

Methodological Guidance for Civil Aviation Aircraft Maintenance and Repair Organizations

This guidance material is considered part of procedure AAK-AIR-P.0519 and has been developed in accordance with item 28 of Resolution of the Government of the Republic of Kazakhstan dated 11 March 2016 No. 136 "On Approval of the Civil Aviation Safety Programme" and applies to aircraft maintenance and repair organizations.

The provisions of this guidance material are explanatory and supplementary in nature, are applied together with the current Certification Requirements and the Rules for Certification and Issuance of an Approved Maintenance Organization Certificate in Civil Aviation, and do not cancel, amend or replace the requirements of the regulatory legal acts of the Republic of Kazakhstan.

Abbreviations

Law - Law of the Republic of Kazakhstan dated 15 July 2010 No. 339-IV "On the Use of the Airspace of the Republic of Kazakhstan and Aviation Activities"

Order 196 - Certification Requirements for Aircraft Maintenance and Repair Organizations approved by Order of the Acting Minister for Investment and Development of the Republic of Kazakhstan dated 24 February 2015 No. 196.

Order 197 - Rules for Certification and Issuance of an Approved Maintenance Organization Certificate in Civil Aviation approved by Order of the Acting Minister for Investment and Development of the Republic of Kazakhstan dated 24 February 2015 No. 197.

EDS - electronic digital signature.

Paragraph 0. General provisions

Certification of an aircraft maintenance and repair organization is carried out in the following sequence:

- 1) pre-application phase;
- 2) submission by the applicant to AAK of an application with supporting documents;
- 3) document evaluation;
- 4) AAK certification inspection;
- 5) issuance of the certificate (or refusal to issue the certificate).

0.1. Pre-application phase

For initial certification, the applicant submits to AAK a pre-assessment statement in the form set out in Appendix 1 to Order 197. The pre-assessment statement is accompanied by a detailed financial and economic plan for the proposed activity, providing for the allocation of financial resources, including costs for professional training of aviation personnel and the proposed scopes of activity, as well as a bank statement for the applicant's account for the preceding three months. The financial and economic plan is approved by the owner (participants, shareholders) of the legal entity.

At this phase, AAK provides the applicant with information on AMO activities, the application review process, and the list of information and documents to be submitted; explains the certification process and phases; and recommends that the applicant become familiar with Order 197 and Order 196.

Within ten working days from the date of the request, AAK informs the applicant of a positive conclusion where a complete package of documents has been submitted, sufficient financial resources have been demonstrated and the requested scope of activity is preliminarily compliant with Order 197 and Order 196, or of a negative conclusion where the grounds specified in item 10 of Order 197 exist.

0.2. Submission of the application

To obtain a certificate, the applicant submits through the portal an application in the form set out in Appendix 2 to Order 197, information on management personnel in the form set out in Appendix 3 to Order 197, and the package of documents specified in item 8 of the List of Key Requirements in Appendix 4 to Order 197.

As applicable, the document package includes: the constituent document (for initial certification); an electronic copy of the Maintenance Organisation Exposition (MOE), including the list of certifying staff; information on management personnel; a document confirming payment for the AAK service; a Statement of Compliance signed by the Accountable Manager; a Schedule of Events; the Quality Manual, Safety Management Manual and Personnel Training Manual where the relevant material is not included in the MOE.

The Statement of Compliance shall address all requirements of Order 196 applicable to the requested scope of approval and, for each requirement, identify a specific means of compliance and/or an exact reference to the MOE or another applicable document. Form AAK-AIR-F.0543c is published on the official AAK website.

The Schedule of Events identifies the events, actions, programmes, aircraft and facilities to be prepared and, where necessary, made available to AAK before the certification inspection. It specifies the dates on which maintenance personnel, maintenance activity locations and each required manual will be ready for inspection or evaluation. Form AAK-AIR-F.0543d is published on the official AAK website.

0.3. Document evaluation and decision-making

The Document Evaluation Phase includes a review of all documents and manuals submitted by the applicant for completeness and compliance with Order 197 and Order 196. The evaluation determines the extent to which the documentation addresses the processes, procedures and responsibilities necessary to conduct aircraft maintenance and repair activities.

Before the certification inspection begins, a notification of the certification inspection is sent through the portal to the applicant's personal account, specifying the inspection period and the full name of the assigned aviation inspector. Where the certification process changes, the applicant is provided with additional information or, where grounds exist, a reasoned refusal in accordance with item 17 of Order 197.

0.4. Certification inspection

The certification inspection is conducted by AAK aviation inspectors within the requested scope of approval of the aircraft maintenance and repair organization. During the inspection, compliance of the organization with Order 196 is verified. The certification inspection shall not exceed 15 (fifteen) working days.

0.5. Decision-making and issuance of the certificate (or refusal to issue)

Following the certification inspection, a Certification Inspection Report is prepared in the form set out in Appendix 7 to Order 197. Identified non-compliances are classified as Level 1, Level 2 or Level 3. For a Level 2 non-compliance, the applicant submits a corrective action plan in the form set out in Appendix 8 to Order 197 within 10 (ten) working days from the date of acknowledgement of the inspection results; the correction period is agreed within the limits established by Order 197.

Where there are no grounds preventing issuance of the certificate, the certificate is issued in the form set out in Appendix 9 to Order 197; a reasoned refusal is issued in accordance with the procedure established by Order 197.

Paragraph 1. Requirements for the Activities of an Aircraft Maintenance and Repair Organization

4. An aircraft maintenance and repair organization shall comply with the following requirements:

- 1) perform maintenance and repair of aeronautical products within the organization's scope of approval at the maintenance locations specified in the Maintenance Organisation Exposition (MOE);
- 2) with the agreement of the authorized organization, perform maintenance and repair of aeronautical products away from approved maintenance locations within the organization's scope of approval where an aircraft is temporarily unfit for safe operation or where scheduled one-off line maintenance is required, subject to the conditions specified in the MOE;
- 3) where individual maintenance and repair tasks are contracted or subcontracted to another organization, ensure that such work is contracted/subcontracted within its own scope of approval in accordance with Paragraph 15 of these Certification Requirements;
- 4) have current maintenance and operational documentation for maintenance and repair of aeronautical products in accordance with Paragraph 5 of these Certification Requirements;
- 5) ensure the issuance of a maintenance release for completed maintenance in accordance with Paragraph 13 of these Certification Requirements;
- 6) have the technical data, equipment, tools and materials necessary to perform the approved work in accordance with Paragraph 4 of these Certification Requirements;
- 7) have storage facilities for parts, equipment, tools and materials. Storage conditions shall provide protection and prevent deterioration or damage of stored items in accordance with Paragraph 2 of these Certification Requirements;
- 8) maintain a stock of components, spare parts and consumable materials necessary to perform work in accordance with Paragraph 4 of these Certification Requirements;
- 9) provide sufficient personnel for planning and performing maintenance and repair work, for control and inspection, and for issuing maintenance releases in accordance with Paragraph 3 of these Certification Requirements;
- 10) have a system for maintaining and improving personnel competence, including initial and recurrent training, in accordance with the Model Programmes for Professional Training of Aviation Personnel Involved in Ensuring Flight Safety, approved by Order of the Minister of Transport and Communications of the Republic of Kazakhstan dated 28 September 2013 No. 764 (registered in the State Register of Regulatory Legal Acts under No. 8785);
- 11) ensure retention of detailed maintenance records in accordance with Paragraph 7 of these Certification Requirements demonstrating that all requirements have been met when the maintenance release is signed;
- 12) have a quality system in accordance with Paragraph 14 of these Certification Requirements ensuring that all maintenance and repair work on aeronautical products is properly performed;
- 13) have a Maintenance Organisation Exposition (MOE) in accordance with Paragraph 9 of these Certification Requirements;
- 14) have a system for timely communication to personnel of the requirements and provisions of the legislation of the Republic of Kazakhstan governing civil aviation activities, and of amendments thereto, to ensure their timely study and implementation;
- 15) have a Safety Management System (SMS) in accordance with the Model Instruction on Safety Management during Aircraft Maintenance approved by Order of the Minister of Transport and Communications of the Republic of Kazakhstan dated 28 March 2011 No. 173 (registered in the State Register of Regulatory Legal Acts under No. 6855).

The requirements of subitems 1) and 2) of this item apply to initial certification of the aircraft maintenance and repair organization.

Paragraph 2. Requirements for Maintenance Facilities

5. To perform the planned maintenance and repair work on aeronautical products, the aircraft maintenance and repair organization shall have maintenance facilities owned by the organization and/or leased under an agreement.

For compliance with the requirements of Order 196 relating to maintenance and office facilities, the organization shall provide and use facilities appropriate to the nature and volume of the maintenance and repair work performed and conditions that support the continuing airworthiness of aeronautical products.

Where the hangar is not owned by the organization, leased facilities may be used provided that the right of use is documented. The organization should demonstrate that sufficient hangar space is available for the planned base maintenance, including by planning aircraft hangar inputs with due regard to the anticipated work.

6. The aircraft maintenance and repair organization shall provide the following working conditions in its maintenance facilities for the tasks to be performed:

- 1) maintenance facilities appropriate to the planned scope of work, including specialized workshops (shops, areas) for all planned work and protection from adverse weather conditions. Workshops and hangars shall be suitably segregated to protect aeronautical products from contamination and environmental effects during maintenance and repair;
- 2) working (office) accommodation for the management of all planned work and for certifying staff, enabling them to perform their duties properly;

- 3) maintenance conditions, including hangars, workshops (laboratories, work areas) for work with equipment, and office accommodation, appropriate to the work specified in the scope of the organization's certificate;
- 4) a temperature between 16 and 22 degrees Celsius, except where different requirements are specified in the applicable maintenance or operating documentation for the aeronautical product;
- 5) adequate power and utilities, including electricity, heating, water, ventilation and, where necessary, compressed air;
- 6) occupational safety in working areas, including systems for control and protection against fire, explosion, toxic effects and other hazards;
- 7) dust and similar airborne contamination kept to a minimum so that the work area is not contaminated to the extent that visible dust deposits occur on aeronautical products or components. Where dust or other visible surface contamination occurs, contamination-sensitive systems shall be suitably sealed until acceptable working conditions are restored;
- 8) lighting sufficient for all inspections, examinations and other maintenance and repair work on aeronautical products, in accordance with the applicable requirements;
- 9) noise levels that do not adversely affect the performance of work by personnel. Where the noise source cannot reasonably be controlled, personnel shall be provided with appropriate personal hearing protection so that excessive noise does not adversely affect task performance;
- 10) where a particular maintenance or repair task requires special environmental conditions different from those described above, such conditions shall be provided as specified in the design organization's documentation for the civil aircraft;
- 11) secure storage facilities for components, equipment, tools and materials. Storage conditions shall provide segregation of serviceable and unserviceable components and materials and appropriate segregation of all components, materials, equipment and tools. Storage conditions shall comply with the aeronautical product manufacturer's instructions, and access shall be restricted to authorized personnel only.

Conditions for line maintenance and repair shall comply with the regulatory legal acts of the Republic of Kazakhstan on occupational health and safety. Where working conditions deteriorate to an unacceptable level due to temperature, humidity, fog, ice, snow, wind, lighting, dust or other airborne contamination, the affected maintenance or repair task shall be postponed until acceptable working conditions are restored.

Maintenance facilities shall protect aeronautical products and their components from adverse environmental factors, including precipitation, wind, dust and other conditions that may affect the quality of the work performed. The design and operating characteristics of the facilities shall minimize contamination of the work area and aeronautical products.

For line maintenance, a permanent hangar is not mandatory provided that the organization can perform the work under conditions that prevent adverse environmental effects. Where working conditions deteriorate or extended maintenance is required, the organization shall use facilities that meet the requirements of Order 196.

Individual base maintenance tasks may be performed at locations other than the base maintenance hangar provided that an equivalent level of protection from environmental effects and appropriate working conditions are ensured in accordance with Order 196 and the organization's internal procedures. The availability of a base maintenance hangar nevertheless remains a necessary element in demonstrating the organization's capability to perform base maintenance within the requested scope of approval.

For compliance purposes, management, planning, control and documentation functions may be accommodated in a single office, provided that the size and organization of the workspace enable personnel to perform their assigned functions properly without adverse effects on working conditions or the quality of work.

Within the office accommodation, the organization shall provide a dedicated area for engineering and technical personnel to review maintenance and technical documentation and to complete maintenance records and other documentation. The area shall provide conditions suitable for working correctly with documentation and maintaining records in the prescribed manner.

The organization shall ensure that the layout of offices and work areas is appropriate to the nature of the work performed and does not restrict personnel in carrying out their duties within the approved scope of activity.

To meet component storage requirements, the organization shall ensure that storage areas for serviceable components are clean, ventilated and maintained dry at a stable temperature that prevents condensation and adverse effects on component condition.

The organization shall maintain temperatures in maintenance and working areas between 16 and 22 degrees Celsius, except where different temperature conditions are expressly specified in the applicable maintenance or operating documentation or by requirements associated with specific tasks.

The organization shall equip maintenance and working areas with the necessary power supplies and utilities, including electricity, heating, water supply, ventilation and, where necessary, compressed air, in a capacity and quality sufficient to perform the approved maintenance and repair work in accordance with established procedures.

Power supplies and utilities shall be available and serviceable so that work can be performed without interruption, degradation of maintenance quality or the creation of conditions that could adversely affect the condition of aeronautical products or the safety of the work performed.

Storage equipment, including shelving and other storage devices, shall provide sufficient strength and support for aeronautical components, taking account of their weight and dimensions. The design and arrangement of storage equipment shall prevent deformation of components during storage, including during prolonged storage of large items.

Where practicable, aeronautical components shall be stored in protective packaging that protects against mechanical damage, contamination and corrosion. Packaging and storage conditions shall comply with the organization's established procedures and preserve the components until installation on an aeronautical product or release for further use.

Paragraph 3. Personnel Requirements

7. The aircraft maintenance and repair organization shall have an Accountable Manager who is responsible for financing and for the timely performance of all maintenance and repair work on aeronautical products in accordance with customer requirements and these Certification Requirements. The Accountable Manager's authority and responsibilities include, in particular:

- 1) ensuring the availability of all resources necessary to perform maintenance and repair of aeronautical products in accordance with these Certification Requirements and to maintain the organization's certificate;
- 2) establishing and promoting the safety and quality policy.

For compliance with these requirements, the aircraft maintenance and repair organization shall appoint an Accountable Manager who acts on behalf of the organization and has ultimate responsibility for the functioning of the organization, including compliance of its activities with the applicable Certification Requirements.

The Accountable Manager is the person occupying the highest management position within the organization and having sufficient authority to make decisions concerning management, resource provision and the overall activities of the organization. Appointment of the Accountable Manager shall take account of the size and organizational structure of the organization.

The authority and responsibilities of the Accountable Manager include, but are not limited to:

- decisions on personnel matters affecting maintenance and repair activities;
- key financial decisions necessary to support the organization's activities;
- overall responsibility for the conduct of the organization's activities;
- responsibility for activities performed under the certificate issued to the organization;
- ultimate accountability for safety within the organization.

The Accountable Manager is responsible for compliance with the terms and conditions of the AMO certificate and for timely corrective action in respect of identified non-compliances. Assignment of this responsibility to the Accountable Manager ensures that decisions to correct deficiencies are taken at a level with the necessary authority and resources and are not limited to the functions of individual departments or services.

8. The Accountable Manager of the aircraft maintenance and repair organization shall appoint a person or group of persons representing management personnel to perform maintenance and repair functions and is responsible for ensuring that the organization operates in accordance with the approved MOE; procedures shall also be established for deputizing for each nominated person during prolonged absence.

Such person(s) shall meet the following minimum qualification requirements:

- 1) technical and vocational education or higher education in the field of aviation;
- 2) five (5) years of experience in aircraft maintenance and repair as B1 or B2 certifying staff, including at least two (2) years in management positions in aircraft maintenance;
- 3) completion of professional training courses relevant to the area of professional activity;
- 4) knowledge of aircraft maintenance and repair.

For compliance with Order 196, the aircraft maintenance and repair organization shall establish a management structure that ensures maintenance and repair activities are carried out in accordance with the approved MOE, internal procedures and Order 196. The management structure shall cover all functions related to maintenance and repair and ensure their day-to-day operation within the approved scope of activity.

The Accountable Manager shall appoint a person or group of persons responsible for maintenance and repair functions and for ensuring that the organization's activities comply with established requirements. Allocation of functions and responsibilities shall take account of the scale of operations and the complexity of the organizational structure. Maintenance and repair functions shall not be combined with quality system (compliance monitoring) functions. Each function shall be assigned to a specific responsible person.

Depending on the requested scope of approval and the volume of work performed, the management structure should normally include managers responsible for:

- base maintenance;
- line maintenance;
- aeronautical component work (workshop).

These managers report to the Accountable Manager, except where, in organizations with a limited scope of activity, combining functions is permitted in accordance with the organization's established internal procedures.

In day-to-day operations, the nominated persons shall ensure that personnel perform aircraft maintenance and repair in accordance with the MOE, approved procedures and established requirements. Such persons shall have the necessary knowledge of Order 196 and the relevant procedures and sufficient authority to organize and control compliance with those requirements.

Responsibility for compliance includes proactive management of compliance, identification of indications of potential deviations and non-compliances, their documentation and initiation of corrective action in accordance with established procedures. The nominated persons shall ensure timely action to prevent and correct non-compliances and shall keep the organization's management informed within the established management structure.

The organization may use its own titles for management positions, provided that the allocation of functions, authority and responsibilities is clearly defined in the MOE and communicated to personnel. The nominated persons shall have sufficient resources and authority to perform their assigned functions within the approved scope of activity.

*9. The Accountable Manager of the aircraft maintenance and repair organization shall appoint a person responsible for the quality system (compliance monitoring), including the feedback system, to ensure that the Accountable Manager is properly informed on quality and compliance matters.

This person shall meet the following minimum qualification requirements:

- 1) technical and vocational education or higher education in the field of aviation;*
- 2) three (3) years of experience in quality system management (compliance monitoring);*
- 3) completion of specialized professional training courses relevant to the area of professional activity;*
- 4) knowledge of quality system management (compliance monitoring) appropriate to the scope of the aircraft maintenance and repair organization certificate.*

The Accountable Manager shall appoint an official (hereinafter - the Compliance Monitoring Manager) responsible for monitoring the organization's compliance with Order 196, internal procedures and other applicable regulatory legal acts. Where several persons are appointed, the Accountable Manager shall designate one person to act as the single coordinating point for compliance monitoring matters.

The functions of the Compliance Monitoring Manager include:

- monitoring compliance with Order 196 and the organization's internal procedures;
- monitoring compliance of work contracted or subcontracted to external organizations with contractual conditions and established requirements;
- developing, implementing and maintaining the internal audit plan;
- initiating corrective action in respect of identified non-compliances and monitoring its implementation.

The Compliance Monitoring Manager shall not perform maintenance and repair work and shall have the necessary knowledge, experience and access to all departments of the organization and, where necessary, to subcontracted organizations.

**10. The Accountable Manager of the aircraft maintenance and repair organization shall appoint the head of the safety function (Safety Manager) responsible for implementation and effective functioning of the Safety Management System (SMS). Depending on the scale of the organization's activities, the complexity of the services provided, or where the organization's SMS covers several types of activity, the Accountable Manager shall appoint a group of persons responsible for implementation and functioning of the SMS, with one of them designated as the head of the safety function (Safety Manager) in order to maintain a direct and unambiguous line of accountability to the Accountable Manager.*

This person shall meet the following minimum qualification requirements:

- 1) technical and vocational education or higher education in the field of aviation;*
- 2) at least five (5) years of experience in civil aviation;*
- 3) at least three (3) years of experience in a Safety Management System in civil aviation;*
- 4) completion of specialized professional training relevant to the area of professional activity, including International Civil Aviation Organization (ICAO) Standards and the legislation of the Republic of Kazakhstan in civil aviation relating to safety management, basic methods of safety investigation and human factors in aviation;*
- 5) knowledge of safety management appropriate to the scope of the aircraft maintenance and repair organization certificate.*

The organization shall appoint an official (hereinafter - the Safety Manager) responsible for the development, implementation, administration and maintenance of safety management processes. Where several persons are appointed, the Accountable Manager shall designate one person to act as the single coordinating point for safety matters.

The functions of the Safety Manager include:

- hazard identification and safety risk assessment and management;
- monitoring implementation of safety risk mitigation actions;
- preparing and providing management with periodic information on safety performance;
- ensuring that safety management documentation is maintained and kept current;
- organizing personnel training on safety matters;
- advising personnel and management on safety matters;
- initiating and supporting internal investigations of safety-related occurrences.

Depending on the scale of activities and complexity of the organizational structure, the Safety Manager may be provided with additional resources and personnel.

** The organization shall ensure that safety management and compliance monitoring functions are allocated so as to avoid conflicts of interest. The compliance monitoring function shall be independent from functions responsible for performing maintenance and repair work.*

Where the same person is appointed to perform both safety management and compliance monitoring functions, the Accountable Manager shall ensure sufficient resources and conditions for proper performance of both functions, taking into account the scale and complexity of the organization's activities.

In exceptional cases, where the necessary authority, competence and resources are available, the Accountable Manager may perform safety management and/or compliance monitoring functions, provided that independence of decision-making is ensured and conflicts of interest are avoided.

The nominated persons are personally accountable to the Accountable Manager for performance of their assigned functions. Regardless of the organizational structure, each function associated with maintenance and repair activities shall be assigned to one responsible person with clearly established authority and responsibility, thereby preventing dilution of accountability and ensuring direct accountability to the Accountable Manager.

11. The person or group of persons appointed in accordance with items 8, 9 and 10 of these Certification Requirements shall report to the Accountable Manager and have direct access to the Accountable Manager to ensure proper communication on compliance and safety matters.

To implement the requirement that persons or a group of persons appointed in accordance with items 8, 9 and 10 of Order 196 report to and have direct access to the Accountable Manager, the aircraft maintenance and repair organization shall establish an organizational structure that enables those persons to inform the Accountable Manager directly and without intermediaries on matters relating to compliance with the Certification Requirements and safety.

Direct access to the Accountable Manager means the ability to communicate, in a timely manner, information on identified non-compliances, risks, trends and the need for corrective action, including matters related to resources and organizational decisions. Intermediate management levels are permitted provided that they do not restrict or distort the information communicated to the Accountable Manager.

The organization shall ensure that nominated persons have the authority and conditions necessary to perform their functions, and that their reporting line to and direct access to the Accountable Manager are clearly defined in the MOE and communicated to personnel. This reporting arrangement is intended to prevent dilution of accountability and to ensure that compliance and safety decisions are taken at a level having the necessary authority and resources.

12. Non-destructive testing (NDT) personnel shall hold appropriate qualifications and certification at Level 1, 2 or 3, as applicable to the NDT function performed. A Level 3 NDT specialist responsible for establishing and approving NDT methods and procedures shall not deviate from the methods and procedures contained in the applicable maintenance data unless such data expressly permit deviations.

For compliance with Order 196, NDT used in maintaining the airworthiness of aeronautical products includes the inspection methods specified by the designer or manufacturer of the aeronautical product, engine or propeller and contained in the applicable maintenance data. NDT is performed to determine the suitability of items for continued safe operation and shall be carried out to the prescribed extent and in the prescribed manner.

The aircraft maintenance and repair organization shall ensure that NDT is performed by personnel holding appropriate qualifications and certification at Level 1, 2 or 3, depending on the NDT function performed. The allocation of functions between qualification levels and the permitted scope of work for each level shall be defined in the organization's internal procedures and reflected in the MOE.

A Level 3 NDT specialist assigned responsibility for establishing, developing and approving NDT methods and procedures shall perform those functions strictly within the methods and procedures specified in the applicable maintenance data. Deviations from established methods and procedures are permitted only where the maintenance data expressly allow such deviations.

The organization shall define the NDT methods used, including liquid penetrant, magnetic particle, eddy current, ultrasonic and radiographic testing, as well as any other methods specified in the applicable maintenance data. New or special methods may be used provided that the competence of the personnel performing such work is documented and appropriate procedures are established.

The organization shall develop and implement procedures for qualification, authorization and control of NDT personnel. These procedures shall be included in the MOE and applied on a continuing basis, ensuring that personnel perform only those NDT methods for which they hold documented qualifications and authorizations.

Inspections that do not constitute NDT but are performed without destroying the item, including borescope inspections and similar methods, shall be treated as separate inspection activities. For such activities, the organization shall establish procedures ensuring appropriate personnel training and competence assessment.

All applicable methods, procedures, personnel qualification requirements and arrangements for performing NDT shall be documented in the MOE and used in maintenance and repair activities within the approved scope of activity.

13. The aircraft maintenance and repair organization shall have a manpower loading plan demonstrating that it has sufficient personnel of its own for planning, performing, managing and quality-controlling the work within its approved scope. The organization shall also recalculate the workload for accepted work where the actual staffing level is lower than planned for a particular shift or work period.

For compliance with Order 196, the organization shall ensure a sufficient number of qualified personnel to perform all requested maintenance and repair activities within the approved scope. Sufficient personnel means personnel employed by or contracted to the organization who possess the qualifications and competence necessary to perform the assigned functions.

The organization shall develop and maintain a manpower loading plan (man-hour plan) reflecting personnel needs in relation to the nature, volume and complexity of the work performed. The plan shall take account of all activities associated with maintenance and repair, including planning, preparation of work documentation, performance of work, inspections, completion and review of records, and other supporting processes. The manpower loading plan shall also take account of planned personnel absences, including training, leave and other scheduled absences.

For base maintenance, the manpower loading plan shall be correlated with the aircraft hangar input plan. For maintenance of aeronautical components, the manpower loading plan shall be correlated with the planned component maintenance workload. Where the nature of contractual commitments does not allow the workload to be forecast accurately, the manpower loading plan shall be based on a minimum workload sufficient to ensure sustainable operation of the organization.

The organization shall maintain staffing stability so that the majority of maintenance and repair work is performed by personnel employed by the organization. In cases of temporary operational need, contracted personnel may be used provided that their scope of work, functions and responsibilities are documented and measures are taken to prevent any reduction in organizational stability. The manpower loading plan shall be reviewed and updated regularly, but at least once each quarter, and whenever there is a change in workload, scope of activity or maintenance conditions. Significant deviations between actual personnel loading and planned levels shall be analysed and reported to the organization's management in accordance with established procedures.

Within its management system and compliance monitoring system, the organization shall establish procedures to assess and mitigate risks associated with:

- actual staffing levels being lower than planned;
- a temporary increase in the proportion of contracted personnel.

These procedures are intended to ensure continuity of maintenance and repair activities and continued compliance with Order 196 regardless of changes in workload.

14. The aircraft maintenance and repair organization shall establish and control the competence of personnel involved in maintenance, the Safety Management System or quality control. In addition to the technical expertise necessary for their assigned duties, personnel competence shall include an understanding of the application of safety principles, including human factors aspects.

For compliance with Order 196, the organization shall ensure that personnel involved in maintenance and repair activities possess the necessary competence demonstrated through assessment and receive initial and recurrent training, including training in safety and human factors.

Personnel competence assessment

The organization shall establish and apply a personnel competence assessment procedure that confirms the ability of personnel to perform their assigned functions within the approved scope of activity. Competence shall be assessed before personnel are permitted to perform work independently and shall be subject to continuing monitoring during their employment.

Competence assessment shall apply to personnel directly or indirectly involved in maintenance and repair activities, including management personnel, planners, mechanics, specialized-task personnel, certifying staff, support staff and contracted personnel.

Competence assessment shall be based on:

- assessment of practical task performance and/or knowledge testing;
- review of training, qualification and experience records;
- review of training records and records of work performed.

The results of competence assessment shall be used to determine:

- the tasks that personnel are authorized to perform, supervise or certify;
- the level of supervision required;
- the need for additional training or further qualification.

The competence assessment procedure, arrangements for documenting its results and retention of related records shall be established in the MOE.

Initial and recurrent training

The organization shall provide initial training before personnel begin independent work and recurrent training throughout the period of their employment with the organization. The scope of training shall be appropriate to the functions performed and the level of responsibility.

Initial training shall cover applicable regulatory requirements, the organization's internal procedures, applicable maintenance and operational documentation and the specific features of the assigned functions. Recurrent training shall maintain and update personnel knowledge and skills, taking account of changes in the organization's activities, scope of approval and working conditions.

Completion of training, its content and results shall be documented and recorded in accordance with established procedures.

Safety and human factors training

The organization shall provide personnel with safety training, including safety management principles and human factors, to a depth appropriate to their assigned functions. The need for initial safety training shall be established for all personnel involved in maintenance and repair activities.

Personnel directly involved in maintenance and repair of aeronautical products shall receive both initial and recurrent safety training. The content and depth of training shall be adapted to the nature of the functions performed, the scale of the organization's activities and the level of personnel responsibility.

Recurrent safety training shall be conducted to maintain current knowledge and to obtain and analyse feedback on safety and human factors. The results of such training shall be used to adjust training programmes and to take action to improve safety performance and the quality of work performed.

Competence assessment, personnel training and safety training procedures are interrelated elements of the organization's management and quality systems. These procedures shall be documented in the MOE and applied on a continuing basis to ensure sustained compliance with Order 196.

15. For the performance of aircraft line maintenance, the aircraft maintenance and repair organization shall ensure the availability of certifying staff holding category B1, B2 or B3 privileges, as applicable, with the appropriate aircraft type rating.

For compliance with Order 196 when performing aircraft line maintenance, the organization shall ensure that certifying staff of the appropriate categories, holding valid aircraft type ratings, are available in sufficient numbers to perform the requested scope of work.

Line maintenance includes minor scheduled inspections and simple defect rectification tasks that do not require extensive troubleshooting, complex diagnostic work or intervention in structural elements affecting airworthiness. The scope of permitted work is determined by the maintenance programme, the organization's internal procedures and the operating conditions of the aircraft.

The organization may limit the categories of certifying staff used for line maintenance provided that:

- the scope and nature of work performed remain within the competence of the available certifying staff;
- such limitations are clearly defined and documented in the MOE;
- a procedure is established for dealing with defects requiring certifying staff of another category or performance of work under different conditions.

The organization shall ensure that certifying staff issue maintenance releases only for work within their category, qualification, aircraft type rating and established internal authorization procedures.

16. For the performance of base maintenance, the aircraft maintenance and repair organization shall ensure the availability of category C certifying staff holding the appropriate aircraft type rating. The organization shall also ensure a sufficient number of B1 and B2 support staff holding the appropriate aircraft type ratings. The privileges of aircraft maintenance personnel are defined in Appendix 10 to the Rules for Issuance and Extension of Validity of Aviation Personnel Licences approved by Order of the Minister of Transport and Communications of the Republic of Kazakhstan dated 26 September 2013 No. 750 (registered in the State Register of Regulatory Legal Acts under No. 8782).

In accordance with the requirements applicable to aircraft maintenance and repair organizations, qualification requirements - including the aircraft maintenance licence, aircraft type ratings, demonstrated recent experience and recurrent training - are the same for certifying staff and support staff.

The principal difference is that support staff do not exercise privileges to issue a maintenance release when acting in a support-staff capacity, because for base maintenance the maintenance release is issued by category C certifying staff.

The organization may use, as support staff for base maintenance, persons who also hold certifying-staff privileges for line maintenance.

For compliance with Order 196, the organization shall ensure that component certifying staff have qualifications appropriate to the functions performed, the scope of work and the applicable authorization and certification requirements.

The qualification of component certifying staff shall be demonstrated by appropriate training, experience and authorization to perform work on the relevant component categories within the organization's approved scope. Their privileges, authorized tasks and the arrangements for certifying maintenance results shall be defined in the organization's internal procedures and reflected in the MOE.

The organization shall ensure that component certifying staff issue maintenance documentation only within the limits of their qualifications and granted authorizations and in accordance with Order 196 and the applicable maintenance data.

17. The person responsible for the quality system shall also be responsible for issuing certification authorizations to certifying staff on behalf of the aircraft maintenance and repair organization.

For compliance with Order 196, the person responsible for the functioning of the organization's quality system shall also perform the function of issuing certification authorizations to certifying staff on behalf of the organization.

Certification authorizations shall be issued on the basis of confirmation that the certifying staff meet the applicable requirements, including the results of competence assessment, required qualifications, experience and training, and compliance with the organization's internal procedures.

The organization may establish arrangements for delegation of individual administrative actions associated with issuing or withdrawing certification authorizations, provided that responsibility for decisions in this area remains with the person responsible for the quality system and the arrangements are documented in the MOE.

Issuance, renewal, suspension and withdrawal of certification authorizations shall be controlled in a manner that ensures traceability of decisions and avoids conflicts of interest, taking into account Order 196 and the organization's internal procedures.

18. The aircraft maintenance and repair organization shall maintain a register of all engineering and technical personnel. The personnel register shall contain:

- 1) details of aviation personnel licences relating to aircraft maintenance and repair;*
- 2) details of all training completed by personnel;*
- 3) the scope of certification authorizations issued;*
- 4) details of personnel holding limited or one-off certification authorizations.*

For compliance with Order 196, the organization shall maintain a register of all engineering and technical personnel involved in maintenance and repair activities.

The personnel register shall be maintained in documented or electronic form and shall contain current information sufficient to demonstrate personnel compliance with applicable requirements, including:

1. details of aviation personnel licences relating to aircraft maintenance and repair;
2. details of all types of training completed by personnel;
3. the scope and extent of certification authorizations issued;
4. details of personnel holding limited or one-off certification authorizations.

The organization shall update the personnel register in a timely manner whenever personnel qualifications, training, authorizations or status change and shall use the register as part of the quality system to demonstrate that personnel are duly authorized to perform maintenance and repair work.

19. The aircraft maintenance and repair organization shall retain register data for at least two years from the date on which the relevant engineering or technical person leaves the organization.

For compliance with Order 196, the organization shall retain engineering and technical personnel register data for at least two years from the date on which the employment or contractual relationship with the relevant person ends.

All information included in the personnel register shall be retained, including details of aviation personnel licences, training, certification authorizations issued and any limitations thereon. Such data shall be retained in documented or electronic form in

accordance with the organization's internal procedures and used within the quality system to demonstrate compliance with Order 196.

Paragraph 4. Requirements for Equipment, Tools and Materials of an Aircraft Maintenance and Repair Organization

20. To perform maintenance and repair work within its approved scope of activity, the aircraft maintenance and repair organization shall have the necessary equipment, tools and materials.

Where the designer of the aeronautical product specifies the use of particular equipment or tools, the organization shall use such equipment or tools, except where the MOE contains approved procedures for the use of alternative equipment or tools. An organization performing base maintenance shall be equipped with the necessary access equipment and platforms (or equivalent equipment) to permit thorough inspection and examination of the aeronautical product.

For compliance with Order 196, the organization shall ensure that the tools and equipment necessary to perform work within the approved scope of activity are available and used.

The organization shall use tools and equipment specified in the applicable maintenance data. Alternative tools or equipment may be used where such arrangements are established in the organization's internal procedures and provide an equivalent level of maintenance quality and safety.

Tools and equipment shall be continuously available for the work to be performed, except for certain items used infrequently. The arrangements for ensuring availability of such tools and equipment, including conditions for obtaining and using them, shall be established in the organization's internal procedures.

For base maintenance, the organization shall ensure the availability of sufficient means of access to the aircraft to permit inspections and maintenance to be performed in full.

The organization shall identify and maintain a register of tools and equipment subject to maintenance, verification and/or calibration control. The register shall also include personal tools and equipment approved by the organization for use. The register is used as part of the quality system to demonstrate the organization's capability to perform work within the approved scope in compliance with Order 196.

21. The aircraft maintenance and repair organization shall account for all equipment and tools, including inspection and measuring equipment, and shall arrange for their verification at intervals that ensure serviceability and accuracy.

The organization shall have a system for identifying and marking all tools and equipment that provides information on when the next inspection, servicing or calibration is due and whether an item is unserviceable for any other reason that may not be readily apparent.

The organization shall maintain a register of all precision tools and equipment together with records of calibrations performed and the standards used.

For compliance with Order 196, the organization shall establish and apply procedures for control of tools and equipment, including inspection, servicing and, where applicable, verification or calibration at regular intervals.

The organization shall maintain a system for identification and marking of tools, equipment and measuring devices that clearly shows their status, the due date for the next inspection, servicing or calibration and whether the item is unserviceable. Such identification shall inform personnel whether the tool or equipment is acceptable for use during maintenance.

For tools and equipment subject to accuracy control, the organization shall maintain a register of precision tools and equipment containing details of inspections, servicing, verification and/or calibration performed and of the standards used. The register is used as part of the quality system to demonstrate that tools and equipment remain suitable for use.

Inspection, servicing and calibration of tools and equipment shall be performed in accordance with the manufacturer's requirements unless otherwise justified by operating experience and established in the organization's internal procedures. Standards and reference equipment used shall be consistent with generally accepted industry requirements and ensure the reliability of measurements during maintenance and repair activities.

Paragraph 5. Requirements for Aircraft Maintenance and Repair Documentation

22. The aircraft maintenance and repair organization shall have available and use, when performing maintenance and repair of aeronautical products, including modifications and repairs, the applicable maintenance and repair documentation.

For compliance with Order 196, the organization shall ensure the availability, currency and use of maintenance and operational documentation required to perform work within the approved scope of activity.

The organization shall use only documentation applicable to the types of aeronautical products, components and technical processes being maintained. Maintenance documentation shall be available to personnel at the time the work is performed and shall be used without unauthorized alteration, except where changes are permitted by the organization's internal procedures.

23. Applicable aircraft maintenance and repair documentation includes:

- 1) continuing airworthiness information and Airworthiness Directives (ADs) issued by the authorized organization;*
- 2) any applicable Airworthiness Directives issued by the State of Design of the aeronautical product;*
- 3) applicable continuing airworthiness information issued by the Type Certificate holder and holders of changes to the Type Certificate;*
- 4) any applicable documents and data issued in accordance with item 30 of these Certification Requirements;*
- 5) directives issued by the authorized organization where they differ from the instructions referred to in subitems 2), 3) and 4) of item 30 of these Certification Requirements, or where no other specific recommendations are available.*

Within the requirements of Order 196, the organization shall ensure that applicable maintenance and operational documentation is available and used to an extent appropriate to the approved scope of activity and the work actually performed, including all regulatory requirements applicable to maintenance, related guidance material and all applicable Airworthiness Directives.

The organization shall use the maintenance and operational documentation necessary to perform maintenance and repair work, including mandatory continuing airworthiness instructions and other documents required by applicable requirements. The scope of documentation used shall be determined by the class of activity, the nature of the work and the conditions under which it is performed.

Aircraft maintenance

An organization performing aircraft maintenance shall use, as applicable:

- the approved aircraft maintenance programme;
- the Aircraft Maintenance Manual (AMM);
- the Structural Repair Manual (SRM) or other applicable repair manual;
- structural inspection documents;
- corrosion prevention and control documents;
- service bulletins, service letters and instructions;
- modification documentation;
- non-destructive testing instructions;
- illustrated parts catalogues;
- other documents related to the continuing airworthiness of the specific aircraft type.

Engine and auxiliary power unit maintenance

An organization performing maintenance on engines and/or auxiliary power units shall use:

- maintenance and overhaul/repair manuals;
- service bulletins, service letters and instructions;
- modification documentation;
- non-destructive testing instructions;
- parts catalogues;
- other applicable maintenance and operational documentation.

Component maintenance

An organization performing maintenance on components, excluding complete engines and auxiliary power units, shall use:

- component maintenance and/or repair manuals;
- manufacturer service bulletins and service letters;
- where necessary, documentation relating to the higher-level assembly or product in which the component is installed.

Specialized services

An organization performing specialized services shall use:

- maintenance data and procedures applicable to the specific specialized service;
- process specifications and technical instructions necessary to perform the requested service.

Extent of documentation appropriate to the work performed

The extent of maintenance and operational documentation shall take account of the actual scope of work at the relevant maintenance location:

- for base maintenance, an essentially complete set of applicable documentation shall be available;
- for line maintenance, a limited set of documentation sufficient for the requested work may be used, for example the Aircraft Maintenance Manual and parts catalogue.

24. The aircraft maintenance and repair organization shall establish procedures to ensure that any inaccurate, incomplete or incorrect procedures, practices, information or instructions identified in the maintenance documentation used by maintenance personnel are recorded and reported to the author of that documentation.

For compliance with Order 196, the organization shall establish a procedure for identifying, recording and processing cases where maintenance or operational documentation used for maintenance and repair work is inaccurate, incomplete or ambiguous.

Where personnel identify inaccurate, incomplete or ambiguous information in applicable maintenance documentation, the organization shall ensure that the matter is recorded through the organization's internal reporting system. Such reports shall be used to assess any potential effect on safety and on the quality of work performed.

The organization shall promptly inform the designer, manufacturer or other document owner of identified discrepancies in order to obtain clarification, correction or an updated revision. Records of such notification and correspondence shall be retained until the discrepancy has been resolved or formally clarified by the document owner.

The procedure for identifying, recording and processing discrepancies in maintenance documentation, and the arrangements for communication with the designer, manufacturer or document owner, shall be documented in the MOE and applied continuously as part of the management and quality systems.

25. The aircraft maintenance and repair organization shall amend a maintenance instruction only in accordance with the procedure specified in the quality manual or MOE; this requirement does not apply to the development of repair and modification data.

For compliance with Order 196, the organization shall establish a procedure governing the initiation, evaluation, approval and use of amendments to maintenance instructions.

The procedure shall require personnel proposing a change to a maintenance instruction to demonstrate its applicability and practical feasibility, including, where appropriate, demonstration of the amended method of performing the work. Depending on the nature

and potential impact of the change, the organization shall perform a risk assessment to confirm that an equivalent or higher level of maintenance quality and safety is achieved.

Amended maintenance instructions shall be approved by personnel responsible for compliance monitoring, subject to confirmation of compliance with Order 196. The organization shall inform the instruction's author or owner of the change and retain records demonstrating completion of all stages of the procedure.

The organization shall ensure that:

- amended maintenance instructions clearly identify the changes made;
- full traceability of the amendment process is maintained in documented or electronic form;
- amended instructions are used only in the circumstances defined by the organization's internal procedures.

Maintenance instructions shall not be amended where the change affects design configuration limitations or airworthiness limitations unless the prescribed approval process for such changes has been completed.

The procedure for amending maintenance instructions shall be documented in the MOE and applied as an element of the quality system and Safety Management System in accordance with Order 196.

26. The aircraft maintenance and repair organization shall establish an overall system for developing work cards or worksheets for use in its maintenance activities. The organization shall either reproduce fully and accurately in those work cards the information contained in the maintenance documentation required by these Certification Requirements. Work cards may be maintained electronically and stored in an electronic database.

Where an electronic system is used, the organization shall protect the database against unauthorized changes and maintain a backup database that is updated no later than 24 hours after any change to the primary database. For complex maintenance and repair tasks, the work process shall be transferred to work cards and divided into appropriate stages.

Where the organization provides maintenance and repair services to an operator that requires the use of the operator's own work-card system, the operator's work-card system may be used. In that case, the organization shall establish a procedure to ensure that the operator's work cards are correctly completed.

To demonstrate completion of work and ensure traceability, the organization shall use a work-card system in which maintenance tasks are presented in a structured manner.

Maintenance tasks shall be transferred to work cards and, where necessary, divided into sequential stages, including:

- disassembly;
- performance of the maintenance task;
- reassembly;
- inspection and/or testing.

Where extended work is performed by several persons, supplementary work cards or sheets may be used to identify the operations actually performed by each person. The work-card system shall ensure unambiguous traceability of records to specific maintenance tasks.

The work-card system may take different forms, including but not limited to:

- a mechanic's record of a defect identified and the action taken, including the maintenance data used and its revision status;
- the aircraft technical log containing records of defects and completed work made by authorized personnel;
- maintenance checklists issued by the manufacturer of the aeronautical product or component.

27. The aircraft maintenance and repair organization shall ensure that maintenance and repair documentation is readily available for use by its personnel.

Maintenance documentation shall be available to personnel performing maintenance in the immediate vicinity of the aircraft or component being maintained and to the extent necessary for the specific work being performed.

Where electronic systems are used, the organization shall provide a sufficient number of workstations or terminals commensurate with the volume of work, or the ability to obtain paper copies promptly. Equivalent requirements apply to the electronic storage of records.

28. The aircraft maintenance and repair organization shall establish procedures for controlling the status of maintenance and repair documentation to ensure that it is updated in a timely manner. Where such document-status control is performed by the operator/customer and the operator/customer provides the maintenance documentation, the organization shall demonstrate this by providing either a letter from the operator/customer certifying that all mandatory amendments have been incorporated, an agreement defining the status of the maintenance documentation to be used, or a controlled amendment record for the maintenance documentation supplied by the operator/customer.

Where maintenance documentation provided by an operator or customer is used, the organization shall ensure its use in accordance with the agreed conditions. Following completion of the work, such documentation shall be retained only to the extent necessary to meet record-retention requirements.

29. The aircraft maintenance and repair organization shall have repair, process and inspection documentation.

For compliance with Order 196, the organization shall have the repair, process and inspection documentation necessary to perform work within the approved scope of activity.

Such documentation includes documents defining:

- the procedures and methods for carrying out repair and process operations;
- the methods, sequence and conditions for performing the work;
- requirements for inspection, verification and confirmation of completed work.

Repair, process and inspection documentation shall be used in the performance of maintenance and repair work, kept current and used by personnel in accordance with the organization's established procedures as part of the quality system.

30. The aircraft maintenance and repair organization shall have a controlled set of design documentation sufficient in content and quantity to provide for:

- 1) development by the organization of process documentation;
- 2) development and manufacture of repair tooling and equipment;
- 3) identification during repair of all defects in aeronautical products and decision-making concerning their assessment and rectification;
- 4) accomplishment of modifications and restoration repairs of aeronautical products;
- 5) manufacture of parts.

For compliance with item 30 of Order 196, the organization shall have a controlled set of design documentation sufficient in content and extent to perform the requested activities within the approved scope.

The availability and use of controlled design documentation shall enable:

- development of the organization's process documentation, including descriptions of processes, operations and the sequence of maintenance and repair work;
- development and manufacture of repair tooling and equipment necessary for repair and restoration work in accordance with established procedures;
- identification of defects in aeronautical products during repair and the taking of substantiated decisions concerning their assessment, classification and rectification;
- accomplishment of modifications and restoration repairs in accordance with applicable requirements and approved data;
- manufacture of parts where permitted within the established scope of activity and using approved design and process documentation. See guidance material AAK-AIR-P.0585.

Design documentation shall be controlled, maintained current and used in accordance with the organization's established procedures.

31. The aircraft maintenance and repair organization shall ensure:

- 1) development of a procedure for the control of design documentation;
- 2) availability of a document list for repair applicable to each type of aeronautical product being repaired;
- 3) controlled registration and storage of current design documentation;
- 4) incorporation of incoming amendments and their communication to maintenance personnel and technical inspection personnel;
- 5) withdrawal from use of obsolete or otherwise unsuitable design documentation.

32. Repair or modification of aeronautical products shall be performed in accordance with repair documentation, including repair manuals and data on principal joints and repair tolerances, developed or approved by the aircraft manufacturer or design organization. Repair documentation shall specify the methods, sequence and conditions for performing the work; parameters to be controlled and inspection methods; process equipment, tools and materials; requirements for protection of aeronautical products against damage and contamination and for the work environment; and methods for identification of parts. The aircraft maintenance and repair organization shall control the use, amendment, distribution, registration and storage of process documentation.

Modification of individual aircraft or components shall be performed in accordance with documentation issued by, or agreed with, the aircraft design organization.

33. At all stages of repair or modification of aeronautical products, inspection documentation shall be completed containing:

- 1) the name and identification number of the aeronautical product;
- 2) the scope and content of the work performed, including modifications and approved deviations from design and process documentation requirements, such as technical decision sheets and concession/authorization cards;
- 3) the actual characteristics and parameters of parts, assemblies and aeronautical products;
- 4) the dates on which the work and inspections were performed;
- 5) the names and signatures, stamps or personal marks of the persons who performed the repair or modification and of the persons who inspected the work.

Inspection documentation may be maintained electronically and stored in an electronic database in accordance with item 26 of these Certification Requirements.

34. The content and forms of repair documentation, including the master repair file, shall be developed, approved and amended by the aircraft maintenance and repair organization for the relevant type of aeronautical product and repair arrangements on the basis of current documentation issued by the aircraft design organization.

Repair documentation completed for an individual item shall be compiled into a single document package entitled the "Aeronautical Product Repair File".

35. The "Aeronautical Product Repair File" prepared for each individual item shall conform to the approved master "Aeronautical Product Repair File".

The "Aeronautical Product Repair File" shall be retained by the organization until the item is withdrawn from service. Where the aircraft maintenance and repair organization ceases operations, the Repair File shall be transferred to an organization designated by the authorized organization in civil aviation.

36. The range and control of maintenance and operational documentation shall comply with these Certification Requirements.

Paragraph 6. Production Planning Requirements

37. The aircraft maintenance and repair organization shall have a production planning system appropriate to the volume and complexity of the work performed and used to plan all resources: personnel, equipment, tools, materials, maintenance and repair documentation and facilities necessary for the safe performance of maintenance and repair work.

For compliance with Order 196, the organization shall establish and apply a production planning system that ensures proper and timely performance of work within the approved scope of activity.

Planning functions

Production planning includes two interrelated elements:

1. pre-planning of work to ensure that maintenance and repair activities do not create conflicts in the availability of:
 - personnel;
 - tools and equipment;
 - materials and spare parts;
 - maintenance and operational documentation;
 - maintenance facilities and work areas;
2. organization of work during maintenance, including:
 - formation of work teams and shifts;
 - provision of the necessary support to personnel;
 - avoidance of excessive time pressure during performance of work.

Factors considered in planning

When developing and applying planning procedures, the organization shall take into account, as applicable:

- logistics and supply arrangements;
- inventory and materials management;
- availability and capacity of maintenance facilities;
- assessment of workload and availability of man-hours;
- work preparation and preparation of work areas;
- availability of hangars and other maintenance areas;
- working environment conditions, including access, lighting and cleanliness;
- coordination with internal departments and external suppliers and contractors;
- scheduling of safety-critical work for periods when personnel are best able to perform effectively.

38. Planning of maintenance and repair work and organization of shift work shall take account of human psychophysiological limitations in accordance with the Labour Code of the Republic of Kazakhstan.

To implement item 38 of Order 196, under which maintenance and repair planning and shift arrangements are to take account of human psychophysiological limitations in accordance with the Labour Code of the Republic of Kazakhstan, the organization shall consider human factors, including personnel fatigue, when planning and performing maintenance work.

The manner and extent to which fatigue hazards are considered in planning and shift scheduling shall take account of the nature of the work, the conditions in which it is performed, the location and time of the work, and the personnel involved. The approach shall be proportionate to the specific maintenance and repair circumstances.

Within its management system, the organization shall:

- address fatigue considerations in its safety policy;
- provide means to identify and take account of fatigue factors through internal reporting and analysis mechanisms;
- include assessment and management of fatigue-related risks in key management-system processes;
- use safety promotion activities and adapt personnel training accordingly.

When organizing shift work, the organization shall take account of applicable requirements and recognized maintenance practices. Shift rosters shall be communicated to personnel sufficiently in advance to permit adequate rest planning. Shift duration shall not be increased solely for management convenience, even where personnel agree to work beyond established hours.

Where significant extensions of working time or changes to shift schedules are necessary for operational reasons, the organization shall apply established procedures that include risk mitigation measures. Where circumstances are not covered by such procedures, an additional risk assessment shall be carried out and compensating measures defined, including enhanced supervision, limitations on safety-critical work and additional rest breaks.

39. Where continuation or completion of maintenance and repair work must be handed over because of a shift change or a change in the personnel performing the work, the relevant information shall be transferred from the outgoing personnel to the incoming personnel.

To ensure continuity and safety of maintenance and repair work, the organization shall ensure effective transfer of information during personnel handovers.

The primary objective of the handover is to ensure complete and accurate exchange of information when responsibility for continuation or completion of maintenance work is transferred.

An effective task and shift handover is achieved when the following conditions are met:

- the person handing over the work is able to assess correctly the status of the work and communicate to the receiving person all material information on task progress, identified issues, limitations and outstanding actions;
- the receiving person is able to receive, understand and assimilate the information necessary for the safe continuation or completion of the work;
- the organization has established and applies a formalized information handover process that provides for:
 - planned shift overlap, where necessary;
 - a defined location and suitable conditions for the handover;
 - a standardized handover format established in the organization's internal procedures.

Paragraph 7. Requirements for Records of Aircraft Maintenance and Repair Work

40. The aircraft maintenance and repair organization shall record all information relating to work performed. The organization shall retain records necessary to demonstrate compliance with all applicable requirements, including:

- 1) aircraft inspections and examinations, including certification entries in maintenance releases;
- 2) any unscheduled work arising during scheduled maintenance;
- 3) details of repair or inspection/restoration work performed on aeronautical products;
- 4) ground and flight tests;
- 5) work performed in response to Airworthiness Directives and continuing airworthiness instructions;
- 6) maintenance releases issued for completed work.

Properly completed and retained maintenance and repair records perform the following key functions:

1. for aircraft owners and operators - they provide the information necessary to determine the current airworthiness status of an aircraft or component and to manage both scheduled and unscheduled maintenance;
2. for maintenance and repair personnel - they provide information necessary for fault analysis and defect rectification, reducing the need for repeat inspections and rework.

The primary objective of record keeping is to ensure reliability, protection, legibility and prompt retrievability of records.

Aircraft records shall include essential information on all serialized or otherwise identifiable components and other significant components installed during maintenance, in order to provide traceability of:

- the component installed;
- the related maintenance and repair documentation;
- modification and repair data.

Specific requirements for modular gas turbine engine records

For modular gas turbine engines where a single total operating time for the complete engine is not maintained, the organization shall maintain utilization and maintenance records separately for each module.

Records for each module shall:

- remain with the module;
- show the work performed and utilization status;
- demonstrate compliance with all mandatory requirements applicable to that module.

41. The aircraft maintenance and repair organization shall provide the operator with a copy of each maintenance release issued by the organization and a copy of the approved repair or modification data used in carrying out the relevant repair or modification.

To implement the requirement to provide the operator with documentation following completed work, the organization shall transfer the records and documentation supporting the maintenance, repair or modification performed.

The organization shall provide the operator with:

- a copy of each maintenance release issued for maintenance and repair work;
- a copy of the approved repair or modification data used for the relevant work.

The transferred documentation is used by the operator to:

- demonstrate that the work performed complies with airworthiness requirements;
- update continuing airworthiness records;
- ensure traceability of aeronautical product configuration and of modifications or repairs performed;
- plan subsequent maintenance.

The documentation shall be transferred to the extent necessary to support continuing airworthiness and does not relieve the organization of its obligation to maintain and retain its own records for the prescribed retention periods.

42. Records shall be retained in paper form, electronic form or a combination of both, with appropriate protection and preservation of legibility and completeness. Storage on microfilm and optical media is permitted. Record legibility shall be maintained throughout the required retention period, which is calculated from the date the record was created or last amended.

For implementation of item 42, maintenance and repair records shall be retained in paper form, electronic form or a combination of both, provided that they are protected and their legibility, completeness and integrity are maintained.

Records may be stored on microfilm or optical media provided that requirements for accessibility, legibility and information protection are met.

The organization shall ensure that records remain legible and usable throughout the required retention period. The retention period shall run from the date the record is created or the date of its latest amendment, whichever is later.

43. *The aircraft maintenance and repair organization shall retain maintenance and repair records and associated documentation in a form and format that ensure legibility, protection against damage, unauthorized alteration and theft, and security and integrity of the records for two years after signature of the maintenance release, as follows:*

- 1) *paper record systems shall use durable materials capable of withstanding use and storage;*
- 2) *all computer equipment used for backup of records shall be stored separately from operational equipment and under conditions that ensure its preservation. Where hardware or software is changed, particular attention shall be given to ensuring that all required data remain accessible for at least the prescribed retention period;*
computer systems shall maintain at least one backup copy updated within 24 hours of entry of new data. Computer systems shall include safeguards preventing unauthorized alteration of data;
- 3) *where the aircraft maintenance and repair organization ceases operations, all retained maintenance and repair records for the preceding two years shall be transferred to the last customer or owner of the relevant aeronautical product.*

For compliance with Order 196, the organization shall retain maintenance and repair records and documentation associated with work performed in a form and format that ensure legibility, preservation and integrity.

Records and associated documentation shall be retained so as to ensure:

- protection against damage;
- protection against unauthorized alteration;
- protection against loss and theft;
- security and integrity for at least two years from the date the maintenance release is signed.

Paper and electronic record systems

Where paper records are used, the organization shall use durable materials capable of preserving records during use and archival storage.

Where electronic record systems are used, the organization shall ensure:

- at least one backup copy of records, updated no later than 24 hours after new entries are made;
- technical and software safeguards that prevent unauthorized alteration of data;
- storage of backup equipment separately from operational equipment and under conditions that ensure preservation of data.

Where hardware and/or software is changed, the organization shall take measures to ensure that all records remain accessible and legible for at least the prescribed retention period.

Cessation of operations

Where the aircraft maintenance and repair organization ceases operations, all retained records of work performed during the preceding two years shall be transferred to the last customer or owner of the relevant aeronautical product.

Paragraph 8. Requirements for Reporting Airworthiness-Related Occurrences by an Aircraft Maintenance and Repair Organization

44. *The aircraft maintenance and repair organization shall report to the authorized organization in civil aviation, the State of Registry of the aeronautical product, the organization responsible for the type design or a modification to the type design of the aeronautical product or component, and the State of the Operator any airworthiness-related occurrence identified by the organization that significantly affects, or may significantly affect, flight safety.*

Item 44 establishes the obligation of the aircraft maintenance and repair organization to ensure mandatory reporting to the competent and interested parties of identified airworthiness-related occurrences.

Within its occurrence reporting system, the organization shall submit a report to:

- the authorized organization in civil aviation;
- the State of Registry of the aircraft;
- the organization responsible for the type design or a modification to the type design of the aircraft or component;
- the State of the Operator,

for each identified airworthiness-related occurrence involving an aircraft or component that:

- significantly affects flight safety; or
- could have such an effect if corrective action were not taken.

Such occurrences include, but are not limited to:

- failures, defects or damage to structures, systems or components;
- discrepancies between maintenance or repair documentation and the actual condition of the product;
- identified deviations from approved continuing airworthiness data;
- other conditions or occurrences capable of reducing the level of flight safety.

45. *The aircraft maintenance and repair organization shall establish and describe in the MOE an internal airworthiness occurrence reporting system that provides for the collection and evaluation of such reports, including procedures for selecting, on the basis of the evaluation, those occurrences that are reportable under item 46 of these Certification Requirements. These procedures shall identify adverse trends and corrective action taken to address deficiencies and shall include arrangements for analysing all available information relating to the occurrences under consideration and for disseminating such information where necessary.*

In accordance with item 45 of Order 196, the organization shall establish, implement and describe in its MOE an internal system for reporting airworthiness-related occurrences.

The internal reporting system is intended for the systematic collection, recording and evaluation of information on occurrences identified during maintenance and repair activities that have affected, or could have affected, airworthiness.

Internal reporting procedures shall provide for:

- evaluation of reports received;
- selection of occurrences subject to mandatory reporting in accordance with item 46 of the Certification Requirements;
- identification of recurring occurrences and adverse trends;
- determination and documentation of corrective action intended to eliminate identified deficiencies;
- analysis of all available information relating to the occurrences under consideration, including information from other elements of the management system;
- dissemination of analysis results and conclusions to relevant personnel to the extent necessary to prevent recurrence of similar occurrences.

46. An aircraft maintenance and repair organization that performs continuing airworthiness functions under contract with a commercial operator shall report to that operator any occurrence affecting the airworthiness of an aircraft or component belonging to that operator.

The organization shall report to the operator each occurrence that:

- is identified during maintenance and repair work;
- relates to the condition of the structure, systems, equipment or components of the aeronautical product;
- may affect compliance of the aeronautical product with applicable airworthiness requirements or its safe operation.

Reporting under item 46 is intended to:

- provide the operator in a timely manner with information on the actual technical condition of the aeronautical product;
- provide the operator with data necessary to discharge continuing airworthiness responsibilities;
- enable the operator to decide on corrective action, additional inspections, operational limitations or other measures.

Reports submitted to the operator under item 46 shall be based on the results of the internal reporting system established under item 45 of the Certification Requirements.

The format, content and timing of reports to the operator shall be determined by:

- the terms of the contract between the organization and the operator;
- the procedures established in the organization's MOE.

47. The aircraft maintenance and repair organization shall prepare and submit reports as soon as practicable and, in any event, no later than 72 hours after the organization identifies an occurrence subject to mandatory reporting.

The 72-hour period begins when the organization identifies or receives reliable information about a reportable occurrence, regardless of:

- whether the internal investigation has been completed;
- whether all causal and contributing factors have been identified;
- whether final corrective action has been determined.

The initial report shall be submitted on the basis of the information available and supplemented or updated as necessary.

Paragraph 9. Requirements for the Maintenance Organisation Exposition (MOE)

48. The aircraft maintenance and repair organization shall have a Maintenance Organisation Exposition (MOE) in the form set out in Appendix 1 to these Certification Requirements.

When developing the MOE, use guidance form AAK-AIR-F.0547 published on the website of the authorized organization in civil aviation.

49. The aircraft maintenance and repair organization shall make the amendments necessary to keep the information contained in the MOE current.

The MOE and subsequent amendments thereto shall be approved by the authorized organization in civil aviation.

In accordance with item 49 of the Certification Requirements, the aircraft maintenance and repair organization shall amend the MOE in a timely manner to ensure that the information it contains remains current.

The MOE shall be amended in circumstances including, but not limited to:

- changes to civil aviation legislation and regulatory requirements;
- changes to the conditions or scope of the organization's activities;
- changes to the organizational structure or allocation of duties and responsibilities;
- changes to aircraft maintenance and repair procedures;
- implementation of corrective or preventive action arising from internal control, audits or occurrence analysis.

The MOE and all subsequent amendments shall be subject to approval by the authorized organization in civil aviation. Amendments shall not be implemented before approval unless otherwise provided by the established procedure.

MOE amendment-control procedures shall ensure:

- identification of the need for an amendment;
- preparation and formalization of amendments;
- submission of amendments to the authorized organization for approval;
- communication of approved amendments to relevant personnel;
- use in operations only of the current approved revision of the MOE.

50. *The aircraft maintenance and repair organization shall notify the authorized organization in civil aviation of any change in its functions or of any change of nominated managers within eight (8) working days and shall ensure appropriate control within the organization during the absence of nominated managers.*

In accordance with item 50 of Order 196, the organization shall notify the authorized organization in civil aviation of any change in the organization's functions or any change of nominated managers no later than eight (8) working days from the date of the change.

Changes subject to notification include, but are not limited to:

- appointment, removal or replacement of managers and officials specified in the MOE;
- changes to the functions assigned to nominated managers;
- reallocation of responsibilities affecting continuing airworthiness requirements.

During the absence of nominated managers, the organization shall ensure continued functioning of the relevant organizational units through internal control and temporary allocation of duties so that there is no interruption in compliance with maintenance and repair requirements.

Such arrangements shall ensure:

- continuity of management and operational processes;
- compliance with continuing airworthiness requirements;
- continued performance of control and decision-making functions until the relevant manager is appointed on a permanent basis.

Paragraph 10. Requirements for Metrological Support

51. *The aircraft maintenance and repair organization shall develop procedures defining the arrangements for metrological support in the areas applicable to repair production. Metrological support shall be provided in accordance with the national standards of the State System for Ensuring the Uniformity of Measurements and shall include:*

- 1) *training and qualification of metrology personnel;*
- 2) *verification of measuring equipment;*
- 3) *submission of measuring equipment and spare parts for metrological certification and testing for type approval;*
- 4) *maintenance of the register of the State System for Ensuring the Uniformity of Measurements of the Republic of Kazakhstan;*
- 5) *metrological review of process and design documentation.*

52. *The aircraft maintenance and repair organization shall determine the measuring equipment necessary to ensure that aeronautical products comply with established requirements.*

Metrological support activities shall be carried out in accordance with:

- the Law of the Republic of Kazakhstan "On Ensuring the Uniformity of Measurements";
- regulatory legal acts of the authorized body in the field of technical regulation and metrology;
- national standards and rules of the State System for Ensuring the Uniformity of Measurements of the Republic of Kazakhstan;
- the requirements of the maintenance, process and design documentation for aeronautical products.

In implementing item 51, the organization shall ensure:

1. training and qualification of metrology personnel to the extent necessary to perform functions relating to control, verification and use of measuring equipment in repair production;
2. verification of measuring equipment used in maintenance and repair of aeronautical products within the prescribed intervals and in accordance with established procedures, using verified reference standards;
3. submission of measuring equipment and spare parts for metrological certification, testing and type-approval procedures where required by the legislation of the Republic of Kazakhstan;
4. registration and maintenance of records of measuring equipment in accordance with the requirements of the State System for Ensuring the Uniformity of Measurements of the Republic of Kazakhstan;
5. metrological review of process and design documentation to verify the correctness of specified measured parameters, tolerances and inspection methods.

Metrological support procedures shall:

- be included in the MOE or established in separate documents referenced in the MOE;
- define responsibilities, intervals and arrangements for metrological activities;
- ensure that only measuring equipment that has been verified and accepted for use is used in maintenance and repair activities.

53. *Measuring equipment shall be:*

- 1) *verified within the prescribed intervals in accordance with legislation and regulatory documents governing the uniformity of measurements;*
- 2) *adjusted as necessary;*
- 3) *identified so that its verification status can be established;*
- 4) *protected against adjustments that would invalidate measurement results;*
- 5) *protected against damage and deterioration during use, maintenance and storage.*

54. *Where measuring equipment is found not to comply with the requirements of national standards of the State System for Ensuring the Uniformity of Measurements, the aircraft maintenance and repair organization shall evaluate and record the validity of previous measurement results obtained using that equipment.*

55. *The aircraft maintenance and repair organization shall immediately remove defective or unverified measuring equipment from technical processes and shall appoint persons responsible for monitoring the condition of measuring equipment and compliance with verification schedules.*

In accordance with item 53, measuring equipment used in maintenance and repair of aeronautical products shall:

1. be verified within the prescribed intervals in accordance with the legislation of the Republic of Kazakhstan and the regulatory documents of the State System for Ensuring the Uniformity of Measurements;
2. be properly adjusted to ensure reliable measurement results;
3. be identified, including indication of verification status and the dates of the last and next verification;
4. be protected against unauthorized adjustment that could affect the validity of measurement results;
5. be protected against damage and deterioration during use, maintenance and storage.

In accordance with item 54, where measuring equipment is found not to comply with the requirements of national standards of the State System for Ensuring the Uniformity of Measurements, the organization shall:

- evaluate previous measurement results obtained using that equipment;
- record the results of the evaluation in accordance with established procedures;
- determine the need for additional inspections, repeat measurements or corrective action in respect of the aeronautical products concerned.

In accordance with item 55, the organization shall ensure:

- immediate removal from technical processes of measuring equipment found defective or not having a valid verification status;
- appointment of responsible persons to monitor the technical condition of measuring equipment and compliance with verification schedules;
- maintenance of measuring-equipment records and control of equipment status within the quality-system and metrological-support procedures.

Paragraph 11. Non-Destructive Testing

56. *The aircraft maintenance and repair organization shall develop:*

- 1) *procedures for controlling the activities of non-destructive testing (NDT) units;*
- 2) *performance procedures for all NDT methods used;*
- 3) *procedures governing the use of industry reference and working specimens for eddy-current, ultrasonic, magnetic and liquid-penetrant testing;*
- 4) *process instructions for NDT processes;*
- 5) *procedures for recording results and making acceptance decisions following NDT of assemblies and parts of aeronautical products under repair, including recording inspection results in production and inspection documentation.*

The organization shall develop procedures for control of NDT-unit activities that define:

- the structure and reporting lines of NDT units;
- the allocation of responsibilities and authority of NDT personnel;
- the arrangements for internal control and assessment of compliance with established procedures;
- requirements for NDT records and reporting documentation.

For each NDT method used, the organization shall develop performance procedures defining:

- the scope of application of the specific method;
- the conditions and parameters for performing the inspection;
- requirements for inspection equipment and auxiliary equipment;
- qualification requirements for personnel performing the inspection.

The organization shall develop procedures governing the use of industry reference and working specimens when performing:

- eddy-current testing;
- ultrasonic testing;
- magnetic-particle testing;
- liquid-penetrant testing.

57. *Equipment used for non-destructive testing shall undergo periodic metrological verification to ensure measurement accuracy.*

In accordance with item 57, NDT equipment shall undergo periodic metrological verification to ensure the accuracy and reliability of measurements.

Verification shall be performed:

- at the intervals and in accordance with the procedures established by the legislation of the Republic of Kazakhstan on ensuring the uniformity of measurements;
- with appropriate records and evidence of verification.

NDT equipment that has not undergone required verification or has been found unserviceable shall not be used.

58. *Workplaces where non-destructive testing is performed shall be provided with current NDT process documentation and with reference standards for equipment setup.*

In accordance with item 58, NDT workstations shall:

- be provided with current NDT process documentation;

- be equipped with reference standards and standard test pieces necessary for setup, calibration and functional checks of NDT equipment.

59. *The organization shall have separate rooms, laboratories or specially equipped workstations for non-destructive testing and standard reference specimens used for eddy-current, ultrasonic, magnetic-particle and liquid-penetrant methods.*

In accordance with item 59, the organization shall:

- have separate rooms, laboratories or specially equipped workstations for NDT;
- ensure the availability of standard reference specimens used for eddy-current, ultrasonic, magnetic-particle and liquid-penetrant testing.

NDT rooms and workstations shall comply with:

- the national standards of the Republic of Kazakhstan;
- applicable process documentation;
- conditions necessary to ensure reliable inspection results and personnel safety.

Paragraph 12. System for Information and Corrective Action on Aeronautical Product Failures

60. *The aircraft maintenance and repair organization shall consolidate the necessary information on hazardous failures and, for this purpose, shall:*

- 1) *develop procedures for collecting, recording and reporting to the authorized organization in civil aviation information on all identified hazardous failures or defects related to airworthiness;*
- 2) *define arrangements for taking prompt action to rectify failures or defects occurring in service.*

The organization shall establish and approve procedures defining:

- the process for identifying hazardous failures and defects related to airworthiness;
- classification of failures according to their level of hazard;
- the arrangements for recording, accounting for and retaining failure information;
- the time limits and communication channels for reporting information to the authorized organization in civil aviation.

The organization shall ensure prompt action, including:

- immediate assessment of the effect of the failure or defect on airworthiness;
- determination of whether operation should be suspended or restricted or whether additional inspections are required;
- initiation of unscheduled maintenance action to rectify the failure or defect in service.

61. *The aircraft maintenance and repair organization shall have in place:*

- 1) *a system for collecting, recording and analysing information on failures and defects identified during repair and during operation of aeronautical products after repair, and for communicating such information to the personnel and departments concerned;*
- 2) *a system for internal investigation and determination of the causes of defects in aeronautical products, including identification of the responsible departments and officials;*
- 3) *arrangements for cooperation with the Manufacturer, Design Organization and research institutions when conducting investigations of aeronautical products.*

The organization shall operate a system for collecting, recording and analysing information on failures and defects identified:

1. during maintenance and repair;
2. during operation of aeronautical products after repair, based on information from the operator/customer, claims, complaints, inspections or repeat failures.

The system referred to in subitem 61.1 shall provide for:

1. accumulation and classification of data by failure type, product, detection circumstances and consequences;
2. analysis of recurrence and trends, including identification of occurrences requiring additional action;
3. communication of relevant information - including analysis results, warnings and lessons learned - to maintenance personnel and responsible departments to the extent applicable to their functions;
4. documentation of analysis results and decisions taken.

The organization shall maintain an internal investigation system for failures and defects that provides for:

1. determination of technical, process and organizational causes;
2. identification of responsible departments and officials within the competence of the organization;
3. preparation of investigation records and conclusions, including proposed corrective and preventive actions;
4. monitoring implementation of decisions arising from the investigation.

The organization shall establish arrangements for cooperation with the Manufacturer, Design Organization and research organizations on failure and defect matters, including:

1. submission of source data and materials relating to failures or defects for assessment and development of solutions;
2. receipt of clarifications and recommendations, including those relating to maintenance processes, repairs and inspections;
3. incorporation of investigation results and recommendations when updating process, repair and inspection documentation.

62. *The aircraft maintenance and repair organization shall take preventive measures to avoid failures of aeronautical products under repair and shall develop procedures governing failure prevention and the implementation of corrective and preventive actions.*

The organization shall take preventive measures to avoid failures of aeronautical products under repair on the basis of:

1. the results of analysis and investigations under item 61;

2. information on recurring defects and trends;
3. data received from operators/customers and other sources.

The organization shall develop and apply corrective and preventive action procedures that provide for:

1. determination of corrective actions to eliminate the causes of identified failures or defects;
2. determination of preventive actions to avoid recurrence of similar failures or defects;
3. designation of responsible persons, implementation timeframes and criteria for verifying effectiveness;
4. documentation of completed actions and assessment of their effectiveness;
5. amendment, where necessary, of process, repair and inspection documentation and/or production and inspection forms.

Paragraph 13. Maintenance Release

63. *A maintenance release shall be completed and signed to certify that the maintenance work performed has been satisfactorily completed in accordance with the MOE, taking into account the availability and use of the maintenance and repair documentation specified in Paragraph 5 of these Certification Requirements and the absence of known non-compliances that endanger flight safety.*

The maintenance release shall be completed and signed by the aircraft maintenance and repair organization to confirm that the scope of maintenance agreed in the work order or contract has been completed in full and properly in accordance with the approved MOE.

The maintenance release certifies completion of the work but does not, unless expressly provided otherwise by applicable requirements, constitute certification of the overall airworthiness of the aircraft.

When completing and signing the maintenance release, the organization shall ensure that:

- the work has been performed strictly in accordance with the organization's approved procedures;
- applicable and current maintenance and repair documentation specified in Paragraph 5 of the Certification Requirements has been used;
- it has been verified that there are no known non-compliances that:
 - prevent safe operation from being assured;
 - could result in an unsafe condition of the aircraft, its components or systems.

Non-compliances that endanger flight safety include circumstances in which safe operation cannot be assured or which may result in an unsafe condition, including, in particular:

- significant cracking, deformation, corrosion or failure of primary structural elements;
- evidence of burning or electrical arcing;
- significant fuel or hydraulic-fluid leaks;
- failure of emergency or other safety-critical systems;
- failure to comply with an Airworthiness Directive within the required time.

Completion of the maintenance release does not impose on the maintenance organization an obligation to identify latent non-compliances that would not reasonably be expected to be detected within the agreed scope of work.

By signing the maintenance release, the organization confirms that:

- the work performed complies with applicable requirements and approved procedures;
- within the scope of work performed, no known non-compliances that endanger flight safety have been identified.

Responsibility for ensuring the airworthiness of the aircraft before each flight, including consideration of all operational factors and compliance with continuing airworthiness requirements, remains with the aircraft operator.

64. *A maintenance release shall be issued after completion of any maintenance and before the aircraft is released for flight.*

This requirement applies to:

- scheduled and unscheduled maintenance;
- defect rectification;
- accomplishment of Airworthiness Directives;
- work performed between scheduled maintenance checks.

A maintenance release shall be issued only after all work included in the agreed maintenance scope has actually been completed and shall confirm that:

- all required work has been completed;
- the results of the work comply with the applicable maintenance documentation;
- within the scope of work performed, there are no known non-compliances that endanger flight safety.

A maintenance release shall not be issued where work remains incomplete, except in cases expressly permitted by applicable requirements, for example where a defect may be deferred in accordance with the Minimum Equipment List (MEL).

The maintenance release shall be completed:

- after completion of maintenance;
- before the aircraft's next flight, regardless of whether the flight takes place immediately or some time after completion of the work.

The maintenance release is a mandatory condition for returning the aircraft to operation after maintenance.

65. *New defects identified during maintenance, or incomplete elements of the work order, shall be brought to the attention of the operator responsible for the continuing airworthiness of the aircraft in order to obtain agreement to rectify the defects or complete the missing elements of the maintenance and repair work order.*

Where the operator declines such additional maintenance, the aircraft maintenance and repair organization shall issue a maintenance release limited to the work actually completed by the organization. The organization shall record this fact in the maintenance release before it is issued.

Where new defects or incomplete elements of the work order are identified during maintenance, the organization shall immediately inform the operator or other organization responsible for continuing airworthiness so that a decision may be made on further action. Such notification is made solely to obtain agreement:

- to rectify the identified defects; and/or
- to complete the missing elements of the maintenance and repair work order.

The maintenance organization shall not independently decide to omit such work without agreement from the operator or the organization responsible for continuing airworthiness.

Where the operator or continuing-airworthiness organization declines the additional maintenance:

- the aircraft maintenance and repair organization may issue a maintenance release only for the work actually completed;
- the refusal to carry out additional work, or the incompleteness of individual work-order items, shall be recorded in the maintenance release before it is issued.

The aircraft maintenance and repair organization shall ensure:

- documented evidence that information on identified defects and incomplete work has been communicated;
- documented evidence of the operator's agreement or refusal;
- traceability of this information in the maintenance release and associated production records.

66. The maintenance release shall contain the following statement:

Certifies that the work specified, except as otherwise stated, was carried out in accordance with Article 48 of the Law and, in respect of that work, the aircraft is approved for release to service.

The approval number of the aircraft maintenance and repair organization and details of the person issuing the maintenance release shall also be stated.

The maintenance release shall:

- relate only to the work specified:
 - in the instructions of the Type Certificate (TC) holder or Supplemental Type Certificate (STC) holder;
 - or in the declaration of design conformity;
 - or in the operator's documentation;
 - or in the aircraft maintenance programme;
- and, where necessary, contain cross-references to the applicable maintenance or repair documentation.

The date of maintenance accomplishment shall be identified with reference to:

- calendar date;
- flight hours;
- number of cycles;
- number of landings;
- as applicable to the relevant life limitations or overhaul intervals.

Where a significant volume of maintenance has been performed, it is permissible:

- to include in the maintenance release a summarized description of the work performed, provided that there is:
 - a unique reference to the work package containing the complete list of work performed.

Dimensional, measurement and other safety-critical information shall be retained as part of the production work package.

The maintenance release shall include, as a minimum:

1. the certificate or approval number of the aircraft maintenance and repair organization;
2. the full name, position and signature of the certifying staff member issuing the maintenance release;
3. the date of issue of the maintenance release;
4. identification of the aircraft or component, including type and registration or serial number, as applicable.

67. A component maintenance release shall be issued by certifying staff after completion of maintenance on a component removed from an aircraft.

The component maintenance release shall be completed using the form set out in Appendix 2 to these Certification Requirements.

An aeronautical component maintained off-aircraft shall be issued with a component maintenance release upon completion of the work.

When such a component is installed on an aircraft, a separate maintenance release shall be issued to certify correct installation of the component.

Where a component is maintained by the aircraft maintenance and repair organization for its own use, a separate certificate may be issued in accordance with the procedure established in the MOE.

Aeronautical components that have been stored, removed from service, or maintained by organizations that do not hold the relevant approval may be released to service only after their condition has been assessed, compliance with applicable Airworthiness Directives has been confirmed, remaining life has been established and a maintenance release has been issued in accordance with these Certification Requirements.

Components removed from aircraft that have been withdrawn from service or involved in accidents, incidents or other abnormal occurrences may be released to service only after additional inspections and tests have been performed and their serviceable condition has been documented.

The component maintenance release shall contain details of the work performed, the maintenance data used, compliance with applicable Airworthiness Directives, life-status information, and shall certify the component's suitability for service within the stated conditions.

Item 68. Quality Management

68. The aircraft maintenance and repair organization shall implement a quality system, the description of which shall be included in the MOE.

To ensure that work performed complies with airworthiness and flight-safety requirements, the aircraft maintenance and repair organization shall implement and maintain a quality system.

The quality system is an integral part of the organization's management system and is intended to:

1. ensure compliance with the Certification Requirements and the organization's approved procedures;
2. monitor compliance of maintenance and repair work with established standards;
3. ensure timely identification of non-compliances, analysis of their causes and implementation of corrective and preventive action;
4. support continual improvement of maintenance and repair processes.

The description of the quality system, including its structure, functions, allocation of responsibilities, internal control procedures and compliance-monitoring arrangements, shall be included in the MOE.

The MOE shall include, inter alia:

- the organization's quality policy and objectives;
- a description of quality-control and quality-assurance procedures;
- the arrangements for internal audits;
- the arrangements for management of non-compliances and corrective action;
- the arrangements for changes to the quality system and monitoring their implementation.

The quality system shall apply to all organizational units and shall be mandatory for all personnel involved in maintenance and repair activities.

69. The quality-control and/or quality-assurance function shall conduct independent quality-assurance audits. The organization shall establish a system for informing the Accountable Manager on quality-assurance matters.

70. The annual quality-audit programme shall include audits covering all sections and chapters of the MOE. The audit programme shall also include audits of contracted maintenance organizations recognized by the authorized organization in civil aviation to verify compliance with these Certification Requirements.

The quality-control and/or quality-assurance function of the aircraft maintenance and repair organization shall:

1. conduct independent quality-assurance audits covering:
 - compliance with the Certification Requirements;
 - implementation of procedures established in the MOE;
 - effectiveness of maintenance and repair processes;
 - compliance of the final maintenance result or aeronautical product with established requirements;
2. ensure the objectivity and independence of audits by excluding from audit activities personnel who are responsible for the processes, procedures or products being audited.

The aircraft maintenance and repair organization shall establish a system for informing the Accountable Manager on quality-assurance matters that provides for:

1. regular reporting to the Accountable Manager of:
 - the results of independent audits;
 - identified non-compliances and adverse trends;
 - the status of corrective and preventive actions;
2. notification of the Accountable Manager of any non-compliances that:
 - may affect flight safety;
 - indicate systemic deficiencies in maintenance and repair processes;
 - require management decisions or reallocation of resources.

The arrangements for independent audits and the system for informing the Accountable Manager shall be described in the MOE.

71. To ensure proper analysis of non-compliances identified during internal and external audits, the quality assurance function of the aircraft maintenance and repair organization shall maintain documentation and records of quality-control and/or quality-assurance audit results, corrective actions and root-cause analysis, and shall take action to prevent recurrence of non-compliances.

To ensure proper analysis of non-compliances identified during internal and external audits, the organization's quality-control and/or quality-assurance function shall:

maintain and retain quality-system documentation, including:

- results of independent quality audits;
- recorded non-compliances;
- corrective and preventive actions;
- results of root-cause analysis of identified non-compliances;

assess the effectiveness of corrective actions and monitor implementation timeframes;
analyse the causes of non-compliances in order to:

- o eliminate systemic deficiencies;
- o prevent recurrence of similar non-compliances;

ensure that the Accountable Manager is informed of:

- o identified non-compliances;
- o the status of corrective actions;
- o matters related to flight safety and compliance with established requirements.

72. The quality assurance function of the aircraft maintenance and repair organization shall have a standard audit report form and an annual quality-assurance audit plan, both of which shall be described in the MOE. The MOE shall also describe the feedback system with organization personnel and how responsible persons initiate and ensure completion of corrective actions.

The organization's quality-control and/or quality-assurance function shall:

have and use:

- o a standard quality-audit report form;
- o an annual planned quality-assurance audit schedule covering all applicable areas of the organization's activities;

ensure that the above forms, plans and procedures are described and approved in the MOE;

ensure that the MOE contains:

- o a description of the quality feedback system with organization personnel;
- o the arrangements for communicating audit results and identified non-compliances to the relevant departments;
- o evidence that responsible officials have initiated and ensured corrective actions, including monitoring completion dates and assessing effectiveness.

The quality feedback system shall not be outsourced and shall operate in support of flight safety and continuing compliance with the Certification Requirements.

Item 73. Contracting/Subcontracting of Aircraft Maintenance and Repair Work

73. The aircraft maintenance and repair organization remains responsible for work that it contracts or subcontracts to external organizations. In doing so, the organization shall:

- 1) ensure that contracted or subcontracted maintenance and repair work is included within its own scope of approval for the purpose of assessing the competence of the external organization and ensuring compliance with these Certification Requirements;*
- 2) retain responsibility for quality management and release to service following completion of contracted maintenance and repair work, including compliance with airworthiness requirements;*
- 3) develop and implement procedures for management and continuing oversight of contracted work and define the authority and responsibilities of personnel managing such work.*

Contracting or subcontracting of part of the maintenance and repair work does not relieve the aircraft maintenance and repair organization of responsibility for ensuring that the completed work complies with airworthiness requirements, flight-safety requirements and these Certification Requirements.

The organization contracting out work shall manage such work within its own management system and quality system.

Where part of the work is contracted or subcontracted, the organization shall:

1. include the contracted work within its own scope of activity as defined in the MOE for the purpose of:
 - o assessing the competence of the contractor or subcontractor;
 - o assessing compliance of the work performed with these Certification Requirements;
 - o providing oversight and control of such work;
2. conduct an initial assessment or audit of a prospective contractor or subcontractor before work begins, including:
 - o assessment of applicable approvals, resources, personnel and equipment;
 - o assessment of applicable procedures, documentation and maintenance data;
 - o assessment of the contractor's capability to perform the requested scope of work in accordance with airworthiness requirements.

The initial audit shall be conducted under the responsibility of the compliance monitoring or quality assurance function.

The organization contracting out work shall:

1. retain full responsibility for:
 - o quality management of the contracted work;
 - o compliance of the completed work with airworthiness requirements;
 - o the decision to release the aircraft or component to service;
2. ensure that:
 - o certification of completed work is performed either by the organization's certifying staff or by contractor personnel appropriately authorized in accordance with established procedures;
 - o no contracted work is excluded from internal control and compliance monitoring requirements;
3. ensure that contracting or subcontracting does not reduce the level of flight safety or compromise the integrity of the organization's management system.

The organization shall develop, implement and describe in the MOE procedures for management of contracted and subcontracted work, which shall include at least:

1. arrangements for selection and approval of contractors and subcontractors, including:
 - o assessment criteria;

- conditions of approval;
- the scope of work authorized;
- 2. arrangements for determining contractor resources, including:
 - use of the organization's or contractor's documentation, maintenance data, equipment and components;
 - conditions for use of specialized services and specialized documentation;
- 3. arrangements for quality control of contracted work, including:
 - in-process control of work;
 - control of accompanying documentation;
 - inspection and verification arrangements where full acceptance inspection is not practicable;
- 4. allocation of authority and responsibility of personnel managing contracted and subcontracted work;
- 5. integration of contracted and subcontracted work into key management-system processes, including:
 - safety risk management;
 - compliance monitoring;
 - the internal occurrence reporting system;
- 6. maintenance of records of all:
 - contractor audits and inspections;
 - identified non-compliances;
 - corrective actions;
 - cases of suspension or termination of contractual arrangements;
- 7. arrangements for withdrawal or termination of contracts with contractors or subcontractors that fail to meet the organization's requirements.

The contract between the aircraft maintenance and repair organization and the contractor or subcontractor shall contain provisions ensuring:

- 1. access by the authorized organization in civil aviation to the contractor or subcontractor for oversight purposes;
- 2. the ability to conduct audits and inspections;
- 3. transparency of work performance and exchange of information, including reporting of occurrences affecting airworthiness and flight safety.