



EASA
European Aviation Safety Agency



Simpler, lighter, better rules for
General Aviation

Part 21 Proportionality

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General Aviation
Manufacturers Association

Your safety is our mission.

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TE.GEN.00409-001



GA Roadmap Framework

- Progress towards lighter, simpler and better regulation continues



General Aviation

6 Objectives we are committed

IFR Flying

Easier access of GA pilots to IFR rating, as a concrete measure that will improve safety.

Training

By end of 2018 the 3rd option for licensing will be fully developed providing a simple system for pilot training outside ATO.

Part-M 'Light'

Work towards a simpler and more proportionate framework for aircraft maintenance and license: a Part-M 'Light'.

Technology

Continue development of CS-STAN and other similar tools to enable the introduction of new technologies which contribute to safety.


Simpler Certification

Towards a simpler framework for certifying LSA aircraft in the short term by increasing the support to applicants e.g. workshops, document templates etc. in the long term by amending applicable regulations in order to bring a radical simplification.

Industry standards

Build on the improvements of CS-23/Part-23 on other CS or regulations in order for EASA to focus on its safety objectives and to delegate the preparation of associated standards to industry groups (ASTM, ASD etc.)



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EASA

European Aviation Safety Agency

LIGHTER, SIMPLER AND BETTER RULES FOR GA: KEY ACTIVITIES AND MILESTONES

LASTEST UPDATE: 23.3.2017

	2013	2014	2015	2016	2017	2018
Changes to EASA Basic Regulation		EU/2014/594 NPA	EU/2015/104 CASA Opinion		EU/2017/10 Revised Basic Regulation	
Instrument Flying Rules (IFR) Flying		EU/2014/594 NPA	EU/2015/104 Promote (CASA) Implement (EASA) WPS	EU/2016/104 Concept paper Implement (EASA) WPS	EU/2017/10 CASA Opinion	EU/2018/10 CASA 1st
More options for pilot training		EU/2014/594 NPA	EU/2015/104 Establishment Task Force	EU/2016/104 WPS	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Part M Light		EU/2014/594 NPA	EU/2015/104 WPS	EU/2016/104 WPS	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Aircraft changes and engine made easy		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Simpler Certification		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Industry standards		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Air Operations Rules Regulation		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Validating foreign Supplemental Type Certificates		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Reduced Approval & Risk Management		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
GA Data Intelligence		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
New EASA Fees & Charges		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st
Communication & Technical Training		EU/2014/594 NPA	EU/2015/104 CASA 1st	EU/2016/104 CASA 1st	EU/2017/10 CASA 1st	EU/2018/10 CASA 1st

A link has been provided to accompany all of the Agency's administrative documents. The detailed presentation of these documents under the terms of Regulation (EU) 2015/104 is the responsibility of the Agency. The Agency is not responsible for the content of the documents. The Agency is not responsible for the content of the documents. The Agency is not responsible for the content of the documents.

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Simpler, lighter, better rules for
General Aviation

General Aviation Roadmap:

- Project to deliver a much simplified system of regulations for light aircraft
- Rules must be proportionate to the risk
- Hand some of the responsibilities back to people and organisations that are best able to take that responsibility
- Avoid automatic use of “CAT logic” to GA



Simpler, lighter, better rules for *General Aviation*

Special approach in the development of this AMC:

- Not watering down existing Large Aircraft requirements to get to GA requirements

Instead:

- Defining the “bottom level” starting point for low risk aircraft and small simple companies
- From there create proportionality in cooperation with the Competent Authority



RMT.0689 Part-21 proportionality

RMT.0689 Part-21 Proportionality (EASA task)
Using a Task Force as sounding board and think
tank to develop improvements to Part-21

Task Force (TF) members:

National authorities (LBA, DGAC-F, FOCA)

Manufacturers (sailplane, GA)

(Non-)Users (Europe Air Sports)



Terms of Reference (ToR) defines:

2. Objectives

The objective is to provide additional **flexibility and simplification** in Part-21 certification for GA that is **proportionate to risks** and meets an acceptable safety level. This task should be regarded as a change to the certification process that is in-line and within the new framework being developed in the proposals to change Regulation (EC) No 216/20082 (hereinafter referred to as 'the Basic Regulation'). This task will also consider using **performance based regulations (PBR) principles** that are being developed in coordination with the EASA advisory bodies. At the same time improvements to the certification process are also expected from a **more pragmatic implementation and guidance**. Options to be considered are:

- to **simplify and/or support of approval processes**;
- to **change competent authority involvement** and to **redistribute responsibilities** between competent authorities and stakeholders



RMT.0689 Part-21 proportionality

With this ToR, the TF pursues three initiatives:

Step 1: Develop alternatives to Part-21 AMC/GM for smaller companies for:

- Subpart G – POA
- Subpart J – DOA

Step 1A: Test these new AMC in pilot cases

Step 2: Develop a new approach for Part-21(Light)

- Implementing Basic Regulation updates
- Implementing lessons learned from step 1A

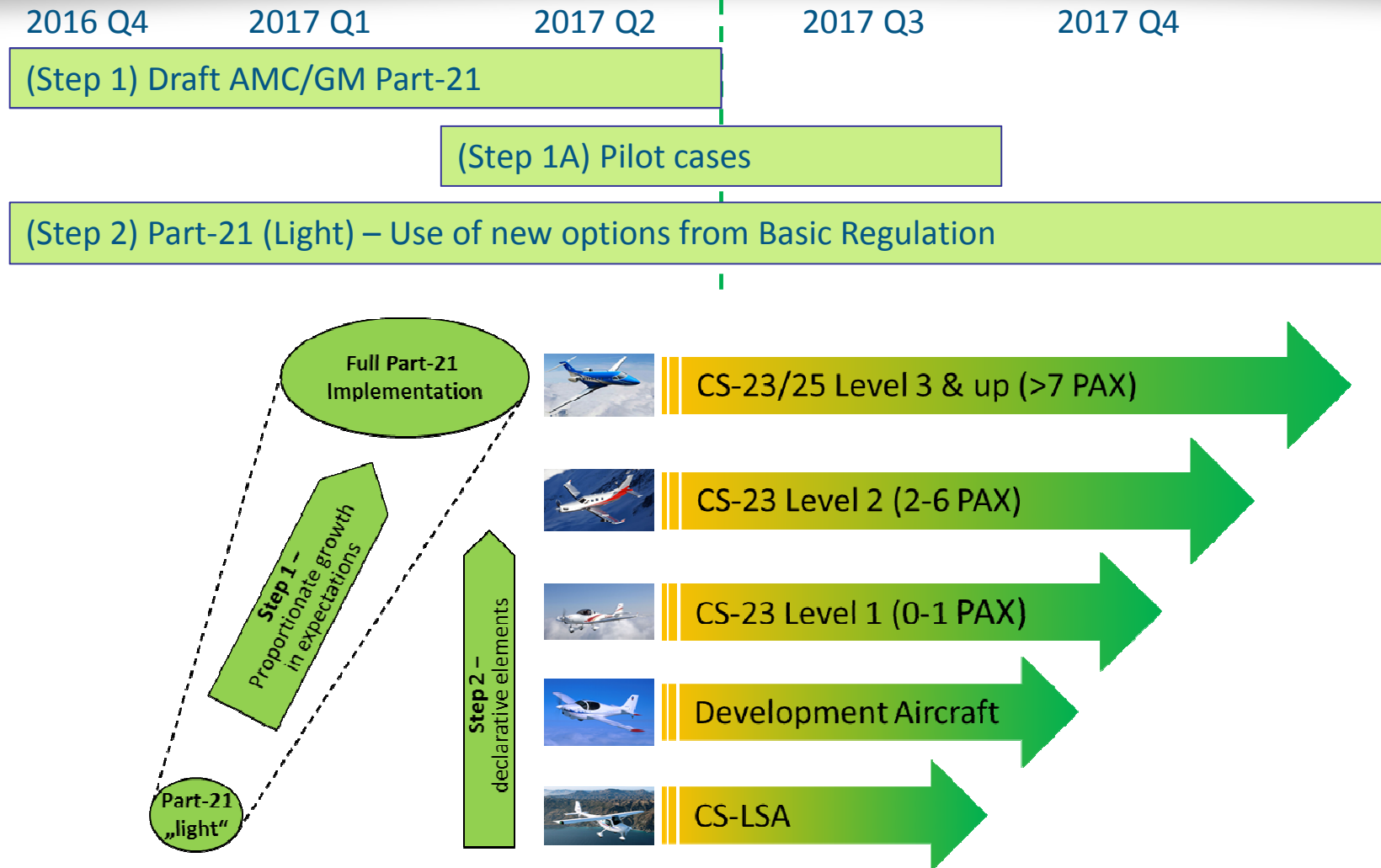


Step 2 – Adopting declarative elements

- New Basic Regulation will require re-definition of Part-21
- Re-definition of Part-21 will allow for follow-on steps for light aviation:
 - Apply “lessons learned” to AMC-ELA from pilot phase
 - Implement declarative elements
 - Adopt an objective rule approach, making use of AMC
- New Basic Regulation is expected to allow declarative elements



RMT.0689 Part-21 proportionality





RMT.0689 Part-21 proportionality

Step 1 AMC (Main focus of this workshop)

Develop new Part-21 AMC/GM for:

- A specific scope:
- Limited to Design and Production
- Within the possibilities of the current rules (Part-21)

Using this workshop as public consultation instead of via an Notice of Proposed Amendment



accelerated rulemaking procedure

- Organise a dedicated focussed consultation workshop with stakeholders to get feedback
 - Refer to [EASA website/Events](#)
 - Draft AMC is available for comments in the EU Survey
- Consultation with stakeholders and Competent Authorities via the advisory bodies (STeB and GA Sectorial team).
- Direct publication of a Decision, Summer 2017



Step 1 –

AMC-European Light Aircraft



Step 1 – Developing (draft) AMC-ELA to Part-21

Today there are three main problem areas:



Existing AMC/GM to Part-21 is written for large aircraft and companies; especially POA is lacking alternatives



Non-natural split between approvals for DOA & POA (and Maintenance) of small, consolidated teams



Part-21 Section B (Procedures for competent authorities) mandate a process-oriented approach



Step 1 – Developing (draft) AMC-ELA to Part-21

How to improve the situation:

- Ensure common sense for small companies:
 - Know for every specific means why it is requested
 - Ensure that general means required are really necessary to meet the requirement
 - Define the means so that it serves the intent

Applying this in a strict way makes numerous elements unrelated for companies designing and producing small aircraft.



Step 1 – Developing (draft) AMC-ELA to Part-21

Besides rulemaking this requires...:

→ A Cultural Change!!

- A change towards product oriented surveillance, instead of today's process oriented approach.
- A change towards utilisation of other influences to companies, instead of duplicating aspects
- A change towards integrated assessments, instead of individual certificates
- A change towards partnership and trust, instead of hierarchy and suspicion



AMC-ELA for Subpart G (POA)

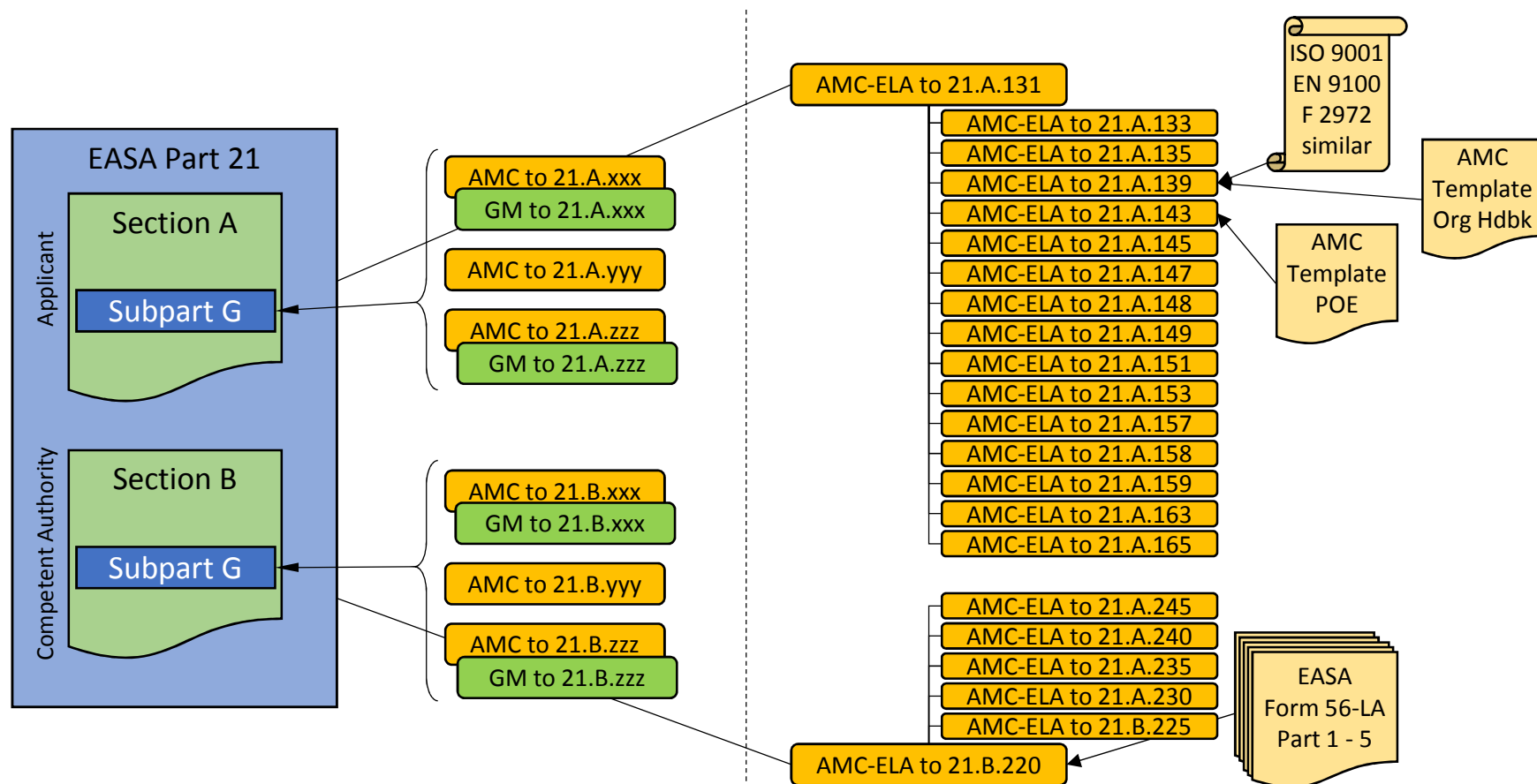


21.G – Spirit of AMC-ELA for small POA (Step 1)

- Apply product-oriented surveillance instead of process-oriented
- Significantly tailor the extent of documentation of the Quality System
- Make use of “practiced methods” in many areas - demonstration of repeatable procedures by evidence of work results is enough
- The competent authority oversight will focus on work results instead of process overhead verification



21.G – System of AMC-ELA



Existing – applicable to all products

New – applicable to products level 1 & 2

Note: „ELA“ relates to light aircraft in a much wider scope than ELA 1/2





Generic feedback received so far

- Terminology and abbreviations consistency requires improvements
 - Harmonise within EASA established terminology, avoid carry-overs from other systems (ASTM, 9001, etc.)
 - Spell out the terms, no collection of abbreviations
- Why is it all AMC, even if some reads like GM?
 - Desire is to have one encompassing set of AMC
- Comments against Part-21 requirements, comments against legacy AMC language
 - Noted, but not in Scope of Step 1



21.G – AMC-ELA Examples

➤ Applicability of the new AMC is covering a broad range of products:

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.

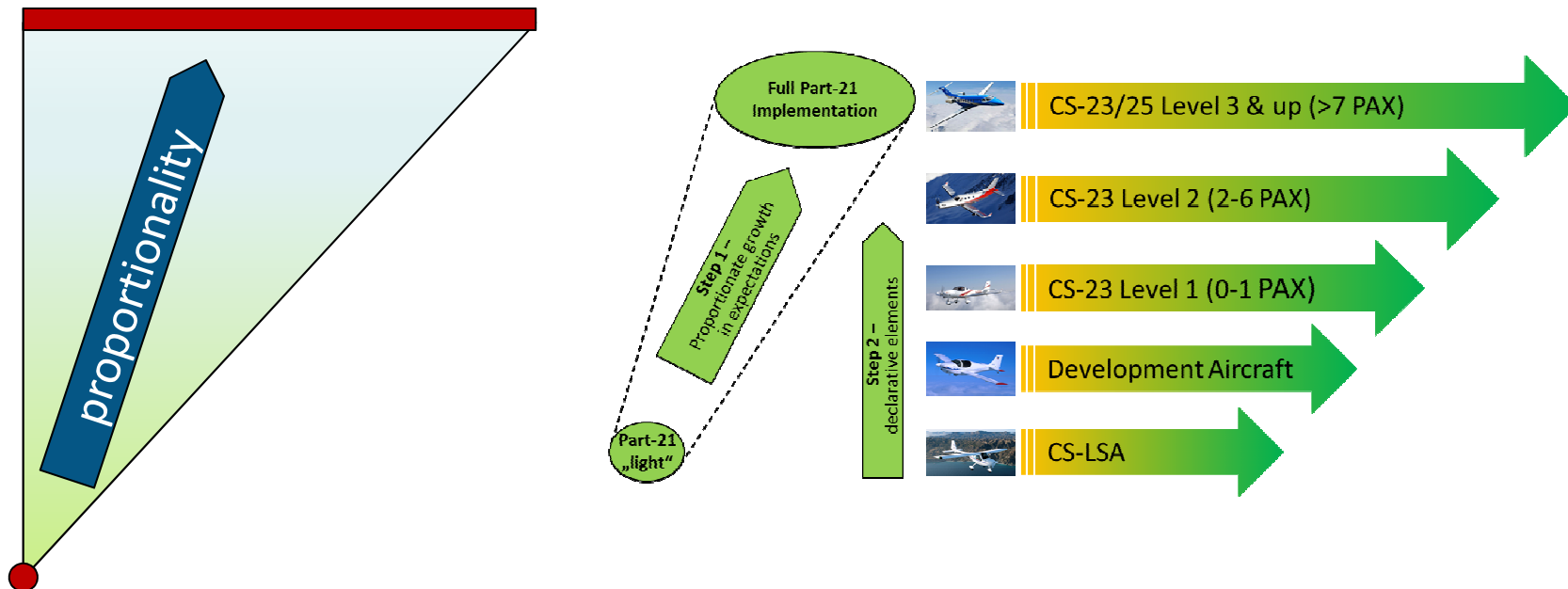
AMC-ELA does not change the applicable regulations. AMC-ELA does not replace the existing GM and AMC. It provides an alternative, complete and self-contained set of AMC to the existing ones. Applicants that manufacture aircraft or products within the Scope as per AMC-ELA No. 1 to 21.A.131 may elect to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

➔ Why use „ML-Scope“? ➔ What about parts manufacturers?



RMT.0689 Part-21 proportionality

Part-21 + Current AMC



Part-21 + AMC ELA

(Bare minimum level for simple company and simple product)

AMC ELA and template manuals provides minimum + need to complement when necessary.



21.G – AMC-ELA Examples

➤ Typical small-company „consolidated teams“

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.

➤ Specific consideration

- Transparent definitions within both systems
- Information exchange between EASA and NAA during oversight
- A first step towards integrated assessments of the whole company (Step 2?)



21.G – AMC-ELA Examples

► Focus tailored to verification of product conformity:

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.

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.



21.G – AMC-ELA Examples

➤ „presumption of compliance“:

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.

- Template handbooks provide the bare minimum content that meets the AMC
 - To be matched when proportionality requires added content
 - To be matched when not adequate to the scope of activity



21.G – AMC-ELA Examples

➤ POE used purely as interface document:

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 OAM as referenced



21.G – AMC-ELA Examples

➤ This is how it looks for a full POE:

Production Organisation Exposition (POE)

21.A.143(b)

This manual provides the Production Organisation Exposition of *Ducklings, Inc.* in application of the LA set of AMC to EASA Part 21 Subpart G. Full application of the LA set of AMC constitutes implicit compliance with all applicable requirements of EASA Part 21 Subpart G, without further substantiation.

The extent of the documentation of this POE and applicability of the LA set of AMC is consistent with the Scope of Work being limited to ELA 2 aircraft and related spare parts.

The POE in itself does not require approval by the CA.

1. Commitment of the Accountable Manager

21.A.143(b); 21.A.143(c); 21.A.143(d)

By signing this commitment, the accountable manager confirms that the manufacturer will comply with the definitions of this POE at all times, and that all affected employees are instructed, accordingly. All employees are instructed to report observations of non-adherence to the AM, and to co-operate with the CA when exercising its oversight duties.

Purpose of this POE is to provide approval relevant information to the Competent Authority as per EASA Part 21, Subpart G. It is acknowledged that possible new requirements need to be considered and complied with, even when they are in conflict with definitions implemented so far.

It is acknowledged that the related company approval is issued on the basis of continued adherence to this commitment, and that the relevant CA may apply limitations or withdraw the approval in certain cases of non-adherence, when conformity of the product with the Type Design has not been ensured, or when safe operation of the product is not ensured.

Date, Signature of AM: _____

2. Nominated Managers

21.A.143(b); 21.A.143(c); 21.A.143(d); 21.A.143(e); 21.A.143(f); 21.A.143(g)

The following person is nominated as Accountable Manager of Remos AG:

Duck Duckling, CTO of Ducklings, Inc.

It is the responsibility of the AM to ensure that all production is performed to the required standards and to the data and procedures referenced by this POE.

The AM is responsible to ensure that the company is in compliance with the requirements of EASA Part 21 Subpart G, regardless of possible delegation of individual tasks. As this duty is with the AM, no organisational chart is required within this POE.

The AM is the formal communication point towards the CA in all matters.

3. Certifying Staff

21.A.143(b)

Nominated Certifying Staff (CS) is identified in form of a separate list showing:

- Name
- Type and scope limitations, if applicable,
- authority to issue conformity or release certificates.

The list of CS is made available to all relevant employees, so that the relevant CS can be identified, whenever required.

Changes to this list do not constitute a change of the POE.

4. Capacities

21.A.143(b)

The approximate company size with relevance to production activities is below 50 FTE.

Production Organisation Exposition Dokument: POE Revision: 00 Page: 2

5. Major Place of Business

21.A.143(b)

The major place of business, where the products are completed and checked out, is located at:

Duckstreet 42,
12345 Quaking
Germany

This location is equivalent to the legal place of business.

6. Scope of Work

21.A.143(b)

The scope of Work is in its entirety defined by the product Type(s):

Scope Category: A10 (Light-Sport Aeroplanes);

Type of Product: RubberDuck D-1 (EASA.A.xxx);

Scope of work automatically includes the aircraft and all spare parts required for the identified products, without further specification, detailing or need for capability lists.

7. Notification of Organisational Changes

21.A.143(b)

This document gets revised in case of significant changes to the PO, or in case of changes to the organisation that affect the documentation provided here, under the responsibility of the AM.

8. POE Amendment Procedure

21.A.143(b); 21.A.143(c)

Amendments to the POE are released by the AM, and distributed following the implemented method for control of documented information. One copy is provided to the CA through the AM.

9. Quality System

21.A.143(b); 21.A.143(c)

The QS of the company is defined and documented by the Quality Assurance Manual (QAM). The QAM is in compliance with Part 21 Subpart G, and with ASTM F2972.

10. Outside Parties

21.A.143(b)

Outside parties that operate within a typical extended workbench arrangement and under the quality system this company are not involved.

11. Flight Test Activities

21.A.143(b)

Flight Test activities are only conducted for the purpose of production acceptance flights and strictly follow a Flight Test Plan and adhere to Flight Conditions that both have been developed as part of the approved type design. FC with FTP define:

- the complete process for production acceptance flight test of this type, including discovery of non-conformities and fixes;
- pre-filled PIF;
- 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;
- precautions in consequence to the applied risk and safety management;
- definition of instruments and equipment to be carried;
- forms that need to be filled to document the results of the production acceptance flight test.

The company identifies the persons involved to the production acceptance flight test when applying it. The AM is responsible to ensure adherence to the qualification and currency requirements defined in the FTP.

Production Organisation Exposition Dokument: POE Revision: 00 Page: 3



21.G – AMC-ELA Examples

- Extended use of „practiced methods“, as opposed to documented procedures:

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.

- Language will receive refinement:
 - Practiced methods do require documentation („declaration“) within the relevant handbook
 - This allows assessment and findings, when not conducted repeatable and consistent



21.G – AMC-ELA Examples

➤ Examples for practiced methods:

3.1. Control of Documented Information

21.A.139(b)1.(i), (x); 21.A.139(b)1.(x); 21.A.165(h);

Document control is ensured by workflow management being part of the IT based Document Management System (DMS). The workflow ensures revision management, adequate document approval and adequate document access to employees on the basis of defined user authorizations. Adequate backup procedures are in place that ensure safe copies of the database at a separate location.

This commitment applies to all documented information related to this QMS, especially to those of relevance for the production of conforming and safe products, including records, and to the Type Design.

3.4. Identification and Traceability

21.A.139(b)1.(iv);

ASTM F2792-14, 7.4;

All material on stock is properly identified, by reference to the part number or material specification, as applicable.

The manufacturer follows the definitions for identification provided as part of the approved Type Design. The manufacturer does not apply marking beyond this level. Traceability is ensured by identification of each material on stock, completed part or part in process through the IT based ERP system. Definition of method of traceability is provided by the approved Type Design. Identification is done by labels with barcodes, with the labels applied directly to the part, or stored together with the part in case of bulk or small goods.



21.G – AMC-ELA Examples

➤ Examples for practiced methods:

3.3. Incoming Goods Inspection

21.A.139(b)1.(iii); 21.A.139(b)1.(viii);

ASTM F2972-14, 8.3; 8.4;

Incoming goods verification is limited to those aspects defined as part of the approved Type Design, and directly follows the acceptance criteria for supplied components defined as part of the approved Type Design. Where later production steps provide implicit verification of defined aspects, such as for example with respect to form and function of components, verification of these aspects can be deferred to this later stage, either by definition of the Type Design, or by decision of the manufacturer.

The manufacturer accepts the risk of delays in deliveries due to faulty supplies detected only at a later stage and declares that production of a specific product serial number will be suspended until conforming components are available.

Conforming items are either distributed for immediate use, or placed in the relevant controlled stock area. Nonconforming items remain separated until clarification on further handling is achieved.

- By nature, practiced methods are described in a „declarative“ way
- (Audit) observation must confirm it is conducted
 - Consistent throughout the company
 - repeatable



21.G – AMC-ELA Examples

- Supplied parts are inspected when it makes sense, limited cases supplier oversight

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.

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.



21.G – AMC-ELA Examples

- Internal audits are not necessarily the primary, and not the only means accepted for internal monitoring

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.



21.G – AMC-ELA Examples

- For companies that already have a QM system installed, this can be utilised:

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.

- Definition as to the exact level of acceptance under refinement
- Amendments to existing QM- systems could be necessary
- Existing systems shall be useful and can be integrated, no parallel worlds



21.G – AMC-ELA Examples

- Definition and use of the „major place of activity“ ensures greater flexibility and eliminates elaborate detail definition, such as floor plans, etc.

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.

- Language under refinement to ensure correct understanding and application



21.G – AMC-ELA Examples

- Only one FTOM needed for either DOA or POA, typically coordinated from DOA

(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.

... Same for Occurrence Management



AMC-ELA for Section B of Subpart G (POA)



21.G – Spirit and Goals of Section B

- Enable the new approach on applicant side, a matching and standardising approach from the Competent Authority is required
- Provide the tools for a closer cooperation with the applicant, and with the Agency, in a more integrated approach
- A Partnership in reaching consensus on a proportionate implementation within the company is required
- Partnership builds upon trust and communication



21.G – AMC-ELA Examples

- Section B requires the CA to use a product oriented oversight, still based upon evidence

AMC-ELA No. 1 to 21.B.220 (b) Extent of Investigation

Initial and continued investigation of the company is primarily conducted on the basis of conformity investigation of products with work in progress or following completion, and on the basis of direct product assessment, or assessment of product related production records.

When conducting investigations on companies that apply the POE and QAM template provided as AMC-ELA to Book A of Part-21 Subpart G, investigation of the documentation is limited to the verification that the templates have been adequately adopted to the company specific details.

In cases where the production organisation has been audited by an accredited third party for compliance with ISO 9001 or AS/EN 9100 and where the company holds a respective and valid certificate, and where the production activity to be covered by the production organisation approval is explicitly covered by the Scope of the QM approval, the competent authority should use and accept this to the best extent as evidence of successful implementation and practicing of methods required by AMC-ELA, with the aim to reduce duplication in regular assessment.

Recommendation for issue or continuation of a POA shall be given when the investigation shows that the company is capable to manufacture products within the scope of work in a repeatable way, so that they conform to the Type Design in such a way, that the safe operation of the product can be expected.



21.G – AMC-ELA Examples

- Section B requires the CA to use a product oriented oversight, still based upon evidence

5. Investigation

The POATL:

- a. makes a check of the POE for compliance with AMC-ELA No. 1 to 21.A.143 (a), (b) on the basis of EASA Form 56-ELA Part 3, or to the correct adoption of the sample POE provided, as applicable.
- b. audits the product and its associated documentation for conformity with the provisions of the relevant type design. Where discrepancies show up on the audited product, the POATL assesses if the definitions of the Quality System have been adhered to, and if those definitions may have been misleading and contributing to the discrepancies, warranting possible need for modification. The audit is conducted using EASA Form 56-ELA Part 2 as a guide during the investigation with direct link to AMC-ELA to Section A, Subpart G, and as a checklist at the end of it.



Form 56-ELA

- Form-56 already in use today
- Form 56-ELA
 - Keeps the same systematic
 - Fully tailored to match AMC-ELA to Section A

PART-21 rules, AMC-ELA Annex I – Section B

Competent authority
of an EU Member State or
EASA

RECOMMENDATION REPORT IN SUPPORT OF Part 21 SUBPART G APPROVAL
for companies that manufacture aircraft, or engines, or propeller
used on aircraft that meet the category specific equivalent
to a CS-23 Level 2 low-speed aeroplane

ISSUE / CONTINUATION / VARIATION / SIGNIFICANT CHANGE
PART TWO OF FIVE PARTS: **Part 21 SUBPART G COMPLIANCE**

Name of organisation: _____ **Approval of organisation:** _____

Approval reference: _____ **Survey reference:** _____

Note A: This form has been compiled according to those points of Part 21 Subpart G which are relevant to an organisation trying to demonstrate compliance, and implementing the accepted means of compliance published as AMC-ELA, applicable to companies that manufacture aircraft, or engines, or propeller used on aircraft that meet the category specific equivalent to a CS-23 Level 2 low-speed aeroplane.

Note B: The right hand part of each box must be completed with one of three indicators:
1. a tick (✓) which means compliance;
2. NR which means the requirement is Not Relevant to the activity at the address surveyed; (the reason for NR should be stated in Part 4 of the report, unless the reason is obvious)
3. a number relating to a comment which must be recorded in Part 4 of the report.
The left hand part of each box is optional for use by the competent authority.

Generic Issues
To be verified as part of regular scheduled surveillance events:

When considering the level of communication exercised between production organisation and competent authority in both directions, is the level of communication adequate to the level of trust exercised?
☐

Is the amount and kind of organisation recorded production non-conformities appropriate to the kind of products and to the level of quality management exercised? Are the non-conformities resolved in an adequate way, so as to identifying possible implications for methods exercised or processes defined? Does the corrective action that has been taken show effect so as to avoid re-occurrence of comparable non-conformities?
☐

Does the production organisation still feel comfortable when applying the simplifications of AMC-ELA? Does it still meet the specific needs, or has the company developed such that a modified approach should be considered, jointly between applicant and competent authority?
☐

21.A.131 Scope
The company meets the criteria and has decided to apply a system in line with the full set of AMC-ELA as provided by the Agency with respect to Part-21, Book A, Subpart G; or
☐

The company meets the criteria and has decided to apply the handbooks templates for both, POE and QAM as provided by the Agency with respect to Part-21, Book A, Subpart G;
☐

and – in both cases – there are items that deviate in a case-specific way from AMC-ELA or template POE or QAM, and therefore have case specific agreements on means of compliance.
☐

When applicable, deviating aspects relate to:

EASA Form 56-ELA Issue 1- POATL Recommendation Report POA Audit Report - Part 2 of 5, Page 1 of 7 MONTH YEAR

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21.G – Section B Summary

- CA approach is tailored to an improved iteration with the applicant:
 - Starts earlier at the location of the applicant
 - Less focus on document-based desktop audits
- Giving more leeway for:
 - Interpretation to meet company specifics
 - acceptable open actions on approval
- Establish a cooperative environment between applicant and authority:
 - Start cooperation by offering trust to the applicant
 - Reducing mandatory reporting points but inviting for open communication



AMC-ELA for Subpart J (DOA)



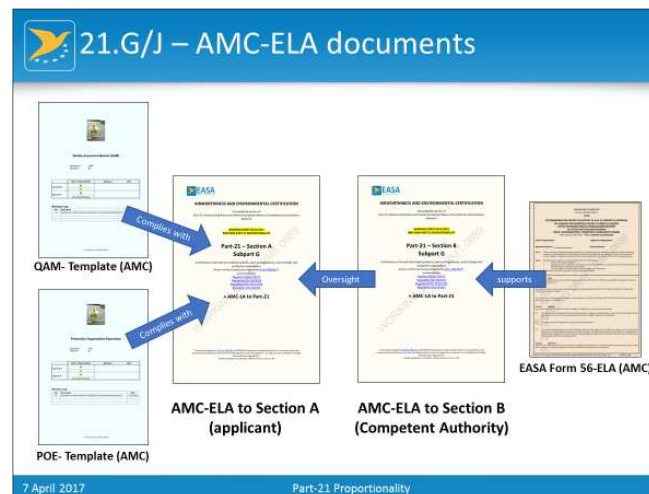
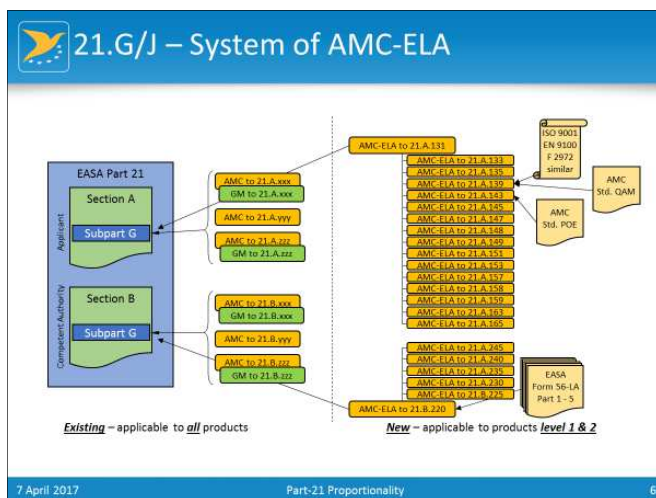
21.J – Spirit of AMC-ELA for small DOA (Step 1)

- Focus on “verification” elements of the Design Assurance System as “Gateway”
- Type Certificate related requirements of Part-21 go to Certification Program, not to DO-Handbook
- Significantly tailor the extent of documentation of the Quality System
- Make use of “practiced methods” in many areas - demonstration of repeatable procedures by evidence of work results is enough
- Agency oversight to focus on DAS “Gateway”- Function, not on basic engineering process



21.J – System of AMC-ELA

➤ Equivalent approach as for Subpart G





21.J – AMC-ELA Examples

Same approach as for Subpart G is used for the following issues:

- Applicability of the new AMC is covering a broad range of products
- „presumption of compliance“
- Exclusion of external aspects
- Extended use of „practiced methods“, as opposed to detailed workflows
- Internal audits are not the primary, and not the only means accepted for internal monitoring
- Definition and use of the „major place of activity“
- Only one FTOM needed, typically coordinated from DOA
- Only one Occurrence Management needed



21.J – AMC-ELA Examples

► Focus limited to the independent checking elements:

AMC-ELA No. 1 to 21.A.239 (a) Design assurance system – Definition

When speaking of the “Design Assurance System” (DAS), this refers to those elements of product development and certification, that ensure for the control and supervision of initial design, changes or repairs to the design, with respect to the applicable type-certification basis, operational suitability data certification basis and environmental protection requirements. Therefore, **elements to be considered as part of the DAS are:**

- Generation, iteration, EASA agreement and maintenance of the Certification Programme;
- Verification of Compliance within the Design Organisation;
- Declaration of Compliance by the Design Organisation towards EASA;
- Monitoring functions to ensure continued airworthiness of the certified product, including resulting activities;
- Independent System Monitoring of the compliance with, and adequacy of, the documented procedures of this system.

A typical development process will include a number of additional activities that are not part of the DAS, even when elements of the DAS form specific milestones in the development path. **Those other activities are consequently excluded from the assessment of the DAS**, even when they are directly influenced by aspects of the DAS.



21.J – AMC-ELA Examples

➤ Complete AMC for an adequate FTO

AMC-ELA No. 2 to 21.A.243 Data – Policies and procedures in relation to Flight Test

In order to conduct flight test activities, the DOA 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 DOH, 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 DO)
 - Flight Test Engineer – manages individual flight test (campaigns)
 - Test Pilot – conducts any flight test
 - Flight Test Mechanic – conducts all maintenance on aircraft

➤ Template FTOM available

- Stand-alone, declaration of procedures, full set of forms,
- covers all aspects to obtain privileges related to Flight Conditions / Permit to Fly



Step 1 – Spirit of AMC-ELA for consolidated teams

Practical combination of DO & PO allows:

- Sufficient to have one Flight Test group in either DOA or POA
- Sufficient to have one Occurrence Management process in either DOA or POA
- Recognize “inherent” communication and widely eliminate DO/PO agreement procedures
- Prepare the base for “combined investigation” with subsequent “combined approvals” – allow Maintenance Approvals to join



Step 1 – New AMC-ELA for small organisations

Challenges

- Educate the affected people towards the cultural change when performing product oriented POA- oversight
- Short term action that will need adjustment when the BR changes

Opportunities

- AMC-ELA makes the EASA direction for the lower end of GA immediately accessible
- Possibility for adjustment when the BR changes allows to rapidly adopt Lessons Learned



Way Ahead



Recap:

- Scope of this workshop:
 - Feedback and discussion to the proposed implementation of Step 1
- Unique situation: Step 2 to follow immediately:
 - New Basic Regulation will require re-definition of Part-21
 - Re-definition of Part-21 will allow for follow-on steps for light aviation:
 - Apply “lessons learned” to AMC-ELA from pilot phase
 - Implement declarative elements
 - Adopt an objective rule approach, making use of AMC
 - New BR is expected to allow declarative elements



Step 2 Opportunities

- Elements defining Step 2 opportunities:
 - Use experience from existing declarative systems
 - Option – use of an “assisted” declaration system
 - Guide the applicant & encourage to use experienced staff
 - Declaration requires submission of content statements
 - Option - system oversight by Authorities using spot-checks
 - experience level of applicant gives credit
 - Option - explore next bigger product categories
 - Required - connect seamless to Step 1 AMC-ELA approach



Wrap-up and now...

- Main issues identified and discussed....
- EASA will amend the proposed AMC-ELA as necessary, based upon the received feedback
- The amended AMC-ELA will be forwarded to the NAA and Stakeholders advisory bodies (3 weeks comment period)
- Followed by a Direct Decision publication (Summer 2017)



EASA

European Aviation Safety Agency

Your feedback is required:

→ Does this give you the improvement
that you need to make GA grow
again?

Your safety is our mission.

An agency of the European Union

