AIRWORTHINESS AND ENVIRONMENTAL CERTIFICATION

Consolidated version of
Part-21 Implementing Rules and related Acceptable Means of Compliance Material
relevant to light aircraft

Part-21 – Section A
Subpart G

Certification of aircraft and related products, parts and appliances, and of design and production organisation
Annex I of the Commission Regulation (EU) 748/2012*,
as amended by
Regulation (EU) 7/2013
Regulation (EU) 69/2014
Regulation (EU) 2015/1039
Regulation (EU) 2016/5

+ AMC-ELA to Part-21

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* Commission Regulation (EU) No 748/2012 of 03/08/2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations.
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SUBPART G — PRODUCTION ORGANISATION APPROVAL FOR PRODUCTS, PARTS AND APPLIANCES

21.A.131 Scope

This Subpart establishes:

(a) the procedure for the issuance of a production organisation approval for a production organisation showing conformity of products, parts and appliances with the applicable design data;

(b) the rules governing the rights and obligations of the applicant for, and holders of, such approvals.

AMC-ELA No. 1 to 21.A.131 Scope

The full set of AMC-ELA defines an acceptable means of compliance to qualify for the issuance of a production organisation approval for companies that manufacture aircraft, or engines, or propeller, or articles under ETSO authorisation, when the aircraft is within, or the products and articles are limited to be used on aircraft within the following limitations:

- aircraft not classified as complex-motorpowered aircraft; and
  - aeroplanes of 2 730 kg maximum take-off mass (MTOM) or less; or
  - rotorcraft of 1 200 kg MTOM or less, certified for a maximum of up to 4 occupants; or
  - other ELA2 aircraft, including for example sailplanes and balloons.

Each AMC titled as AMC-ELA is considered applicable to companies producing products to this definition.

AMC-ELA No. 2 to 21.A.131 Scope – General Considerations

The full set of AMC-ELA as implemented here is based upon a set of preconditions.

AMC-ELA does not change the applicable regulations. AMC-ELA does not replace the existing GM and AMC. It provides an alternative, complete and self-contained set of AMC to the existing ones. Applicants that manufacture aircraft or products within the Scope as per AMC-ELA No. 1 to 21.A.131 may elect to apply AMC-ELA instead of the existing set of AMC, or instead of alternative means.

POA approval is based upon compliance with the airworthiness requirements imposed by Part 21 Subpart G. There are numerous other external influences that trigger decisions and processes within an organisation that is engaged in production of aircraft. Such aspects can be, but not limited to:

- Liability aspects,
- Economic requirements,
- Customer perception,
- Market acceptance,
- Social and ethical environment,
- and others.

POA approval process is not intended to provide a verification with respect to those other aspects, as long as not explicitly requested by Part 21 requirements.

However, the presence of and need to consider these aspects may require the management of the company to go above the extent defined within AMC-ELA as the minimum to solely comply with POA requirements. AMC-ELA is defined in a way that this flexibility exists on company level, in response to increasing company size and product complexity. The applicant should implement each of the means defined here on an individual basis, commensurate to the kind of product and its associated risk. In this step, it is highly

important to apply the scalability on observed evidence. Extended means may be necessary when it gets visible that product produced does not meet the expectations in a specific way, or when the company decides so, related to increasing complexity and/or criticality of the product. Extended means do not need to be applied just because it "was always done this way".

It should be clarified that a setup that just meets the minima defined by AMC-ELA will provide a setup that is just above the border, below which its products would be banned from operation, and just meeting the expectations in relation to the position of the product in the societally acceptable aviation safety continuum.

When using the term "A method needs to be practiced" throughout AMC-ELA, this shall imply that it is sufficient when the applicant can show what is actually done in order to comply with a requirement in a systematic way, without necessarily having a formally documented procedure established and introduced. Documented procedures that go beyond a "declaration" of the principles considered within the practiced method are typically not required. Evidence is provided by work result, by demonstration of actual conduct during surveillance activities, or by similar means. Only when the actual "doing" continues to be inconsistent, or does not satisfy the needs, documentation may be one of the alternatives to be considered to rectify the situation, but not the only one.

AMC-ELA differentiates between delegation of tasks, and delegation of responsibilities. From a certain company size and complexity onwards, that is different from company to company, it may be more efficient to delegate tasks with responsibilities, and this way to build a more formal organisation structure in the classical way. For companies with smaller size and complexity, delegation of responsibilities is creating overly burdensome administrative processes that do not meet operational reality. AMC-ELA fully accepts this increased efficiency and offers the possibility, explicitly for but not limited to the Accountable Manager, to delegate tasks while maintaining the responsibility associated with this task. As identified with respect to the individual requirements, this may significantly reduce the effort of documentation towards the Competent Authority, and allows for streamlined methods to be practiced.

AMC-ELA refers to the "major place of activity", when speaking of the company location. This term refers to those locations where the major activities take place, that finally lead to the completion of the product and issuance of the statement of conformity / release certificate. This major place of activity is defined by the address of the premises. For an example company that has one major location where the Aircraft is completed, and that has one or more sub-level production location(s), the one major location presents the relevant location to be identified within the POE. For another example company that has two locations where products are completed, both those locations would need to be shown in the POE and approved. To ensure transparency to the Authority, and in analogy to the management of external suppliers as defined within the relevant AMC-ELA, at least those sub-level locations where manufacturing processes are exercised that require close process control ("special processes") should be identifiable, but not as part of the POE. Identification is possible within the QAM, or in a separate listing.

In cases where the specific characteristic of the company renders individual elements of AMC-ELA impracticable or not applicable, a case specific resolution shall be agreed with the Competent Authority, just for those aspects. A justification that the means applied to satisfy those aspects meet the underlying requirements of Part-21 is only developed for those aspects.

AMC-ELA has been defined on the basis of granting relaxations compared to established methods used for large aeroplane industry, in return for the possibility to build a trustful relationship between the typically very compact team of the applicant and the relevant CA. It is the clear expectation that this trustful relationship is developed by both, applicant and CA, through open communication. The applicant is strongly encouraged to ask the relevant contact person at the CA for mutual clarification of any questionable item, in case of any doubt.

AMC-ELA No. 3 to 21.A.131 Scope – Consolidated Team

AMC-ELA makes reference to companies working in a "consolidated team", with respect to different aspects, mainly related to coordination between design and production entity. Whenever this term is used, it shall be applied on the basis of the intent defined here.

A consolidated team is expected, when all relevant entities, especially production and design entity, work within one consolidated setup and under one management so that free information flow is ensured as inherent capability. Such a consolidated team may span across different legal entities. In a consolidated team functions are not duplicated, the same person(s) care for one function of both, production and design. Responsibilities are defined on person or position level, not on entity level or with contractual agreements between different entities. Within consolidated teams, adequate coordination is expected to be present through the methods practiced, without further written definition of responsibilities beyond those elements explicitly required within AMC-ELA.

AMC-ELA No. 4 to 21.A.131 Scope – Applicable Design Data

Applicable design data is defined as all necessary drawings, specifications and other technical information provided by the applicant for, or holder of, a Type Design approval, held available for the production organisation approval holder in a controlled manner and sufficient to allow for repeatable manufacture of products that conform with the design data.

Prior to issue of the TC, STC, approval of repair or minor change design or ETSO authorisation, or equivalent, design data is defined as 'not approved' but parts and appliances may be released with an EASA Form 1 as a certificate of conformity.

After issue of the TC, STC, approval of repair or minor change or ETSO authorisation, or equivalent, this design data is defined as 'approved' and items manufactured in conformity are eligible for release on an EASA Form 1 for airworthiness purposes.

In case of engines and when applicable, the term 'applicable design data' includes the information related to the applicable emissions production cut-off requirement.

21.A.133 Eligibility

Any natural or legal person ('organisation') shall be eligible as an applicant for an approval under this Subpart.

The applicant shall:

(a) justify that, for a defined scope of work, an approval under this Subpart is appropriate for the purpose of showing conformity with a specific design; and

(b) hold or have applied for an approval of that specific design; or

(c) have ensured, through an appropriate arrangement with the applicant for, or holder of, an approval of that specific design, satisfactory coordination between production and design.

AMC-ELA No. 1 to 21.A.133 (a) Eligibility

An approval under this subpart on the basis of compliance with the full set of AMC-ELA is considered appropriate for companies that meet the scope as per AMC-ELA No. 1 to 21.A.131.

AMC-ELA No. 1 to 21.A.133 (b), (c) Eligibility – Link between Design and Production

The applicant shall justify that it holds or has applied for an approval of the specific design to be produced.

In cases where the approval is held or applied for by a different entity, satisfactory coordination between production and design is needed to an extent that responsibilities for the coordination (in both directions between design and production) are established. This may be achieved, for example, by simple flow chart definitions supported by strong, self-explaining forms, or by task descriptions of responsible functions in the organisation, or by equivalent means. IT based ERP systems can be used to ensure and demonstrate correct information flow on the basis of defined and visible workflows with assigned roles and release gates, without further need for written definitions. Further means with comparable effect are possible.

Correct functioning of coordination should be verified on the basis of observation in daily business. A documented arrangement between Production Organisation and by the applicant for, or holder of, a Type Design approval is not required. In cases where both, the Production and Design entity work within one consolidated team adequate coordination is expected to be present, without written definition of responsibilities.

21.A.134 Application

Each application for a production organisation approval shall be made to the Competent Authority in a form and manner established by that authority, and shall include an outline of the information required by point 21.A.143 and the terms of approval requested to be issued under point 21.A.151.

AMC-ELA No. 1 to 21.A.134 Application

EASA Form 50 (see AMC 21.B.220(c)) should be obtained in the version of the relevant Competent Authority, and completed by the accountable manager of the organisation. The completed form, an outline of the production organisation exposition, and details of the proposed terms of approval are to be forwarded to the Competent Authority.

21.A.135 Issue of production organisation approval

An organisation shall be entitled to have a production organisation approval issued by the Competent Authority when it has demonstrated compliance with the applicable requirements under this Subpart.

AMC-ELA No. 1 to 21.A.135 Issue of POA

The full set of AMC-ELA satisfies all Subpart G requirements. When adhering to this set of AMC in full, in exact analogy to established EU product legislation processes, compliance with all requirements of EASA Part 21 Subpart G is implied, without the need to consider any further aspects raised by alternative GM or AMC to this subpart of Part 21.

In cases where AMC-ELA declare some of the requirements of this Subpart not applicable for this scope of companies, this definition can be applied by the applicant without further justification.

Implementation of the standard POE and QAM without changes but adapted to the company constitutes full adherence to AMC-ELA. In this case the applicant is not required to demonstrate that the standard POE and QAM as such meet the provisions of AMC-ELA, hence Part 21 Subpart G. In cases where the specific characteristic of the company renders individual means of AMC-ELA impracticable or not applicable, a case specific resolution shall be agreed with the relevant Competent Authority, but only for those aspects. A justification that the means applied to satisfy those aspects meet the underlying requirements of Part-21 is only developed for those aspects.

21.A.139 Quality System

(a) The production organisation shall demonstrate that it has established and is able to maintain a quality system. The quality system shall be documented. This quality system shall be such as to enable the organisation to ensure that each product, part or appliance produced by the organisation or by its partners, or supplied from or subcontracted to outside parties, conforms to the applicable design data and is in condition for safe operation, and thus exercise the privileges set forth in point 21.A.163.

(b) The quality system shall contain:

1. as applicable within the scope of approval, control procedures for:

(i) document issue, approval, or change;

(ii) vendor and subcontractor assessment audit and control;

(iii) verification that incoming products, parts, materials, and equipment, including items supplied new or used by buyers of products, are as specified in the applicable design data;

(iv) identification and traceability;

(v) manufacturing processes;

(vi) inspection and testing, including production flight tests;

(vii) calibration of tools, jigs, and test equipment;

(viii) non conforming item control;

(ix) airworthiness coordination with the applicant for, or holder of, the design approval;

(x) records completion and retention;

(xi) personnel competence and qualification;

(xii) issue of airworthiness release documents;

(xiii) handling, storage and packing;

(xiv) internal quality audits and resulting corrective actions;

(xv) work within the terms of approval performed at any location other than the approved facilities;

(xvi) work carried out after completion of production but prior to delivery, to maintain the aircraft in a condition for safe operation;

(xvii) issue of permit to fly and approval of associated flight conditions.

The control procedures need to include specific provisions for any critical parts.

2. An independent quality assurance function to monitor compliance with, and adequacy of, the documented procedures of the quality system. This monitoring shall include a feedback system

to the person or group of persons referred to in point 21.A.145(c)(2) and ultimately to the manager referred to in point 21.A.145(c)(1) to ensure, as necessary, corrective action.

AMC-ELA No. 1 to 21.A.139 (a) Quality System

The production organisation can demonstrate that they have established and maintain a quality system:

- By holding a valid ISO9001 certificate with a scope that includes all of the POA activities; or
- By holding a valid EN9100 certificate with a scope that includes all of the POA activities; or
- by declaring compliance to ASTM F2972 for aircraft with a CS-LSA certification basis; or
- by installing the quality system defined by the standard QAM; or
- by installing an individual quality system that meets all the definitions of the full set of AMC-ELA.

Required level of detail in the quality system:

The focus of the required quality system is on the key workflows that are indispensable to ensure conformity of delivered products to the relevant parameters of the applicable design data. Only where evidence on product level shows that the methods of quality inspection are not sufficient to determine conformity with the relevant parameters of the applicable design data, and when the type design is not providing process definitions for these cases, the Quality System should include elements that care for the related deficiency.

Documentation of the quality system can be done by any reasonable method that ensures that members of the organisation can obtain the actual and relevant information in a reasonable way. This explicitly includes the provision of such information by electronic means, for example on the company intranet, by electronic database such as DMS, in paper, by illustration, workflow definition within IT based ERP systems, other means, or by a combination of several such means.

The person responsible for the definition, implementation and maintenance of the quality system shall be defined. This person shall coordinate the maintenance of the system in an adequate way. For companies with small size and low (product) complexity, typically the accountable manager bears this responsibility, even when delegating tasks to a quality manager, for example.

The Competent Authority will verify that the production organisation has established and can maintain their documented quality system by investigation of the work results, namely samples of products assessed as work in progress or following completion, and their associated production and quality inspection documentation per Type Design and quality system. Conduct of individual workflows will be addressed only when the product assessment shows deficits with respect to the definitions of this set of AMC-ELA.

Conformity of supplied parts or appliances

The organisation is responsible to ensure that the delivered product conforms to the Type Design. This includes components used on the product and obtained from outside. To discharge this responsibility, the manufacturer has to implement practiced methods that ensure that non-conforming products are detected at a reasonable point in time, prior to declaration of conformity of the final product and delivery to the customer.

The classical approach to ensure this is by a combination of extensive incoming goods inspections, supported by a supplier management process that includes supplier audits, typically on the basis of quality agreements. Manufacturers of products within the scope of AMC-ELA face the problem that they are not in a position to establish meaningful interaction in this sense with the typical suppliers, due to their size and limited turnover with that supplier. Consequently, installing a classical system creates an undue burden to those manufacturers with highly limited or even no effect on quality of supplied parts.

To alleviate this burden, manufacturers that apply AMC-ELA can ensure conformity of supplied parts by (a combination of) the following methods:

- Incoming goods inspection verifying those component parameters to a level that is defined as part of the approved Type Design (commensurate to an adequate parts criticality determined by and under the responsibility of the DO); or
- Inspections conducted at a reasonable stage of the production and verification flow; or
- Verification of the performance and characteristics of the completed product; or
- other means with equivalent purpose.

Where conformity verification methods are defined as part of the approved Type Design, the manufacturer is not required to go beyond these verification methods, in extent, method and frequency.

Only in cases where it is impossible to determine conformity with the parameters defined as part of the approved type design, the manufacturer may find the need to extend reasonable quality assurance methods to the related supplier.

AMC-ELA No. 1 to 21.A.139 (b) Quality System – Elements of the Quality System

The company should demonstrate that quality system methods are practiced that cover those of the subsequently listed elements.

The extent of documentation of the QS, and the associated training, is limited to that extent required to be able to demonstrate that produced products conform with the relevant design definition, and are in a condition for safe operation. Only when products are found to be repeatedly non-conforming, or when evidence is present that the products may become unsafe, enhanced documentation that goes beyond the definitions provided by the subsequent listing may be one of the means, but not the only possible means, to rectify that situation.

Documentation of the elements of the quality system can be limited to workflow definitions (flow charts, process cards, or similar). When applying ERP systems or other IT systems that manage workflows, a separate workflow documentation is not necessary, as long as the workflow can be demonstrated during surveillance activities on the basis of the applied IT system.

“Practicing of methods” is confirmed by observation of the actual conduct, using several examples as an indicator that the method is practiced in an organised and repeatable way. Those methods do not automatically require detailed documentation. Nevertheless, “practiced methods” should be identified with a declarative statement.

Quality system methods shall only cover those aspects, where failure to control these elements is expected to impact directly on the safe operation of the aircraft.

(1)

(i) A control method needs to be practiced that prevents the use of invalid or superseded information in production

(ii) Methods for vendor and subcontractor assessment and surveillance only need to be practiced in cases where (b)(1)(iii) or any other production control mechanism is not able to adequately mitigate Production Risks. Refer to AMC-ELA No. 1 to 21.A.139 (a).

(iii) Methods for incoming inspection of products, parts, materials and equipment are required to be practiced where there is no other production control mechanism able to mitigate Production Risks, such as for example later inspection or testing requirements with parts already installed to products. Incoming goods verification is limited to those aspects that the Type Design defines to be verified. Refer to AMC-ELA No. 1 to 21.A.139 (a)

(iv) Methods for identification and traceability are required to be practiced only to the extent defined as part of the approved Type Design.

(v) Manufacturing process information is provided as part of the Type Design, and only for those aspects where strict process adherence is imperative in order to ensure safety critical product characteristics,

with respect to conforming products. The use of standard established process information is permissible.

(vi) The scope of inspection and testing is defined as part of the approved Type Design data, including definition of quality assurance records.

When having a Flight Test Plan and Flight Conditions defined for the purpose of production acceptance flight tests, that are part of the approved type design and that identify all elements for that specific purpose, this Flight Test Plan constitutes the formal FTOM of the PO with strict limitation to the production acceptance flight test defined within this document. Further definition for conduct of production acceptance flight test through a generic FTOM is not required, in this case. Companies that hold both approvals as DOA and POA are encouraged to establish one flight test section under one FTOM, that provides this service for both approval areas.

(vii) Calibration and tooling verification methods are practiced only in those cases, and for this equipment, where the approved Type Design defines that high accuracy is required, that cannot be verified by other means throughout the production process.

(viii) Methods are practiced that prevent the release of non-conforming products and their parts that would have an impact on the safe operation of the aircraft. Elements to be considered are identification (which may be obtained by electronic means for example using ERP systems), or method of separation, or destruction in case there is no possibility to bring the affected part into an airworthy condition.

(ix) Methods are practiced that enable adequate airworthiness coordination with the applicant for, or holder of, the design approval. Dedicated methods for airworthiness coordination with the design approval holder are not required when the design and production entity works within one consolidated team, or where the control of airworthiness relevant information is conducted by the same group of persons for design and production.

(x) Methods are in place to safeguard completed records. Safeguarding is ensured by keeping the records in an adequately protected environment, as suitable supported by keeping accessible backup copies.

(xi) Definitions for the required competence and qualification are available for certifying staff.

(xii) The persons permitted to issue airworthiness release documents are identified. Reference to the relevant forms and filling instructions is provided. Reference to the identification of the relevant forms, and to a place where the relevant CA is providing the forms and filling instructions is considered sufficient.

(xiii) Adequate handling, storage and packaging methods are practiced for critical items where inappropriate handling, storage or packaging can lead to damage or deterioration that standard inspection prior to the use of the component would not detect, and where such damage or deterioration would endanger the airworthiness of a component or part.

(xiv) Surveillance mechanisms are practiced that allow to verify the efficiency of the elements of the quality system as per this listing. Considering the main target of Subpart G to ensure conforming products in a safe condition of operation, surveillance mechanisms may include planned and unplanned audits, but also other means such as structured experience exchange, regular quality meetings, brainstorming or lessons-learned-sessions, project reviews at reasonable phases of company development, or other similar means. Corrective actions identified are followed up and the way of resolution is recorded.

(xv) Work within the terms of approval performed at any location other than the approved facilities may be conducted under the responsibility and following recorded permission of the AM, and must ensure that the critical process parameters for the work conducted, such as light, temperature, humidity, etc. and adequate tooling are identified and considered. Work conducted at such a location should be of a kind as to not be considered as “major place of activity”. The information of this kind

of work conduct should be provided by the production organisation to the CA in relation to the subsequent regular surveillance activity.

(xvi) Work carried out after completion, but prior to delivery of the product is conducted following the identical definitions and procedures and by the same staff as relevant for the regular production process. It is in the responsibility of the AM to ensure adherence to this requirement.

(xvii) Workflow defining how to issue Flight Conditions and Permit to Fly for the purpose of factory acceptance test flights.

When Flight Test Plan, completed Flight Conditions and prepared forms 18a and 20b for the purpose of conducting factory acceptance flight tests are provided as part of the approved type design, the workflow can be limited to making the required entries to those documents (reference to the individual aircraft S/N and configuration), verification of the product configuration to conform with the definitions provided within the Flight Conditions document (which may be an integral part of the type inspection as part of the production workflow), and issuing of the documents. As part of the workflow it shall be defined that the production organisation is limited to issuing of Flight Conditions and Permit to Fly only for this case, and as long as this Flight Test Plan and Flight Conditions can be fully adhered with.

When issuing of FC and PtF by the PO for purposed other than factory acceptance test flights on the basis of Type Design approved Flight Conditions shall be included to the privileges, then an FTOM needs to be put in place defining the relevant workflows.

For companies working as one consolidated entity it is sufficient to have one FTO established on the basis of a FTOM within either DO or PO.

(2)

Monitoring of compliance with, and adequacy of the implemented quality system shall be done by systematic means. Adequacy of the quality system shall be assessed on the basis of continued product conformity with the approved Type Design. When evidence on product conformity suggests that the root cause may be found in the practiced methods, one option can be to extend monitoring efforts to process or method assessments.

Systematic monitoring means can be accomplished by structured experience exchange, regular quality meetings, brainstorming or lessons-learned-sessions, project reviews at reasonable phases of company development, or other similar means.

Audits may be one element of monitoring. When implemented, those audits should be conducted as process audits focussing on the implemented key processes or methods practiced as per QAM (or equivalent document), also allowing the production organisation to find possibilities for becoming more efficient by continuous improvement.

Systematic monitoring means are under the responsibility of the AM. To ensure independency to the activties monitored, the AM may involve auditors that are adequately knowledgeable of the applicable requirements and of the implemented Quality Assurance System. The system monitoring function may be undertaken by the existing quality assurance organisation, when existing and having adequate reporting lines to the AM.

The AM, or, when applicable, the person that has received delegation of this responsibility, shall be part of those sessions, or obtain direct results information so as to enable him to require improvements to the implemented system, when necessary.

21.A.143 Exposition

(a) The organisation shall submit to the Competent Authority a production organisation exposition providing the following information:

1. a statement signed by the accountable manager confirming that the production organisation exposition and any associated manuals which define the approved organisation's compliance with this Subpart will be complied with at all times;

2. the title(s) and names of managers accepted by the Competent Authority in accordance with point 21.A.145(c)(2);

3. the duties and responsibilities of the manager(s) as required by point 21.A.145(c)(2) including matters on which they may deal directly with the Competent Authority on behalf of the organisation;

4. an organisational chart showing associated chains of responsibility of the managers as required by point 21.A.145(c)(1) and (2);

5. a list of certifying staff as referred to in point 21.A.145(d);

6. a general description of man-power resources;

7. a general description of the facilities located at each address specified in the production organisation's certificate of approval;

8. a general description of the production organisation's scope of work relevant to the terms of approval;

9. the procedure for the notification of organisational changes to the Competent Authority;

10. the amendment procedure for the production organisation exposition;

11. a description of the quality system and the procedures as required by point 21.A.139(b)(1);

12. a list of those outside parties referred to in point 21.A.139(a).

13. if flight tests are to be conducted, a flight test operations manual defining the organisation’s policies and procedures in relation to flight test. The flight test operations manual shall include:

    (i) a description of the organisation’s processes for flight test, including the flight test organisation involvement into the permit to fly issuance process;

    (ii) crewing policy, including composition, competency, currency and flight time limitations, in accordance with Appendix XII to this Annex I (Part 21), where applicable;

    (iii) procedures for the carriage of persons other than crew members and for flight test training, when applicable;

    (iv) a policy for risk and safety management and associated methodologies;

    (v) procedures to identify the instruments and equipment to be carried;

    (vi) a list of documents that need to be produced for flight test.

(b) The production organisation exposition shall be amended as necessary to remain an up-to-date description of the organisation, and copies of any amendments shall be supplied to the Competent Authority.

AMC-ELA No. 1 to 21.A.143 Exposition

The organisation provides a POE in form of a consolidated interface document towards the CA. The POE may be integral part of another company (quality) (management) manual. In this case the elements being considered part of the POE should be easily identifiable.

The POE is approved by virtue of obtaining the POA approval as such. The document as such is not intended to be approved by the CA, visual evidence of approval beyond issuing of the POA certificate with Scope of Approval is not applied.

The following key elements of the PO are to be covered by the POE:

1. A statement signed by the accountable manager confirming that the POE and QAM as referenced from the POE will be complied with at all times.
2. Title and name of the Accountable Manager, and that he is accountable for all, despite delegations of individual tasks. Delegation of tasks without responsibility is not required to be shown within the POE. Only when persons such as for example QM and PM receive delegation of responsibilities as outlined by AMC-ELA No. 1 to 21.A.145 (c), those persons shall be identified within the POE as well.
3. Definition of the AM as formal communication point. If a separate QM is identified and shall take this function, the QM needs to be identified, here. The AM is assuming all duties and responsibilities associated with the POA, unless delegation of responsibility is applied, in addition to delegation of tasks. In this case, the allocation of responsibilities is shown, here.
4. In cases where all responsibility stays with the AM, despite delegation of individual tasks, this is to be briefly described, and no Org Cart is required, due to simplicity.
   Only in cases where the AM delegates responsibilities and not only individual tasks, an organisation chart should to be included to the POE, that identifies the position and reporting lines of those persons that hold delegated responsibilities.
5. Confirmation that Certifying Staff is identified by a separate source (document, listing, intranet, etc.), and that this identification is easily accessible to everyone concerned within the company. A direct reference to the identification is not required, and changes to this identification do not constitute a change to the POE. This list is to be held available to CA in the current version, on request.
6. Approximate size in FTE's, with an accuracy as relevant for fees & charges.
7. Identification of the address of the major place of business. When this location differs from the legal place of business, both addresses should be provided. Floor plans, or similar, are not required.
8. Quotation of the Scope of Work per definition of AMC-ELA No. 1 to 21.A.151, on the basis of the product Type(s). Scope of work automatically includes the product and all spare parts required for the identified products, without further specification or detailing. Capability lists are not required by Subpart G.
   Separate to the Scope statement as such, a listing is provided that identifies the type(s) produced by the approved PO.
9. Confirmation that significant changes to the PO, and changes to the organisation that affect contents of the POE, will be notified to the CA by the AM, or by its delegate, in a timely way.
10. Confirmation that when changes to the organisation occur that affect the documentation required here, the POE is kept up to date under the responsibility of the AM, or its delegate. Amendments to the POE are released by the AM, or by its delegate, and distributed following the implemented method for control of documented information, to locations identified in a generic or document specific distribution list, including POATL of the relevant CA.
11. Reference to the definition of the QS of the company. This may be a reference to the QAM, or any other company handbook in compliance with ISO9001, or EN9100, or ASTM F2972, or other suitable standards.

12. Identification of outside parties that operate under the quality system and procedures of the manufacturer (classical extended workbench cases).
13. Reference to an FTOM adequate to the flight test activities of the manufacturer, when applicable.
    When both the design and manufacturing entities work within one consolidated team, it is sufficient to have FTOM procedures defined for only one of the entities.
    In cases where the production organisation limits itself to conduct of production acceptance flight tests only, the following simplifications can be applied:
    - A Flight Test Plan, completed Flight Conditions and prepared forms 18a and 20b for the purpose of conducting factory acceptance flight tests are provided as part of the approved type design and define:
        - crewing policy, including composition, competency, currency and flight time limitations;
        - procedures for the carriage of persons other than crew members and for flight test training;
        - policy for risk and safety management and associated methodologies as adequate for the flight purpose;
        - definition of the instruments and equipment to be carried on board during this test flight; and
        - a list of records that need to be produced when conducting this flight test.
    - This Flight Test Plan constitutes the FTOM for this limited purpose.
    - The POE identifies that this simplification is applied under the responsibility of the AM.

AMC-ELA No. 2 to 21.A.143 Exposition – Policies and procedures in relation to Flight Test

In cases where the POA decides to conduct flight test activities under authority of the POA that go beyond the scope for the simplifications identified by AMC-ELA No. 1 to 21.A.143, item 13, this AMC-ELA No. 2 to 21.A.143 is applied.

In order to conduct flight test activities, the POA is required to implement policies and procedures for the conduct of these activities, that include a proportionate and efficient risk and safety management system. This approach is documented, either within a separate Flight Test Operations Manual (FTOM), or as integral part of any other valid manual of the organisation, such as the QAM, or any other relevant Quality Manual. The FTOM, or its equivalent, should be proportionate to the aircraft and the organisation complexity.

The risk and safety management system, documented within the FTOM, or equivalent, covers the following aspects:

- Definition of the key qualifications, responsibilities and accountabilities for the staff involved in the conduct of flight test, covering at least:
    - Head of Flight Test – coordinates all activities related to flight test and is assuming responsibility for flight testing (can be shared with other management position within the PO)
    - Flight Test Engineer – manages individual flight test (campaigns)
    - Test Pilot – conducts any flight test
    - Flight Test Mechanic – conducts all maintenance tasks and configuration changes to the test aircraft

  One person with adequate qualification may act in more than one role. The HoFT should have a direct reporting line to the AM.
- Method providing practical guidance to conduct a hazard assessment that allows to classify flight tests by the risk involved. At least two categories should be differentiated: Category 1 – high risk and Category 2 – medium and low risk.

- Definitions of generic risk mitigation strategies such as minimum and maximum altitudes or airspeed safety margins, and safety rules to be obeyed for the typical major test phases and missions.
- Identification of aircraft related safety equipment held available, including references to maintenance requirements of this equipment.
- Policy how to alert and involve rescue services such as fire brigade or emergency physicians in order to allow adequately short reaction times.
- Crew qualification, including currency requirements and crew (refresher) training, as adequate.
- For aircraft with a MTOM of or above 2.000 kg:
    - The provisions of EASA Part 21, Appendix XII apply.
    - minimum flight experience by year should be:
        - for pilots: 50 hours. In addition:
            - for pilots with a flight test rating, the 50 hours should include 20 flight test hours in any flight test category.
            - for pilots performing a Category 3 flight test, the flight test experience should be expressed in terms of a number of flights leading to the issue of a Certificate of Airworthiness (CofA) (e.g. first flights).
            - for pilots performing a Category 4 flight test, the minimum flight test experience should be proportionate to the activity envisaged.
- Crew composition and duty time limitations, as adequate in relation to the kind of testing and risk category of flight test conducted by the POA.

The procedural aspects, documented within the FTOM, or equivalent, cover the following aspects:

- Initiation and planning of a flight test activity, including, for example and not limited to:
    - hazard analysis,
    - detailed flight test planning,
    - generation and approval of flight conditions,
    - definition and verification of the test aircraft configuration,
    - preparation of the aircraft,
    - integration, calibration and verification of any flight test equipment,
    - verification of aircraft fitness for flight,
    - issue or obtaining of Permit to Fly,
    - pre-flight briefing and conduction of the flight test,
    - de-briefing and data reporting,

The FTOM, or equivalent, identifies all documents and records required to be generated or maintained in relation to the flight test, including definitions for authority to sign.

The FTOM, or equivalent, identifies how training for flight test is organised.

Definition of the methods required may be provided in different ways, including, but not limited to, flow charts, process descriptions, forms detailed enough to enforce adherence to the required workflow, workflow implementation to IT based ERP systems, or similar means.

Implementation of the standard FTOM, including its associated process definitions and forms, ensures adherence to this AMC, hence compliance with the relevant requirements of Part 21.

When subcontracting flight tests to third parties, they should comply with the FTOM of the POA, unless they have established an FTOM in compliance with Part-21, the use of which has been agreed between the two organisations.

21.A.145 Approval requirements

The production organisation shall demonstrate, on the basis of the information submitted in accordance with point 21.A.143 that:

(a) with regard to general approval requirements, facilities, working conditions, equipment and tools, processes and associated materials, number and competence of staff, and general organisation are adequate to discharge obligations under point 21.A.165;

(b) with regard to all necessary airworthiness, noise, fuel venting and exhaust emissions data:

1. the production organisation is in receipt of such data from the Agency, and from the holder of, or applicant for, the type-certificate, restricted type-certificate or design approval, to determine conformity with the applicable design data;

2. the production organisation has established a procedure to ensure that airworthiness, noise, fuel venting and exhaust emissions data are correctly incorporated in its production data;

3. such data are kept up to date and made available to all personnel who need access to such data to perform their duties;

(c) with regard to management and staff:

1. a manager has been nominated by the production organisation, and is accountable to the Competent Authority. His or her responsibility within the organisation shall consist of ensuring that all production is performed to the required standards and that the production organisation is continuously in compliance with the data and procedures identified in the exposition referred to in point 21.A.143;

2. a person or group of persons have been nominated by the production organisation to ensure that the organisation is in compliance with the requirements of this Annex I (Part 21), and are identified, together with the extent of their authority. Such person(s) shall act under the direct authority of the accountable manager referred to in point (1). The persons nominated shall be able to show the appropriate knowledge, background and experience to discharge their responsibilities;

3. staff at all levels have been given appropriate authority to be able to discharge their allocated responsibilities and that there is full and effective coordination within the production organisation in respect of airworthiness, noise, fuel venting and exhaust emission data matters;

(d) with regard to certifying staff, authorised by the production organisation to sign the documents issued under point 21.A.163 under the scope or terms of approval:

1. the knowledge, background (including other functions in the organisation), and experience of the certifying staff are appropriate to discharge their allocated responsibilities;

2. the production organisation maintains a record of all certifying staff which shall include details of the scope of their authorisation;

3. certifying staff are provided with evidence of the scope of their authorisation.

AMC-ELA No. 1 to 21.A.145 (a) Approval Requirements

Adequacy of infrastructure and staffing is demonstrated by achieving conforming products (on the basis of the type inspection results being part of the production final acceptance process), in the anticipated production rate and at adequate staff workload. The manufacturer should define reasonable intervals to evaluate the adequacy of the available resources.

AMC-ELA No. 1 to 21.A.145 (b) Approval Requirements

For applicants where the design and production entity operate in one consolidated team, and where production data are provided as part of the approved Type Design data, this situation is confirmed as sufficient to ensure availability of all necessary airworthiness, noise, fuel venting and exhaust emissions data.

In all other cases, responsibilities to obtain airworthiness, noise and exhaust emission data from the Agency and from the Type Design holder shall be established and, for example, shown by task descriptions of responsible functions within the organisation. IT based systems are one further acceptable means to ensure correct information flow.

AMC-ELA No. 1 to 21.A.145 (c) Approval Requirements

Only the accountable manager is named to the CA using EASA Form 4. Further management staff is not required to be nominated.

It has to be demonstrated that the AM has sufficient power within the company to control the production activity on the basis of the available resources, up to the point of stopping production when adequate resources cannot be provided.

The AM may delegate individual tasks to sub-level managers, while still maintaining the responsibility for the decisions taken at sub-level and being required to monitor activities on sub-level. Such delegation on sub-levels is defined internally and does not need to be formally declared to the CA.

Only in those cases where the AM elects to also delegate either of the following responsibilities to sub-level managers, the sub-level managers receiving this delegation have to be nominated to the CA using EASA Form 4:

- Ensuring that the production organisation is continuously in compliance with the data and procedures identified in the POE as defined by AMC-ELA No. 1 to 21.A.143 (a), (b); or
- Ensuring that the organisation is in compliance with the provisions of the full set of AMC-ELA.

AMC-ELA No. 1 to 21.A.145 (d) 1. Approval Requirements – Certifying Staff

Certifying Staff is nominated by the AM to ensure that products qualify for Statements of Conformity or Release Certificates. Certifying Staff positions and numbers are to be appropriate to the complexity of the product and the production rate.

Qualification to release completed products is ensured by utilizing Part 66 qualified inspectors, or equivalently qualified personnel per national regulations, or qualified to comparable standards agreed with the relevant CA. This required level of qualification shall be defined.

Training of personnel supporting CS on sub-component level is ensured by training-on-the-job, provided by this CS that ultimately will accept the judgement at the next higher integration level.

For release of products, parts or appliances: The responsibilities to issue statements of conformity or release certificates (EASA Form 51, EASA Form 1), or permit to fly and approval of flight conditions (if applicable), are allocated under the responsibility of the AM to individuals that are named as CS.

AMC-ELA No. 1 to 21.A.145 (d) 2. Approval Requirements – Records of Certifying Staff

The following is the minimum information to be recorded in respect of each certifying staff:

(a) Name

(b) Date of Birth

(c) Basic Training and standard attained

(d) Specific Training and standard attained

(e) If appropriate – Continuation Training

(f) Experience

(g) Scope of the authorisation

(h) Date of first issue of the authorisation

(i) If appropriate – expiry date of the authorisation

(j) Identification (number) of the authorisation

(k) Documented acceptance of the nomination by the CS

The record may be kept in any format. Above information is deemed sufficient to provide certifying staff with evidence of their scope of authorization.

The certifying staff must be given reasonable access on request to his or her own records.

As part of its investigations, the competent authority has a right of access to the data held in such a system.

The organisation must keep the record for at least two years after the certifying person has ceased employment with the organisation or withdrawal of the authorisation, whichever is the sooner.

AMC-ELA No. 1 to 21.A.145 (d) 3. Approval Requirements – Evidence of Authorisation

Evidence of authorization may be provided in a reasonably accessible way within the company, so that staff that needs to be aware of the authorization can verify the status whenever needed. This can be achieved by provision of accessible listings of nominated certified staff, or other means. Issuing of individual badges or passes is not required.

21.A.147 Changes to the approved production organisation

(a) After the issue of a production organisation approval, each change to the approved production organisation that is significant to the showing of conformity or to the airworthiness and characteristics of noise, fuel venting and exhaust emissions of the product, part or appliance, particularly changes to the quality system, shall be approved by the Competent Authority. An application for approval shall be submitted in writing to the Competent Authority and the organisation shall demonstrate to the Competent Authority before implementation of the change, that it will continue to comply with this Subpart.

(b) The Competent Authority shall establish the conditions under which a production organisation approved under this Subpart may operate during such changes unless the Competent Authority determines that the approval should be suspended.

AMC-ELA No. 1 to 21.A.147 Changes to the Approved PO

After the issue of a production organisation approval, the following changes are considered significant and require approval by the Competent Authority, prior to implementation of the change:

- Relocation of the major place of activities to a different geographic location, city, airfield or similar. Relocation within one building, or to a neighbour building on the same premises, or similar, do not require prior approval, as long as the critical parameters to environment, infrastructure or equipment remain ensured under the responsibility of the AM;
- First-time introduction of material or production technologies that are new to the approved organisation;
- Changes in staff that is nominated towards the relevant CA using EASA Form 4;
- Changes in scope of approval; or
- Changes in ownership in line with AMC-ELA No. 1 to 21.A.149.

All other changes to the approved organisation will be addressed during the subsequent periodical authority oversight, and/or by informal information flow.

The organisation shall notify the CA sufficiently ahead of time of the nature of any significant change, so that the required extent of investigation can be agreed upon and conducted in a reasonable way. Focus of the assessment is the continued ability to comply with the provisions defined on the basis of AMC-ELA, in compliance with Part 21 Subpart G.

To ensure that changes do not result in non-compliance with Part 21 Section A Subpart G it is in the interest of both, the Competent Authority and the approval holder, to establish a relationship and exchange during the implementation of a change. As part of this relationship the company should consider to also inform the CA sufficiently ahead of the next regular surveillance activity of non-significant changes.

21.A.148 Changes of location

A change of the location of the manufacturing facilities of the approved production organisation shall be deemed of significance and therefore shall comply with point 21.A.147.

AMC-ELA No. 1 to 21.A.148 Changes of Location

A change of location of the major place of activities to a different geographic location, city, airfield or similar is deemed of significance and treated in line with AMC-ELA No. 1 to 21.A.147.

All other alterations related to location, including relocation within one building, or to a neighbour building on the same premises, or similar, are not considered of significance, as long as the critical parameters to environment, infrastructure or equipment remain ensured under the responsibility of the AM. Those other alterations will be addressed during the subsequent periodical authority oversight.

To ensure that changes do not result in non-compliance with Part 21 Section A Subpart G it is in the interest of both, the Competent Authority and the approval holder, to establish a relationship and exchange during the implementation of a change. As part of this relationship the company should consider to also inform the CA sufficiently ahead of the next regular surveillance activity of non-significant location changes.

21.A.149 Transferability

Except as a result of a change in ownership, which is deemed significant for the purposes of point 21.A.147, a production organisation approval is not transferable.

AMC-ELA No. 1 to 21.A.149 Transferability

Transfer of approval is only possible in cases where the ownership changes.

Changes in ownership where the organisation itself remains effectively unchanged are not considered to be significant changes to the quality system, and are not required to be treated in line with AMC-ELA No. 1 to 21.A.147. Possible effects will be addressed at the subsequent regular oversight activity.

All other changes of ownership are considered significant and are treated in line with AMC-ELA No. 1 to 21.A.147.

21.A.151 Terms of approval

The terms of approval shall identify the scope of work, the products or the categories of parts and appliances, or both, for which the holder is entitled to exercise the privileges under point 21.A.163.

Those terms shall be issued as part of a production organisation approval.

AMC-ELA No. 1 to 21.A.151 Terms of Approval

Terms of approval identify the scope of work and the products or the categories of parts and appliances, or both, for which the holder is entitled to exercise its privileges.

For products within the framework defined in AMC-ELA No. 1 to 21.A.131, the Scope of Work will be described by the Competent Authority using standard terms as follows:

<table>
<tr><th>Starts with selection of:</th><th>… continues with selection from:</th><th>… ends with:</th></tr>
<tr><td rowspan="3">Manufacturing of</td><td>aeroplanes of 2.730 kg MTOM or less, not classified as complex motor-powered aircraft,</td><td rowspan="9">where <company> holds the Type Design approval, including all related spare parts.</td></tr>
<tr><td>very light rotorcraft,</td></tr>
<tr><td rowspan="2">rotorcraft of 1.200 kg MTOM or less, certified for a maximum of up to 4 occupants, not classified as complex motor-powered aircraft,</td></tr>
<tr><td rowspan="3">Manufacturing of engines used on</td></tr>
<tr><td>saiplanes or powered sailplanes of 2.000 kg MTOM or less,</td></tr>
<tr><td>balloons,</td></tr>
<tr><td rowspan="2">Manufacturing of propeller used on</td><td>hot air airships,</td></tr>
<tr><td>gas airships complying with 3% maximum static heaviness, non-vectored thrust (except reverse thrust), conventional and simple design of structure, control system and ballonet system, and non-power assisted controls,</td></tr>
</table>

Listing of Type and Model is not required within the formal Scope of Work. Type and Model identification are provided within the QAM (or equivalent). As defined by AMC-ELA No. 1 to 21.A.147, changes to the Scope of Work are considered significant changes, as they are part of the formal Scope of Approval. Changes to the list of Types and Models is not per se considered to be a change in Scope of Work, and therefore not considered to be significant. Nevertheless, the production organisation holder is expected to provide timely information to the CA on changes to the affected type(s) and/or model(s), so that the change can be appropriately addressed in a timely way, preferably at the next scheduled (annual) surveillance event.

For its own purpose of managing, administering and filing details of approvals, the CA may assign codes shown against the scope of work item as follows:

SCOPE OF WORK		PRODUCTS/CATEGORIES
A2	Small Aeroplanes	State aircraft types
A4	Small Helicopters	State aircraft types
A6	Sailplanes	State aircraft types
A7	Motor Gliders	State aircraft types
A8	Manned Balloons	State aircraft types
A9	Airships	State aircraft types
A10	Light Sport Aeroplanes	State aircraft types
A11	Very Light Aeroplanes	State aircraft types
B2	Piston Engines	State Engine Types
B4	Propellers	State Propeller Types
D1	Maintenance	State aircraft types
D2	Issue of permit to fly	State aircraft types

When the Scope of Work is related to a Restricted Type Design where the approval of engine and/or propeller is included to the aircraft type design, then the work associated with these engines and/or propellers of those products is included within the scope of work related to the aircraft. A separate scope related to this engine and/or propeller is not required.

21.A.153 Changes to the terms of approval

Each change to the terms of approval shall be approved by the Competent Authority. An application for a change to the terms of approval shall be made in a form and manner established by the Competent Authority. The applicant shall comply with the applicable requirements of this Subpart.

AMC-ELA No. 1 to 21.A.153 Changes to the Terms of Approval – – Application for a change to the terms of approval

EASA Form 51 (see AMC No 1 to 21.B.240) must be obtained from the Competent Authority and completed in accordance with the instructions provided by the CA. The information entered on the form is required by the Competent Authority to assess the need for change of the production organisation approval. The completed form must be forwarded to the Competent Authority. Submission of further and especially more detailed documentation is only required if applicant and CA agree that the assessment for change in approval can be completed on paper basis.

21.A.157 Investigations

A production organisation shall make arrangements that allow the Competent Authority to make any investigations, including investigations of partners and subcontractors, necessary to determine compliance and continued compliance with the applicable requirements of this Subpart.

AMC-ELA No. 1 to 21.A.157 Investigations – Arrangements

Arrangements shall be in place that allow the Competent Authority to make investigations at the location of the production organisation that include enquiries, questions, discussions and explanations and inspections of products produced under the scope of work of the POA. Monitoring, witnessing, checks, flight and ground tests may become part of the investigation when non-conformities to the Type Design are identified that have the potential to endanger safe operation of the product.

The company should give full and free access to the facilities and to any information relevant to demonstrate conformity of the product to the approved Type Design, and assistance (personnel support, records, reports, computer data, etc., as necessary).

Assistance to the Competent Authority includes all appropriate means associated with the facilities of the production organisation to allow the Competent Authority to perform these investigations, such as the availability of a meeting room, office and personnel support, documentation and data, and communication facilities, all properly and promptly available as necessary.

21.A.158 Findings

(a) When objective evidence is found showing non compliance of the holder of a production organisation approval with the applicable requirements of this Annex I (Part 21), the finding shall be classified as follows:

1. a level one finding is any non-compliance with this Annex I (Part 21) which could lead to uncontrolled non-compliances with applicable design data and which could affect the safety of the aircraft;

2. a level two finding is any non-compliance with this Annex I (Part 21) which is not classified as level one.

3. A level three finding is any item where it has been identified, by objective evidence, to contain potential problems that could lead to a non-compliance under point (a).

(b) After receipt of notification of findings according to point 21.B.225,

1. in case of a level one finding, the holder of the production organisation approval shall demonstrate corrective action to the satisfaction of the Competent Authority within a period of no more than 21 working days after written confirmation of the finding;

2. in case of level two findings, the corrective action period granted by the Competent Authority shall be appropriate to the nature of the finding but in any case initially shall not be more than three months. In certain circumstances and subject to the nature of the finding the Competent Authority may extend the three months period subject to the provision of a satisfactory corrective action plan agreed by the Competent Authority;

3. a level three finding shall not require immediate action by the holder of the production organisation approval.

(c) In case of level one or level two findings, the production organisation approval may be subject to a partial or full limitation, suspension or revocation under point 21.B.245. The holder of the production organisation approval shall provide confirmation of receipt of the notice of limitation, suspension or revocation of the production organisation approval in a timely manner.

AMC-ELA No. 1 to 21.A.158 Findings

An uncontrolled non-compliance with applicable design data is a non-compliance:

- that cannot be discovered through systematic analysis; or
- that prevents identification of affected products, parts, appliances, or material.

Such uncontrolled non-compliances are identified as findings.

Only when such a non-compliance has effect on the condition of the aircraft and objective evidence has been found that this finding could affect the safety of the aircraft, this finding may be classified as Level 1.

An item where objective evidence is present for potential future problems that could lead to a non-compliance of Level 1 or Level 2 may be classified as Level 3 finding.

All other non-compliances should be classified as Level 2 finding.

Failure to allow access of the CA to facilities for the conduct of investigations, in particular to obtain access, should be classified as a level one finding for formal reasons.

Corrective action to findings is to be implemented as follows:

- Level 1: no more than 21 working days after written confirmation of the finding;
- Level 2: An agreed action plan is in place latest 3 months after written confirmation of the finding, leading to an agreement on the timeline for closing of the finding, that typically should be connected to the schedule of the regular surveillance;
- Level 3: no timeline associated.

21.A.159 Duration and continued validity

(a) A production organisation approval shall be issued for an unlimited duration. It shall remain valid unless:

1. the production organisation fails to demonstrate compliance with the applicable requirements of this Subpart; or

2. the Competent Authority is prevented by the holder or any of its partners or subcontractors to perform the investigations in accordance with point 21.A.157; or

3. there is evidence that the production organisation cannot maintain satisfactory control of the manufacture of products, parts or appliances under the approval; or

4. the production organisation no longer meets the requirements of point 21.A.133; or

5. the certificate has been surrendered or revoked under point 21.B.245.

(b) Upon surrender or revocation, the certificate shall be returned to the Competent Authority.

AMC-ELA No. 1 to 21.A.159 Continued Validity of the POA

The production organisation approval is issued for an unlimited duration and remains valid unless:

- the production organisation fails to demonstrate compliance with the applicable requirements of this Subpart, implemented by the full set of AMC-ELA, based upon evidence identified on product level compliance or safety; or
- the Competent Authority is prevented to perform its investigations; or
- there is a positive finding by the CA of:
    - an uncontrolled non-compliance with type design data affecting the airworthiness of product part or appliance; or
    - an incident/accident identified as caused by POA holder; or
    - a lack of effective and timely response to prevent a recurrence of the points above; or
- the production organisation no longer meets the eligibility requirements; or
- the certificate has been surrendered or revoked.

Upon surrender or revocation, the certificate shall be returned to the Competent Authority.

21.A.163 Privileges

Pursuant to the terms of approval issued under point 21.A.135, the holder of a production organisation approval may:

(a) perform production activities under this Annex I (Part 21);

(b) in the case of complete aircraft and upon presentation of a statement of conformity (EASA Form 52) under point 21.A.174, obtain an aircraft certificate of airworthiness and a noise certificate without further showing;

(c) in the case of other products, parts or appliances, issue authorised release certificates (EASA Form 1) without further showing;

(d) maintain a new aircraft that it has produced and issue a certificate of release to service (EASA Form 53) in respect of that maintenance;

(e) under procedures agreed with its Competent Authority for production, for an aircraft it has produced and when the production organisation itself is controlling under its POA the configuration of the aircraft and is attesting conformity with the design conditions approved for the flight, to issue a permit to fly in accordance with point 21.A.711(c) including approval of the flight conditions in accordance with point 21.A.710(b).

AMC-ELA No. 1 to 21.A.163 Privileges

Adherence to the full set of AMC-ELA entitles the company to the following privileges:

(a) to perform production activities under this Annex I (Part 21);

(b) in the case of complete aircraft and upon presentation of a statement of conformity (EASA Form 52) under point 21.A.174, to obtain an aircraft certificate of airworthiness and a noise certificate without further showing;

(c) in the case of other products, parts or appliances, to issue authorised release certificates (EASA Form 1) without further showing;

(d) to maintain a new aircraft that it has produced and issue a certificate of release to service (EASA Form 53) in respect of that maintenance;

(e) for an aircraft it has produced and when the production organisation itself is controlling under its POA the configuration of the aircraft and is attesting conformity with the design conditions approved for the flight:

1. Under procedures defined within a FTOM (or equivalent manual), commensurate to the risk involved with the kind of product (size, complexity, technology, etc.), administered by the PO itself and agreed with the CA, to issue a permit to fly in accordance with point 21.A.711(c) including approval of the flight conditions in accordance with point 21.A.710(b).

2. When applying and strictly adhering to definitions of a FlightTest Plan for the purpose of acceptance test flights, provided as part of the approved Type Design, to issue a permit to fly in

accordance with point 21.A.711(c), where the permit to fly is available as pre-filled EASA Form 20a and is only modified to reflect the correct aircraft S/N and Flight conditions reference, including approval of the flight conditions in accordance with point 21.A.710(b), where the Flight Conditions are available as pre-filled document with EASA Form 18a and are only modified to reflect the correct aircraft S/N and configuration information.

AMC-ELA No. 2 to 21.A.163 (c) Privileges – Issue authorized release certificates

In case of applicants producing engines, or propeller, or articles under ETSO authorisation for aircraft within the limitations defined per AMC-ELA No. 1 to 21.A.131, Block 12 on any issued EASA Form 1 is filled with the following statement:

"ELIGIBLE ONLY FOR INSTALLATION TO AIRCRAFT NOT CLASSIFIED AS COMPLEX-MOTORPOWERED AIRCRAFT AND BEING EITHER AEROPLANES OF 2 730 KG MTOM OR LESS, ROTORCRAFT OF 1 200 KG MTOM OR LESS WITH MAXIMUM 4 OCCUPANTS, OR OTHER ELA2 AIRCRAFT."

21.A.165 Obligations of the holder

The holder of a production organisation approval shall:

(a) ensure that the production organisation exposition furnished in accordance with point 21.A.143 and the documents to which it refers, are used as basic working documents within the organisation;

(b) maintain the production organisation in conformity with the data and procedures approved for the production organisation approval;

(c) 1. determine that each completed aircraft conforms to the type design and is in condition for safe operation prior to submitting statements of conformity to the Competent Authority; or

2. determine that other products, parts or appliances are complete and conform to the approved design data and are in a condition for safe operation before issuing an EASA Form 1 to certify conformity to approved design data and condition for safe operation;

3. additionally, in the case of engines, determine that the completed engine is in compliance with the applicable emissions requirements on the date of manufacture of the engine;

4. determine that other products, parts or appliances conform to the applicable data before issuing an EASA Form 1 as a conformity certificate.

(d) record all details of work carried out;

(e) establish and maintain an internal occurrence reporting system in the interest of safety, to enable the collection and assessment of occurrence reports in order to identify adverse trends or to address deficiencies, and to extract reportable occurrences. This system shall include evaluation of relevant information relating to occurrences and the promulgation of related information;

(f) 1. report to the holder of the type-certificate or design approval, all cases where products, parts or appliances have been released by the production organisation and subsequently identified to have possible deviations from the applicable design data, and investigate with the holder of the type-certificate or design approval in order to identify those deviations which could lead to an unsafe condition;

2. report to the Agency and the Competent Authority of the Member State the deviations which could lead to an unsafe condition identified according to point (1). Such reports shall be made in a

form and manner established by the Agency under point 21.A.3A(b)(2) or accepted by the Competent Authority of the Member State;

3. where the holder of the production organisation approval is acting as a supplier to another production organisation, report also to that other organisation all cases where it has released products, parts or appliances to that organisation and subsequently identified them to have possible deviations from the applicable design data;

(g) provide assistance to the holder of the type-certificate or design approval in dealing with any continuing airworthiness actions that are related to the products parts or appliances that have been produced;

(h) establish an archiving system incorporating requirements imposed on its partners, suppliers and subcontractors, ensuring conservation of the data used to justify conformity of the products, parts or appliances. Such data shall be held at the disposal of the Competent Authority and be retained in order to provide the information necessary to ensure the continuing airworthiness of the products, parts or appliances;

(i) where, under its terms of approval, the holder issues a certificate of release to service, determine that each completed aircraft has been subjected to necessary maintenance and is in condition for safe operation, prior to issuing the certificate;

(j) where applicable, under the privilege of point 21.A.163(e), determine the conditions under which a permit to fly can be issued;

(k) where applicable, under the privilege of point 21.A.163(e), establish compliance with points 21.A.711(c) and (e) before issuing a permit to fly to an aircraft.

AMC-ELA No. 1 to 21.A.165 (a) (b) Obligations of the holder – Basic working document

The organisation shall ensure that personnel have access to and are familiar with that part of the content of the POE or the QAM, which covers their activities. This may be done for example by distributing information that updates of the documentation are available, provided during scheduled meetings or as written information, and by making the changed documentation available at a location where the information is accessible to all affected persons.

Staff at the production organisation with relevance to the production of products under the POA approval should be able to demonstrate awareness of the definitions provided within the POE and QAM. This can be achieved by any suitable means and does not necessarily require training sessions. Regular internal monitoring should be used to internally verify that the relevant staff is aware of the relevant definitions.

Monitoring of compliance with this documentation is done by systematic means. These means do not need to be limited to, or even include auditing, but can be accomplished by structured experience exchange, regular quality meetings, brainstorming or lessons-learned-sessions, project reviews at reasonable phases of company development, or other similar means.

AMC-ELA No. 1 to 21.A.165 (c) Obligations of the holder – Conformity of prototype models and test specimens

Before issue of the Statement of Conformity / Release Certificate, the holder of a production organisation approval shall make an investigation so as to be satisfied in respect of each of the items listed below.

1. Conformity inspections as defined by the approved Type Design have been completed and are documented.

2. In the case of engines, it has been determined that the completed engine is in compliance with the applicable emissions requirements on the date of manufacture of the engine.
3. Equipment or modifications which do not meet the requirements of the State of manufacture have been accepted by the Competent Authority of the importing country.
4. Products, parts or appliances that are not new, or that are furnished by the buyer or future operator (including those identified in 21.A.801 and 21.A.805) are identified.
5. Technical records are available that identify the location and serial numbers of components that have special traceability requirements for continued airworthiness purposes including fireproof data plate (as identified in 21.A.801) and identification of critical parts (when existing per definition in the relevant CS, or per voluntary definition of the applicant, marked in line with 21.A.805). When the Type Design provides definition of these parts, the PO is not required to go beyond these definitions.
6. Log book and a modification record book for the aircraft is available, as required by the Agency.
7. Log books for engine and propeller (as identified in 21.A.801) when installed as part of the type design are available, as required by the Agency.
8. A weight and balance report for the completed aircraft is available.
9. A record of missing items or defects which do not affect airworthiness, for example furnishing or BFE is available. Items may be recorded in a technical log or other suitable arrangement such that the operator and Agency are formally aware.
10. Product support information is available, when required by other implementing rules and associated CS or GM, such as a Maintenance Manual, a Parts Catalogue, or MMEL all of which are to reflect the actual build standard of the particular aircraft.
11. Records which demonstrate completion of maintenance tasks appropriate to the test flight flying hours recorded by the aircraft are available.
12. Details of the serviceability state of the aircraft in respect of fuel and oil contents, provision of operationally required emergency equipment such airframe emergency parachute systems, fire extinguishers, etc. is available.
13. An approved Flight Manual which conforms to the build standard and modification state of the particular aircraft is available.
14. Inspections for foreign objects have been satisfactorily performed at relevant steps.
15. The registration has been marked on the exterior of the aircraft as required by national legislation. Where required by national legislation, a fireproof owner's nameplate has been fixed.
16. Where applicable, a certificate for noise and for the aircraft radio station is available.
17. The installed compass and or compass systems have been adjusted and compensated and a deviation card is displayed in the aircraft.
18. A record of rigging and control surface movement measurements is available.
19. Where maintenance work has been performed under the privilege of 21.A.163(d), a release to service has been issued that includes a statement that the aircraft is in a condition for safe operation.
20. A list of all applicable Service Bulletins and airworthiness directives that have been implemented is available.

The documented results of this investigation shall be kept on file by the POA holder. Certain of these items may be required to be provided (or made available) to the operator or owner of the aircraft (and in some cases the Competent Authority of the Member State of registry). Verification or all items can be ensured by having adequate checklists provided as part of the Type Design, as expected when applying the standard QAM. Alternatively, checklists may be provided as part of the QAM definitions, or by equivalent means. When using an IT based ERP system, definition of the check items directly within the ERP system is acceptable.

The EASA Form 1 may be issued in two ways:

- As an airworthiness release, when it can be determined that the part conforms to the approved design data and is in a condition for safe operation.

- As a conformity certificate, when it can be determined that the part conforms to applicable design data which is not (yet) approved, for a reason that is indicated in Block 12. Parts released with an EASA Form 1 as a conformity certificate are not eligible for installation in a type-certificated aircraft.

The EASA Form 1 should only be used for conformity release purposes when it is possible to indicate the reason that prevents its issue as for airworthiness release purposes.

Deviations of the product to the Type Design, including unintentional divergences (concessions or non-conformances) during the manufacturing process, must be approved by the Type Design holder following appropriate methods, before conformity of the product to the type design can be declared.

AMC-ELA No. 1 to 21.A.165 (d) Obligations of the holder –

Only this part of the work has to be recorded in detail, where the approved Type Design requires so. In determining the extent of recording required, the Type Design owner shall consider implications for later affected component identification.

By limiting the amount to be recorded the manufacturer understands and accepts the associated potential economic implication of a larger number of affected products in case of later in-field measures.

AMC-ELA No. 1 to 21.A.165 (e), (f) Obligations of the holder –

The production organisation is practicing methods to record and evaluate occurrences that may affect the safety of the product. Occurrence reports are collected and assessed, in order to identify adverse trends or to address deficiencies, and to extract reportable occurrences.

The production organisation shares its information related to potential product deficiencies, observed in-field or during or after production and delivery, with the holder of the Type Certificate. Production and design organisation jointly come to conclusions with respect to possibly required product design and / or in-field activities.

Methods are practiced to determine if an occurrence is to be formally classified as “unsafe condition”. This may be done by the method described in ASTM F2295, whereas occurrences that by this standard are categorised as “urgent safety of flight situation” are considered as “unsafe situation”, and occurrences that fall into the category “potential safety of flight bulletin” have the potential of an “unsafe situation”, and shall be therefore further analysed in that respect, possibly in coordination with the relevant of CA or Agency.

Occurrences where the assessment leads to a potential “unsafe situation” are reported to the Agency (in case of design related issues), or to the CA (in case of production related issues), within the times and by the methods published by the Agency of CA.

In cases where the design and manufacturing entities both work within one consolidated team it is sufficient, when either the design or the production entity maintains the required provisions for occurrence management.

AMC-ELA No. 1 to 21.A.165 (g) Obligations of the holder –

The manufacturer actively communicates with and assists the holder of the type-certificate or design approval when dealing with any continuing airworthiness actions that are related to the products parts or appliances that have been produced.

In cases where the design and manufacturing entities both work within one consolidated team, assistance to the type design holder is expected given as intrinsic function of the cooperation and does not require further showing.

AMC-ELA No. 1 to 21.A.165 (d), (h) Obligations of the holder – Recording and archiving system

Records of production that have been used to determine conformity with the type design, such as those records mentioned in relation to 21.A.165(c) and (d), are archived and preserved using adequate archiving method defined within the QAM. Those records shall be held at the disposal of the CA, in case required to determine configuration and conformity situation of a product.

All forms of recording media are acceptable (paper, database, …) provided they can meet the required duration for archiving under the conditions provided.

The manufacturer does:

- define records to be kept. When the Type Design provides this definition, the manufacturer is not required to go beyond this definition.
- implement a structured method of archiving. Especially in case of using IT based ERP systems with workflow management, detailed descriptions of the system are not required.
- ensure effective protection from deterioration or accidental damage, possibly by holding (hard- or soft-) copies in separate locations.
- ensure continued readability of the records by selecting an adequate method of archiving.
- define an archiving period for each type of data taking into account importance in relation to conformity determination subject to the following:

    a) Data which supports conformity of a product, part, or appliance should be kept for not less than three years from the issue date of the related Statement of Conformity or Authorised Release Certificate.

    b) Data considered essential for continuing airworthiness should be kept throughout the operational life of the product, part or appliance.

    When the Type Design provides this definition, the manufacturer is not required to go beyond this definition.

Only in the special case where the PO has decided per 21.A.139 to extend its quality system to that partner, and where the records are not supplied from that partner to the PO, the PO extends its requirements for record keeping to this partner, supplier or sub-contractor.

AMC-ELA No. 1 to 21.A.165 (i) Obligations of the holder – Release to Service

Before issuing a certificate of release to service, equivalent means as used during original production of the product are applied to determine that each completed aircraft has been subjected to the necessary maintenance and is in condition for safe operation.

AMC-ELA No. 1 to 21.A.165 (j) (k) Obligations of the holder – Permit to Fly

When conducting flight test on the basis of a FTOM administered by the PO itself, methods are practiced to determine the Flight Conditions that shall be used as basis for a permit to fly.

When Flight Test Plan, completed Flight Conditions and prepared forms 18a and 20b for the purpose of conducting factory acceptance flight tests are provided as part of the approved type design, methods are practiced to confirm that an intended production acceptance test flight can be conducted under full adherence to these definitions provided by the Type Design.

When applying the privilege to issue Flight Conditions, the PO must be satisfied that the aircraft is capable of safe flight under the specified conditions and restrictions (21.A.710(c)).

Methods are practiced to confirm that a permit to fly is only issued by the PO exercising the related privilege, when

- the related Flight Conditions have been approved under privilege (21.A.711(c)), and

- the purpose(s) and any conditions and restrictions are consistent with those approved within the Flight Conditions (21.A.711(e)).

When Flight Test Plan, completed Flight Conditions and prepared forms 18a and 20b for the purpose of conducting factory acceptance flight tests are provided as part of the approved type design, the Permit to Fly (EASA Form 20b) must be the one provided by the Type Design, only modified to match the information of the specific aircraft to be tested.