizational structure, the LYCAA shall review the number of certificates to be issued, the number and size of potential Part-145 approved maintenance organizations, as well as the level of civil aviation activity, number and complexity of aircraft and the size of the aviation industry.

2. The LYCAA shall retain effective control of important surveillance functions and not delegate them in such a way that Part-145 organizations, in effect, regulate themselves in airworthiness matters.

3. The set-up of the organizational structure shall ensure that the various tasks and obligations of the LYCAA are not relying on individuals. That means that a continuing and undisturbed fulfillment of these tasks and obligations of the LYCAA shall also be guaranteed in case of illness, accident or leave of individual employees.

AMC TO 145.B.10(3) LYCAA – Qualification and training

1. LYCAA inspectors should have:

1.1. practical experience and expertise in the application of aviation safety standards and safe operating practices;

1.2. comprehensive knowledge of:

(a) relevant parts of implementing rules, certification specifications and guidance material;

(b) the LYCAA procedures;

(c) the rights and obligations of an inspector;

(d) quality systems;

(e) continuing airworthiness management;

(f) operational procedures when affecting the continuing airworthiness management of the aircraft or the maintenance.

1.3. training on auditing techniques.

1.4. five (5) years relevant work experience to be allowed to work as an inspector independently. This may include experience gained during training to obtain the qualification stated in paragraph (1.5).

1.5. a relevant engineering degree or an aircraft maintenance technician qualification with additional education. ‘relevant engineering degree’ means an engineering degree

from aeronautical, mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft/aircraft components.

1.6. knowledge of maintenance standards, including Fuel Tank Safety (FTS) training.

2. In addition to technical competency, inspectors should have a high degree of integrity, be impartial in carrying out their tasks, be tactful, and have a good understanding of human nature.

3. A program for continuation training should be developed ensuring that the inspectors remain competent to perform their allocated tasks.

AMC TO 145.B.10(4) LYCAA - Procedures

The documented procedures should contain the following information:

(a) The LYCAA designation or Logo.

(b) The title(s) and name(s) of the manager(s) of the LYCAA and their duties and responsibilities.

(c) Organization chart(s) showing associated chains of responsibility of the senior persons.

(d) A procedure defining the qualifications for staff together with a list of staff authorized to sign certificates.

(e) A general description of the facilities.

(f) Procedures specifying how the LYCAA ensure compliance with CAR 145.

145.B.17 Acceptable Means of Compliance

LYCAA shall adopt acceptable means of compliance as a means to establish compliance with this Part. When the acceptable means of compliance are complied with, the related requirements of this Part shall be considered as met.

145.B.20 Initial approval regulation

1. Provided the requirements of 145.A.30(a) and (b) are complied with, the LYCAA shall formally indicate its acceptance of the personnel, specified in requirements 145.A.30(a) and (b), to the applicant in writing.

2. The LYCAA shall verify that the procedures specified in the maintenance organization exposition comply with this Part-145 and verify that the accountable manager signs the commitment statement.

3. The LYCAA shall verify that the organization is in compliance with the requirements of this Part-145.

4. A meeting with the accountable manager shall be convened at least once during the investigation for approval to ensure that he/she fully understands the significance of the approval and the reason for signing the exposition commitment of the organization to compliance with the procedures specified in the exposition.

5. All findings must be confirmed in writing to the organization.

6. The LYCAA shall record all findings, closure actions (actions required to close a finding) and recommendations.

7. For initial approval, all the relevant findings should be corrected, or an action plan accepted by LYCAA, before the approval, can be issued.

AMC TO 145.B.20(1) Initial approval

1. Formally indicated by the LYCAA in writing means that the LYCAA Appendix V Form 4 should be used for this activity. With the exception of the accountable manager, an LYCAA Form 4 should be completed for each person nominated to hold a position as required by 145.A.30(b).

2. Formal indication of acceptance should be by use of the LYCAA Form 4 or in the case of the Accountable Manager via approval of the Maintenance Organization Exposition containing the Accountable Managers commitment statement.

3. The LYCAA may reject an accountable manager where there is clear evidence that they previously held a senior position in any Part approved Organization and abused that position by not complying with the particular requirements.

AMC TO 145.B.20(2) Initial approval

Verification that the organization complies with the exposition procedures should be established by the LYCAA.

AMC TO 145.B.20(3) Initial approval

1. The LYCAA shall determine by whom, and how the audit shall be conducted. For example, for a large organization, it will be necessary to determine whether one large team audit or a short series of small team audits or a long series of single man audits are most appropriate for the particular situation. In all cases, LYCAA shall communicate its plan with the operator, in order for the operator in liaison with the organization to make all arrangements necessary for the audit, including travel, accommodation and inspector(s) per diem.

2. It is recommended that the audit is carried out on a product line type basis in that. For example, in the case of an organization with Airbus A310 and A320 ratings, the audit will be concentrated on one type only for a full compliance check and dependent upon the result, the second type may only require a sample check against those activities seen to be weak on compliance for the first type.

3. The LYCAA auditing inspector should always ensure that he/she is accompanied throughout the audit by a senior technical member of the organization. Normally this is the quality manager. The reason for being accompanied is to ensure the organization is fully aware of any findings during the audit.

4. The auditing inspector should inform the senior technical member of the organization at the end of the audit visit on all findings made during the audit.

AMC TO 145.B.20(6) Initial approval

1. The reports should include the date each finding was cleared together with reference to the LYCAA report or letter that confirmed the clearance.

2. There may be occasions when the LYCAA inspector may find situations in the applicant's organization on which he/she is unsure about compliance. In this case, the organization should be informed about possible non-compliance at the time and the fact that the situation will be reviewed within the LYCAA before a decision is made. If the decision is a finding of being in compliance, then a verbal confirmation to the organization will suffice.

3. Findings should be recorded on the audit report form with a provisional categorization as a level 1 or 2. Subsequent to the audit visit that identified the particular findings, the LYCAA should review the provisional finding levels, adjusting them if necessary and change the categorization from provisional to confirmed.

4. All findings should be confirmed in writing to the applicant organization within fifteen (15) working days of the audit visit.

145.B.25 Issue of approval

1. The LYCAA shall formally approve the exposition and issue to the applicant an approval certificate, which includes the approval ratings or schedule. The LYCAA shall only issue a certificate when the organization is in compliance with Part-145 and the regulatory requirement regarding safety management system.

2. The reference number shall be included on the approval certificate in a manner specified by the LYCAA.

3. The approval certificate shall contain at least the following information:

   (a) the issuing LYCAA and the name, title and signature of the person issuing the certificate;

   (b) the maintenance organization name and registered address;

   (c) the maintenance organization approval reference number;

   (d) the date of current issue and period of validity;

(e) the scope of approval, in relation to aircraft, component and/or specialized maintenance, and to the type of aircraft and components covered by the approval, and;

(f) the locations of the maintenance facilities, unless the information is included in a separate document such as Maintenance Organization Exposition referred to in the Certificate.

4. The issuance of a maintenance organization approval Certificate and Schedule by LYCAA shall be dependent upon the applicant demonstrating compliance with this Part-145 and with the Safety Management System (SMS) requirements. Further guidance on the SMS is contained in the Safety Management Manual (SMM) (Doc 9859).

AMC TO 145.B.25(1) Issue of approval

1. The approval should be based only upon the organizational capability (including any associated sub-contractors) relative to Part-145 and not limited by reference type certificated products. For example, if the organization is capable of maintaining, within the limitation of Part-145, the Boeing 737-200 series aircraft, the approval schedule should state A1 Boeing 737-200 series and not Boeing 737-2H6 which is a particular airline designator for one of many -200 series.

2. The LYCAA shall indicate approval of the exposition in writing and the related certificate as mentioned in Appendix III of this Part-145.

AMC TO 145.B.25(2) Issue of approval

The validity of the Part-145 approval shall be of limited duration, not exceeding One (01) year.

AMC TO 145.B.25(3) Issue of approval

The numeric sequence shall be unique to the particular approved maintenance organization.

145.B.30 Continuation of an approval

The continued validity of the approval shall depend upon the organization remaining in compliance with requirement 145.B.20 and 145.B.25. In addition:

1. The LYCAA shall keep and update a program listing the approved maintenance organizations under its supervision, the dates when audit visits are due and when such visits were carried out.

2. Each organization must be completely reviewed for compliance with Part-145 at periods not exceeding Twelve- (12) months.

3. LYCAA planning audit program cycle should be established for a duration of Twelve- (12) months.

4. A meeting with the accountable manager shall be convened at least once every Twelve- (12) months to ensure he/she remains informed of significant issues arising during audits.

AMC TO 145.B.30(1) Continuation of an approval

Credit may be claimed by the LYCAA inspector(s) for specific item audits completed during the preceding Twelve- (12) months period, subject to four conditions:

1. the specific item audit should be the same as that required by Part-145 latest amendment, and;

2. there should be satisfactory evidence on record that such specific item audits were carried out and that all corrective actions have been taken, and;

3. the LYCAA inspector(s) should be satisfied that there is no reason to believe standards have deteriorated in respect of those specific item audits being granted a back credit, and;

4. the specific item audit being granted a back credit should be audited not later than twenty-four (24) months after the last audit of the item.

AMC TO 145.B.30(2) Continuation of an approval

1. Where the LYCAA has decided that a series of audit visits are necessary to arrive at a complete audit of an organization, the program should indicate which aspects of the approval will be covered on each visit.

2. It is recommended that part of an audit concentrates on two ongoing aspects of the Part-145 approval, namely the organization's internal self-monitoring quality reports produced by the quality monitoring personnel to determine if the organization is identifying and correcting its problems and secondly the number of concessions granted by the quality manager.

3. At the successful conclusion of the audit including approval of the exposition, an audit report form should be completed by the auditing inspector including all recorded findings, closure actions and recommendations.

4. The accountable manager should be seen at least once every Twelve- (12) months to ensure he/she fully understands the significance of the approval.

5. In the case of line stations, the LYCAA can adopt a sampling program based upon number of line stations and complexity.

145.B.35 Changes to the organization

1. The LYCAA shall receive notification from the organization of any proposed change as listed in requirement 145.A.85. The LYCAA shall comply with the applicable elements of the initial process points for any change to the organization.

2. The LYCAA may prescribe the conditions under which organization may operate during such changes unless it determines that the approval should be suspended.

AMC TO 145.B.35 Changes to the organization

The LYCAA should have adequate control over any changes to the management personnel specified in 145.A.30(a) and (b) and such changes in personnel will require an amendment to the exposition.

AMC TO 145.B.35(1) Changes to the organization

Changes to the Part-145 approval include the following:

- Name change
- Address change
- Approval scope and rating
- New base facility.

AMC TO 145.B.35(2) Changes to the organization

The primary purpose of this paragraph is to enable the organization to remain approved if agreed by the LYCAA during negotiations about any of the specified changes. Without this paragraph, the approval would automatically be suspended in all cases.

145.B.40 Changes to The Maintenance Organization Exposition

For any change to the Maintenance Organization Exposition (MOE):

1. In the case of direct approval of the changes in accordance with requirement 145.A.70(b), the LYCAA shall verify that the procedures specified in the exposition are in compliance with Part-145 before formally notifying the approved organization of the approval.

2. In the case an indirect approval procedure is used for the approval of the changes in accordance with requirement 145.A.70(c), the LYCAA shall ensure (i) that the changes remain minor and (ii) that it has an adequate control over the approval of the changes to ensure they remain in compliance with the requirements of Part-145.

AMC TO 145.B.40 MOE amendments

1. An exposition status sheet is maintained which contains information on when an amendment was received by the LYCAA and when it was approved.

2. The LYCAA may define some class of amendments to the exposition which may be incorporated without prior authority approval. In this case a procedure should be stated in the amendment section of the MOE. The exposition chapter dealing with scope of work/approval should not be subject to this procedure.

3. The organization should submit each exposition amendment to the LYCAA whether it is an amendment for approval or a delegated approval amendment. Where the amendment requires approval by the LYCAA, the LYCAA when satisfied, should indicate its approval in writing. Where the amendment has been submitted under the delegated approval procedure, the LYCAA should acknowledge receipt in writing.

145.B.45 Revocation, suspension and limitation of approval

The LYCAA shall:

(a) suspend an approval on reasonable grounds in the case of potential safety threat, or;

(b) suspend, revoke or limit an approval pursuant to requirement 145.B.50.

145.B.50 Findings

(a) When during audits or by other means, evidence is found showing non-compliance with the requirements of this Part-145, the LYCAA shall take the following actions:

   1. For level 1 findings, immediate action shall be taken by the LYCAA to revoke, limit or suspend in whole or in part, depending upon the extent of the level 1 finding, the maintenance organization approval, until successful corrective action has been taken by the organization.

   2. For level 2 findings, the corrective action period granted by the LYCAA must be appropriate to the nature of the finding but, in any case, initially must not be more than three months. In certain circumstances and subject to the nature of the finding, the LYCAA may extend the three-month period subject to a satisfactory corrective action plan agreed by the LYCAA.

   3. For level 3 Recommendation, the corrective action period granted by the LYCAA could be appropriate to the nature of the finding but, in any case, initially must not be more than one year. In certain circumstances and subject to the nature of the finding, the LYCAA may extend to another one-year period, subject to a satisfactory corrective action plan agreed by the LYCAA.

(b) Action shall be taken by the LYCAA to suspend in whole or part the approval in case of failure to comply within the timescale granted by the LYCAA.

AMC TO 145.B.50(A) Findings

In practical terms, a level 1 finding is where a LYCAA finds a significant non-compliance with Part-145.

The following are examples of level 1 findings:

- Failure to gain access to the organization during normal operating hours of the organization in accordance with 145.A.90(2) after two written requests.
- If the calibration control of equipment as specified in 145.A.40(b) had previously broken down on a particular type product line, such that most 'calibrated' equipment was suspect from that time, then that would be a level 1 finding.

Note: A complete product line is defined as all the aircraft, engine or component of a particular type.

For a level 1 finding, it may be necessary for the LYCAA to ensure that further maintenance and re-certification of all affected products is accomplished, dependent upon the nature of the finding.

In practical terms, where an LYCAA inspectors finds a non-compliance with Part-145 against one product, it is deemed to be a level 2 finding.

The following are example level 2 findings:

- One time use of a component without any serviceable tag.
- The training documents of the certifying staff are not completed.

AMC TO 145.B.50(B) Findings

Where the organization has not implemented the necessary corrective action within that period, it may be appropriate to grant a further period of up to three months, subject to the LYCAA notifying the accountable manager. In exceptional circumstances and subject to a realistic action plan being in place, the LYCAA may specifically vary the maximum 6-month corrective action period. However, in granting such a change the past performance of the organization should be considered.

145.B.55 Record-keeping

1. The LYCAA shall establish a system of record-keeping with minimum retention criteria that allows adequate traceability of the process to issue, continue, change, suspend or revoke each individual organization approval.

2. The records shall include as a minimum:

   (a) the application for an organization approval, including the continuation thereof.

(b) the LYCAA continued oversight program including all audit records.

(c) the organization approval certificate including any change thereto.

(d) a copy of the audit program listing the dates when audits are due and when audits were carried out.

(e) copies of all formal correspondence including Form 4 or equivalent.

(f) details of any exemption and enforcement action(s).

(g) any other LYCAA audit report forms.

(h) maintenance organization expositions.

3. The minimum retention period for the above records shall be four (04) years.

4. The LYCAA may elect to use either a paper or computer system or any combination of both subject to appropriate controls.

AMC TO 145.B.55 Record-keeping

1. The record-keeping system should ensure that all records are accessible whenever needed within a reasonable time. These records should be organized in a consistent way throughout the LYCAA (chronological, alphabetical order, etc.).

2. All records containing sensitive data regarding applicants or organizations should be stored in a secure manner with controlled access to ensure confidentiality of this kind of data.

3. All computer hardware used to ensure data backup should be stored in a different location from that containing the working data in an environment that ensures they remain in good condition. When hardware or software changes take place, special care should be taken to ensure that all necessary data continues to be accessible at least through the full period specified in 145.B.55.

145.B.60 EXEMPTIONS

All exemptions granted shall be recorded and retained by the LYCAA.

SECTION C: APPENDICIES TO PART-145

Appendix I Use of LYCAA Form 1 for maintenance

The provisions of Appendix II to Part-M apply.

Appendix II Class and ratings system to be used for the approval of maintenance organizations referred to Part-M Subpart F & Part-145

1. Except as stated otherwise for the smallest organizations in point 12, the table referred to in point 13 provides the standard system for the approval of maintenance organization under Subpart F of Part-M and Part-145. An organization must be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.

2. In addition to the table referred to in point 13, the approved maintenance organization is required to indicate its scope of work in its maintenance organization manual/exposition. See also point 11.

3. Within the approval class(es) and rating(s) granted by the competent authority, the scope of work specified in the maintenance organization exposition defines the exact limits of approval. It is therefore essential that the approval class(es) and rating(s) and the organizations scope of work are matching.

4. A category A class rating means that the approved maintenance organization may carry out maintenance on the aircraft and any component (including engines and/or Auxiliary Power Units (APUs), in accordance with aircraft maintenance data or, if agreed by the competent authority, in accordance with component maintenance data, only whilst such components are fitted to the aircraft. Nevertheless, such A-rated approved maintenance organization may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not eligible for the provisions of this point. This will be subject to a control procedure in the maintenance organization exposition to be approved by the competent authority. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval.

5. A category B class rating means that the approved maintenance organization may carry out maintenance on the uninstalled engine and/or APU and engine and/or APU components, in accordance with engine and/or APU maintenance data or, if agreed by the competent authority, in accordance with component maintenance data, only whilst such components are fitted to the engine and/or APU. Nevertheless, such B-rated approved maintenance organization may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not eligible for the provisions of this point. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A maintenance organization approved with a category B class rating may also carry out maintenance on an installed engine during

'base' and 'line' maintenance subject to a control procedure in the maintenance organization exposition to be approved by the competent authority. The maintenance organization exposition scope of work shall reflect such activity where permitted by the competent authority.

6. A category C class rating means that the approved maintenance organization may carry out maintenance on uninstalled components (excluding engines and APUs) intended for fitment to the aircraft or engine/APU. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A maintenance organization approved with a category C class rating may also carry out maintenance on an installed component during base and line maintenance or at an engine/APU maintenance facility subject to a control procedure in the maintenance organization exposition to be approved by the LYCAA. The maintenance organization exposition scope of work shall reflect such activity, where permitted by the LYCAA.

7. A category D class rating is a self-contained class rating not necessarily related to a specific aircraft, engine or other component. The D1 – Non-Destructive Testing (NDT) rating is only necessary for an approved maintenance organization that carries out NDT as a particular task for another organization. A maintenance organization approved with a class rating in A or B or C category may carry out NDT on products it is maintaining subject to the maintenance organization exposition containing NDT procedures, without the need for a D1 class rating.

8. In the case of maintenance organizations approved in accordance with Part-145, category A class ratings are subdivided into 'Base' or 'Line' maintenance. Such an organization may be approved for either 'Base' or 'Line' maintenance or both. It shall be noted that a 'Line' facility located at a main base facility requires a 'Line' maintenance approval.

9. The limitation section is intended to give the competent authority the flexibility to customize the approval to any particular organization. Ratings shall be mentioned on the approval only when appropriately limited. The table referred to in point 13 specifies the types of limitation possible. Whilst maintenance is listed last in each class rating, it is acceptable to stress the maintenance task rather than the aircraft or engine type or manufacturer, if this is more appropriate to the organization (an example could be avionic systems installations and related maintenance). Such mention in the limitation section indicates that the maintenance organization is approved to carry out maintenance up to and including this particular type/task.

10. When reference is made to series, type and group in the limitation section of class A and B, series means a specific type series such as Airbus 300 or 310 or 319 or Boeing 737-300 series or RB211-524 series or Cessna 150 or Cessna 172 or Beech 55 series or continental O-200 series, etc.; type means a specific type or model such as Airbus 310-

240 type or RB 211-524 B4 type or Cessna 172RG type; any number of series or types may be quoted; group means for example Cessna single piston engine aircraft or Lycoming non-supercharged piston engines, etc.

11. When a lengthy capability list is used which could be subject to frequent amendment, then such amendment may be in accordance with the indirect approval procedure referred to in points M.A.604(c) and M.B.606(c) or Part-145 as applicable.

12. A maintenance organization which employs only one person to both plan and carry out all maintenance can only hold a limited scope of approval rating. The maximum permissible limits are:

CLASS	**RATING**	**LIMITATION**
CLASS AIRCRAFT	RATING A2 AEROPLANES 5700 KG AND BELOW	PISTON ENGINE 5700 KG AND BELOW
CLASS AIRCRAFT	RATING A3 HELICOPTERS	SINGLE PISTON ENGINE 3175 KG AND BELOW
CLASS AIRCRAFT	RATING A4 AIRCRAFT OTHER THAN A1, A2 AND A3	NO LIMITATION
CLASS ENGINES	RATING B2 PISTON	LESS THAN 450 HP
CLASS COMPONENTS RATING OTHER THAN COMPLETE ENGINES OR APU'S	C1 TO C22	AS PER CAPABILITY LIST
CLASS SPECIALISED	D1 NDT	NDT METHOD(S) TO BE SPECIFIED.

It shall be noted that such an organization may be further limited by the LYCAA in the scope of approval, dependent upon the capability of the particular organization.

13. Table

CLASS	RATING	LIMITATION	BASE	LINE
AIRCRAFT	A1 Airplanes above 5700 Kg	[Rating reserved to maintenance Organizations approved in accordance with Part-145] [shall state airplane manufacturer or group or series or type and/or the maintenance tasks] Example: Airbus A320 Series	[YES/NO]*	[YES/NO]*
	A2 Airplanes 5700 Kg and below	[shall state airplane manufacturer or group or series or type and/or the maintenance tasks] Example: DHC Twin Otter Series	[YES/NO]*	[YES/NO]*
	A3 Helicopters	[shall state helicopter manufacturer or group or series or type and/or the maintenance task(s)] Example: Robinson R44	[YES/NO]*	[YES/NO]*
	A4 Aircraft other than A1, A2 and A3	[shall state aircraft series or type and/or the maintenance task(s)]	[YES/NO]*	[YES/NO]*
Engines	B1 Turbine	[shall state engine manufacture or group or type and/or the maintenance task(s)] Example : PT6A Series	[YES/NO]*	[YES/NO]*
	B2 Piston	[shall state aircraft series or type and/or the maintenance task(s)]	[YES/NO]*	[YES/NO]*
	B3 APU	[shall state aircraft series or type and/or the maintenance task(s)]	[YES/NO]*	[YES/NO]*
Components other than complete engines or APU	C1 Air Condition & Press	[shall state aircraft type or aircraft manufacturer or component manufacturer or the particular component and/or cross refer to a capability list in the exposition and/or the maintenance task (s).]		

		Example PT6A Fuel Control	
	C2 Auto Flight	[shall state aircraft type or aircraft manufacturer or component manufacturer or the particular component and/or cross refer to a capability list in the exposition and/or the maintenance task (s).] Example PT6A Fuel Control	
	C3 Comms and Nav		
	C4 Doors - Hatches		
	C5 Electrical Power & Light		
	C6 Equipment		
	C7 Engine – APU		
	C8 Flight Controls		
	C9 Fuel		
	C10 Helicopters - Rotor		
	C11 Helicopter – Trans		
	C12 Hydraulic Power		
	C13 Indicating/Recording Systems		
	C14 Landing Gear		
	C15 Oxygen		
	C16 Propeller		
	C17 Pneumatic & Vacuum		
	C18 Protection ice/rain/fire		
	C19 Windows		
	C20 Structural		
	C21 Water Ballast		

	C22 Propulsion Augmentation	
SPECIALISED SERVICES	D1 Non-Destructive Testing	[shall state particular NDT method(s)]
(*) Delete as appropriate		

Appendix III Maintenance Organization Approval

MAINTENANCE ORGANIZATION APPROVAL

CERTIFICATE

Approval No: ……..

Pursuant to the Civil Aviation Law and the Civil Aviation regulation of Libya for the time being in force and subject to the conditions specified below, the Libyan Civil Aviation Authority (LYCAA) hereby certifies:

NAME OF ORGANIZATION
ADDRESS
COUNTRY

As a Part-145 Maintenance organization approved to maintain products, parts and appliances listed in the attached approval schedule and to issue related Certificates of Release to Service (CRS) using the above references.

Conditions

1. This approval is limited to that specified in the scope of work section of the latest approved Maintenance Organization Exposition (MOE), and,

2. This approval requires compliance with the procedures specified in the latest approved Maintenance Organization Exposition (MOE), and,

3. This approval is valid whilst the approved maintenance organization remains in compliance with Part-145.

4. Subject to compliance with the foregoing conditions, this approval shall remain valid till the date of expiry of attached Approval Schedule, unless the approval has previously been surrendered, suspended or revoked.

Date of Original issue:

Date of current issue:

Name:

Signature:

MAINTENANCE ORGANIZATION APPROVAL SCHEDULE

Approval No :…….
Organization: [company name and address]

CLASS	RATING	LIMITATION	BASE	LINE
Aircraft (**)	(***)	(***)	Yes/No (**)	Yes/No (**)
	(***)	(***)	Yes/No (**)	Yes/No (**)
Engines (**)	(***)	(***)		
	(***)	(***)		
Components other than complete engines or APUs (**)	(***)	(***)		
	(***)	(***)		
Specialized services (**)	(***)	(***)		
	(***)	(***)		

This approval schedule is limited to those products, parts and appliances and to the activities specified in the scope of work section of the approved Maintenance Organization Exposition.

Maintenance Organization Exposition reference: ……

Locations of maintenance facilities: ……

Date of Original issue:

Date of current issue:

Name:

Signature:

(**) delete as appropriate if the organization is not approved
(***) complete with appropriate rating and limitation

Appendix IV Conditions for the use of staff not qualified in accordance with Part-66 referred to in requirements 145.A.30(j)1 and 2

1. Certifying staff in compliance with all the following conditions are deemed to meet the intent of 145.A.30(j)(1) and (2):

    (a) The person shall hold a license or a certifying staff authorization issued under the country's National regulations in compliance with ICAO Annex 1.

    (b) The scope of work of the person shall not exceed the scope of work defined by the National license/certifying staff authorization.

    (c) The person shall demonstrate he has received training on human factors and airworthiness regulations as detailed in Part-66.

    (d) The person shall demonstrate five (05) years maintenance experience for line maintenance certifying staff and eight (08) years for base maintenance certifying staff. However, the period for those persons, whose authorized tasks do not exceed those of Part-66 category A certifying staff, need to demonstrate three (03) years maintenance experience only.

    (e) Line maintenance certifying staff and base maintenance support staff shall receive type training at a level corresponding to Part-66 Appendix III level 3 for every aircraft on which they are authorized to make certification. However, those persons, whose authorized tasks do not exceed those of Part-66 category A certifying staff, may receive task training in lieu of complete type training.

    (f) Base maintenance certifying staff must receive type training at a level corresponding to at least Part-66 Appendix III level 1 for every aircraft on which they are authorized to make certification.

Appendix V to AMC 145.A.60(a) Occurrence reporting

1. Intent

This AMC is interpretative material and provides guidance in order to determine which occurrences should be reported to the LYCAA, national authorities and to other organizations, and it provides guidance on the timescale for submission of such reports. It also describes the objective of the overall occurrence reporting system including internal and external functions

2. Applicability

(a) In most cases the obligation to report is on the holders of a certificate or approval, which in most cases are organizations, but in some cases can be a single person. In addition, some reporting requirements are directed to persons. However, in order not to complicate the text, only the term 'organization' is used.

(b) The AMC also does not apply to dangerous goods reporting. The definition of reportable dangerous goods occurrences is different from the other occurrences and the reporting system is also separate. This subject is covered in specific operating requirements and guidance and ICAO Documents namely:

(i) ICAO Annex 18, The safe Transport of Dangerous Goods by Air, Chapter 12

(ii) ICAO Doc 9284-AN/905, Technical Instructions for the Safe Transport of Dangerous Goods by Air.

3. Objective of occurrence reporting

(a) The occurrence reporting system is an essential part of the overall monitoring function. The objective of the occurrence reporting, collection, investigation and analysis systems described in the operating rules, and the airworthiness rules is to use the reported information to contribute to the improvement of aviation safety, and not to attribute blame, impose fines or take other enforcement actions.

(b) The detailed objectives of the occurrence reporting systems are:

(i) To enable an assessment of the safety implications of each occurrence to be made, including previous similar occurrences, so that any necessary action can be initiated. This includes determining what and why it had occurred and what might prevent a similar occurrence in the future.

(ii) To ensure that knowledge of occurrences is disseminated so that other persons and organizations may learn from them.

c) The occurrence reporting system is complementary to the normal day to day procedures and 'control' systems and is not intended to duplicate or supersede any of them. The occurrence reporting system is a tool to identify those occasions where routine procedures have failed.

d) Occurrences should remain in the database when judged reportable by the person submitting the report as the significance of such reports may only become obvious at a later date.

4. Reporting to the LYCAA and national authorities

(a) Requirements

(i) As detailed in the operating rules, occurrences defined as an incident, malfunction, defect, technical defect or exceedance of technical limitations that endangers or could endanger the safe operation of the aircraft must be reported to the national authority.

(ii) The products and part and appliances design rules prescribe that occurrences defined as a failure, malfunction, defect or other occurrence which has resulted in or may result in an unsafe condition must be reported to the LYCAA.

(iii) According to the product and part and appliances production rules occurrences defined as a deviation which could lead to an unsafe condition must be reported to the LYCAA and the national authorities.

(iv) The maintenance rules stipulate that occurrences defined as any condition of the aircraft or aircraft component that has resulted or may result in an unsafe condition that could seriously hazard the aircraft must be reported to the national authority.

(v) Reporting does not remove the reporter's or organization's responsibility to commence corrective actions to prevent similar occurrences in the future. Known and planned preventive actions should be included within the report.

(b) Paragraph 9.g. of this AMC provides guidance as to what should be reported by an organization to the authority. The list of criteria provided may be used as guidance for establishing which occurrences shall be reported by which organization. For example, the organization responsible for the design will not need to report certain operational occurrences that it has been made aware of, if the continuing airworthiness of the product is not involved.

5. Notification of accidents and serious incidents

In addition to the requirement to notify the appropriate accident investigating authorities directly of any accident or serious incident, organizations should also report to the national authority in charge of supervising the reporting organization.

6. Reporting time

(a) The period of 72 hours is normally understood to start from when the occurrence took place or from the time when the reporter determined that there was, or could have been, a potentially hazardous or unsafe condition.

(b) For many occurrences there is no evaluation needed; it must be reported. However, there will be occasions when, as part of a Flight Safety and Accident Prevention program or Quality Program, a previously non-reportable occurrence is determined to be reportable.

(c) Within the overall limit of 72 hours for the submission of a report, the degree of urgency should be determined by the level of hazard judged to have resulted from the occurrence:

(i) Where an occurrence is judged to have resulted in an immediate and particularly significant hazard the LYCAA and/or national authority expects to be advised immediately, and by the fastest possible means (e.g., telephone, fax, telex, e-mail) of whatever details are available at that time. This initial notification should then be followed up by a report within 72 hours.

(ii) Where the occurrence is judged to have resulted in a less immediate and less significant hazard, report submission may be delayed up to the maximum of 72 hours in order to provide more details or more reliable information.

7. Content of reports

(a) Notwithstanding required reporting means, reports may be transmitted in any form considered acceptable to the LYCAA. The amount of information in the report should be commensurate with the severity of the occurrence. Each report should at least contain the following elements, as applicable to each organization:

(i) Organization name

(ii) Approval reference (if relevant)

(iii) Information necessary to identify the aircraft or part affected.

(iv) Date and time if relevant

(v) A written summary of the occurrence

(vi) Any other specific information required

(b) For any occurrence involving a system or component, which is monitored or protected by a warning and/or protection system (for example: fire detection/extinguishing) the occurrence report should always state whether such system(s) functioned properly.

8. Reporting between organizations

(a) Requirements exist that address the reporting of data relating to unsafe or unairworthy conditions. These reporting lines are:

(i) Production Organization to the organization responsible for the design;

(ii) Maintenance organization to the organization responsible for the design;

(iii) Maintenance organization to operator;

(iv) Operator to organization responsible for the design;

(v) Production organization to production organization.

(b) The 'Organization responsible for the design' is a general term, which can be any one or a combination of the following organizations.

(i) Holder of Type Certificate (TC) of an Aircraft, Engine or Propeller;

(ii) Holder of a Supplemental Type Certificate (STC) on an Aircraft, Engine or Propeller;

(iii) Holder of a European Technical Standard Order (ETSO) Authorization; or

(iv) Holder of a European Part Approval (EPA)

(c) If it can be determined that the occurrence has an impact on or is related to an aircraft component which is covered by a separate design approval (TC, STC, ETSO or EPA), then the holders of such approval/authorization should be informed. If an occurrence happens on a component which is covered by an TC, STC, ETSO or EPA (e.g., during maintenance), then only that TC, STC, ETSO Authorization or EPA holder needs to be informed.

(d) The form and timescale for reports to be exchanged between organizations is left for individual organizations to determine. What is important is that a relationship exists between the organizations to ensure that there is an exchange of information relating to occurrences.

(e) Paragraph 9.g. of this AMC provides guidance as to what should be reported by an organization to the authority. The list of criteria provided may be used as guidance for establishing which occurrences shall be reported to which organization. For example, certain operational occurrences will not need to be reported by an operator to the design or production organization.

9. Reportable occurrences

(a) General

There are different reporting requirements for operators, maintenance organizations, design organizations and production organizations. Moreover, as explained in paragraph 4. and 9. above, there are not only requirements for reporting to the LYCAA, but also for reporting to other (private) entities. The criteria for all these different reporting lines are not the same.

For example, the authority will not receive the same kind of reports from a design organization as from an operator. This is a reflection of the different perspectives of the organizations based on their activities.

(b) Operations and Maintenance

The list of examples of reportable occurrences offered below under g. is established from the perspective of primary sources of occurrence information in the operational area (operators and maintenance organizations) to provide guidance for those persons developing criteria for individual organizations on what they need to report to the LYCAA and/or national authority. The list is neither definitive nor exhaustive and judgement by the reporter of the degree of hazard or potential hazard involved is essential.

(c) Design

The list of examples will not be used by design organizations directly for the purpose of determining when a report has to be made to the authority, but it can serve as guidance for the establishment of the system for collecting data. After receipt of reports from the primary sources of information, designers will normally perform some kind of analysis to determine whether an occurrence has resulted or may result in an unsafe condition and a report to the authority should be made.

(d) Production

The list of examples is not applicable to the reporting obligation of production organizations. Their primary concern is to inform the design organization of deviations. Only in cases where an analysis in conjunction with that design organization shows that the deviation could lead to an unsafe condition, should a report be made to the LYCAA.

(e) Customized list

Each approval, certificate, authorization other than those mentioned in sub paragraph (c) and (d) above, should develop a customized list adapted to its aircraft, operation or product. The list of reportable occurrences applicable to an organization is usually published within the organization's expositions/handbooks/manuals.

(f) Internal reporting

The perception of safety is central to occurrence reporting. It is for each organization to determine what is safe and what is unsafe and to develop its reporting system on that basis. The organization should establish an internal reporting system whereby reports are centrally collected and reviewed to establish which reports meet the criteria for occurrence reporting to the LYCAA and other organizations, as required.

(g) List of examples of reportable occurrences

The following is a generic list. Not all examples are applicable to each reporting organization. Therefore, each organization should define, and agree with the LYCAA, a specific list of reportable occurrences or a list of more generic criteria, tailored to its activity and scope of work (see also 10.e above). In establishing that customized list, the organization should take into account the following considerations:

Reportable occurrences are those where the safety of operation was or could have been endangered or which could have led to an unsafe condition. If in the view of the reporter an occurrence did not hazard the safety of the operation but if repeated in different but likely circumstances would create a hazard, then a report should be made. What is judged to be reportable on one class of product, part or appliance may not be so on another and the absence or presence of a single factor, human or technical, can transform an occurrence into a serious incident or accident.

Specific operational approvals, e.g., RVSM, ETOPS, RNAV, or a design or maintenance program, may have specific reporting requirements for failures or malfunctions associated with that approval or program.

A lot of the qualifying adjectives like 'significant' have been deleted from the list. Instead, it is expected that all examples are qualified by the reporter using the general criteria that are applicable in his field, and specified in the requirement. (e.g., for operators: 'hazards or could have hazarded the operation').

I. AIRCRAFT TECHNICAL

A. Structural

Not all structural failures need to be reported. Engineering judgement is required to decide whether a failure is serious enough to be reported. The following examples can be taken into consideration:

(1) Damage to a Principal Structural Element that has not been qualified as damage tolerant (life limited element). Principal Structural Elements are those which contribute significantly to carrying flight, ground, and pressurization loads, and whose failure could result in a catastrophic failure of the aircraft.

(2) Defect or damage exceeding admissible damages to a Principal Structural Element that has been qualified as damage tolerant.

(3) Damage to or defect exceeding allowed tolerances of a structural element which failure could reduce the structural stiffness to such an extent that the required flutter, divergence or control reversal margins are no longer achieved.

(4) Damage to or defect of a structural element, which could result in the liberation of items of mass that may injure occupants of the aircraft.

(5) Damage to or defect of a structural element, which could jeopardize proper operation of systems. See paragraph II.B. below.

(6) Loss of any part of the aircraft structure in flight.

B. Systems

The following generic criteria applicable to all systems are proposed:

(1) Loss, significant malfunction or defect of any system, subsystem or set of equipment when standard operating procedures, drills etc. could not be satisfactorily accomplished.

(2) Inability of the crew to control the system, e.g.:

(a) uncommented actions;

(b) incorrect and or incomplete response, including limitation of movement or stiffness;

(c) runaway;

(d) mechanical disconnection or failure.

(3) Failure or malfunction of the exclusive function(s) of the system (one system could integrate several functions).

(4) Interference within or between systems.

(5) Failure or malfunction of the protection device or emergency system associated with the system.

(6) Loss of redundancy of the system.

(7) Any occurrence resulting from unforeseen behavior of a system.

(8) For aircraft types with single main systems, subsystems or sets of equipment: Loss, significant malfunction or defect in any main system, subsystem or set of equipment.

(9) For aircraft types with multiple independent main systems, subsystems or sets of equipment: The loss, significant malfunction or defect of more than one main system, subsystem or set of equipment

(10) Operation of any primary warning system associated with aircraft systems or equipment unless the crew conclusively established that the indication was false provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning.

(11) Leakage of hydraulic fluids, fuel, oil or other fluids which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or risk to occupants.

(12) Malfunction or defect of any indication system when this results in the possibility of misleading indications to the crew.

(13) Any failure, malfunction or defect if it occurs at a critical phase of flight and relevant to the operation of that system.

(14) Occurrences of significant shortfall of the actual performances compared to the approved performance which resulted in a hazardous situation (taking into account the accuracy of the performance calculation method) including braking action, fuel consumption, etc.

(15) Asymmetry of flight controls.

C. Propulsion (including Engines, Propellers and Rotor Systems) and APUs

(1) Flameout, shutdown or malfunction of any engine.

(2) Overspeed or inability to control the speed of any high-speed rotating component (for example: Auxiliary power unit, air starter, air cycle machine, air turbine motor, propeller or rotor).

(3) Failure or malfunction of any part of an engine or powerplant resulting in any one or more of the following:

(a) non containment of components/debris;

(b) uncontrolled internal or external fire, or hot gas breakout;

(c) thrust in a different direction from that demanded by the pilot;

(d) thrust reversing system failing to operate or operating inadvertently;

(e) inability to control power, thrust or rpm; (f) failure of the engine mount structure;

(g) partial or complete loss of a major part of the powerplant;

(h) Dense visible fumes or concentrations of toxic products sufficient to incapacitate crew or passengers;

(i) inability, by use of normal procedures, to shut down an engine;

(j) inability to restart a serviceable engine.

(4) An uncommented thrust/power loss, change or oscillation which is classified as a loss of thrust or power control (LOTC) as defined in AMC 20-1:

(a) for a single engine aircraft; or

(b) where it is considered excessive for the application, or

(c) where this could affect more than one engine in a multi-engine aircraft, particularly in the case of a twin-engine aircraft; or

(d) for a multi engine aircraft where the same, or similar, engine type is used in an application where the event would be considered hazardous or critical.

(5) Any defect in a life-controlled part causing retirement before completion of its full life.

(6) Defects of common origin which could cause an inflight shut down rate so high that there is the possibility of more than one engine being shut down on the same flight.

(7) An engine limiter or control device failing to operate when required or operating inadvertently.

(8) exceedance of engine parameters.

(9) FOD resulting in damage. Propellers and -transmission

(10) Failure or malfunction of any part of a propeller or powerplant resulting in any one or more of the following:

(a) an overspeed of the propeller;

(b) the development of excessive drag;

(c) a thrust in the opposite direction to that commanded by the pilot;

(d) a release of the propeller or any major portion of the propeller;

(e) a failure that results in excessive unbalance;

(f) the unintended movement of the propeller blades below the established minimum in-flight low-pitch position;

(g) an inability to feather the propeller;

(h) an inability to command a change in propeller pitch;

(i) an uncommented change in pitch;

(j) an uncontrollable torque or speed fluctuation;

(k) The release of low energy parts. Rotors and -transmission

(11) Damage or defect of main rotor gearbox / attachment which could lead to in flight separation of the rotor assembly, and /or malfunctions of the rotor control.

(12) Damage to tail rotor, transmission and equivalent systems.

APUs

(13) Shut down or failure when the APU is required to be available by operational requirements, e.g., ETOPS, MEL.

(14) Inability to shut down the APU.

(15) Overspeed.

(16) Inability to start the APU when needed for operational reasons.

D. Human Factors

(1) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.

E. Other Occurrences

(1) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.

(2) An occurrence not normally considered as reportable (for example, furnishing and cabin equipment, water systems), where the circumstances resulted in endangering of the aircraft or its occupants.

(3) A fire, explosion, smoke or toxic or noxious fumes.

(4) Any other event which could hazard the aircraft, or affect the safety of the occupants of the aircraft, or people or property in the vicinity of the aircraft or on the ground.

(5) Failure or defect of passenger address system resulting in loss or inaudible passenger address system.

(6) Loss of pilot's seat control during flight.

II. AIRCRAFT MAINTENANCE AND REPAIR

A. Incorrect assembly of parts or components of the aircraft found during an inspection or test procedure not intended for that specific purpose.

B. Hot bleed air leak resulting in structural damage.

C. Any defect in a life-controlled part causing retirement before completion of its full life.

D. Any damage or deterioration (i.e., fractures, cracks, corrosion, delamination, disbonding, etc.) resulting from any cause (such as flutter, loss of stiffness or structural failure) to:

(1) primary structure or a principal structural element (as defined in the manufacturers' Repair Manual) where such damage or deterioration exceeds allowable limits specified in the Repair Manual and requires a repair or complete or partial replacement of the element;

(2) secondary structure which consequently has or may have endangered the aircraft;

(3) the engine, propeller or rotorcraft rotor system.

E. Any failure, malfunction or defect of any system or equipment, or damage or deterioration found as a result of compliance with an Airworthiness Directive or other mandatory instruction issued by a Regulatory Authority, when:

(1) it is detected for the first time by the reporting organization implementing compliance;

(2) on any subsequent compliance where it exceeds the permissible limits quoted in the instruction and/or published repair/rectification procedures are not available.

F. Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance or test purposes.

G. Noncompliance or significant errors in compliance with required maintenance procedures.

H. Products, parts, appliances and materials of unknown or suspect origin.

I. Misleading, incorrect or insufficient maintenance data or procedures that could lead to maintenance errors.

J. Failure, malfunction or defect of ground equipment used for test or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem when this results in a hazardous situation.