



**COMMENT RESPONSE DOCUMENT (CRD) PART I  
TO NOTICE OF PROPOSED AMENDMENT (NPA) 2008-07**

**for a commission regulation amending commission regulation (EC) No 1702/2003,  
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**

***“ELA process” and “standard changes and repairs”***

**and**

**for introducing an Executive Director Decision on certification specifications and  
acceptable means of compliance, for Light Sport Aeroplanes (« CS-LSA »)**

**Reactions to this CRD Part I (2008-07a) should be submitted via the CRT by clicking  
the '*add a general reaction*' button. Please indicate clearly the applicable paragraph.**

## Explanatory Note

### I. General

1. The purpose of the Notice of Proposed Amendment (NPA) 2008-07, dated 17 April 2008 was to:
  - amend Commission Regulation (EC) No 1702/2003<sup>1</sup>. As the amendments only affect Annex (Part-21) of this regulation, all references hereafter will be to Part-21.
  - introduce Certification Specifications and Acceptable Means of Compliance for Light Sport Aeroplanes.(« CS-LSA »).
2. The scope of this rulemaking activity is outlined in ToR MDM.032 and is described in more detail in the NPA.

### II. Consultation

3. NPA 2008-07 was published on the web site (<http://www.easa.europa.eu>) on 18 April 2008.

By the closing date of 18 July 2008, the European Aviation Safety Agency ("the Agency") had received 843 comments from 79 National Aviation Authorities, professional organisations and private companies.

### III. CRD structured into Part I and Part II.

4. Due to the complexity of the issue proposed in NPA 2008-07, the number of comments received to this proposal and the review group discussions, it was decided to create a Comment Response Document (CRD) in two parts. **This document (CRD 2008-07 Part I) contains an explanatory note providing a comprehensive summary of the discussions, conclusions, the resulting text proposal for the changes to Part-21 and the way forward.** A second document (CRD 2008-07 Part II) will contain all the comments, responses and the resulting text of the proposed new Certification Specifications, and will be published shortly after this Part I.

### IV. Publication of the CRD Part I and Part II.

5. Reactions to CRD 2008-07 **Part I** should be received by the Agency **not later than 15 September 2010** and should be submitted using the Comment-Response Tool at <http://hub.easa.europa.eu/crt>.
6. The Agency's Opinion proposing amendments to Part-21 will be issued at least two months after the publication of this CRD 2008-07 **Part I** to allow stakeholders to react to possible misunderstandings of discussions and comments on the Part-21 Opinion as reflected in the explanatory note and resulting text.

---

<sup>1</sup> Commission Regulation (EC) No 1702/2003 of 24 September 2003 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 (*OJ L 243, 27.9.2003, p. 6*) as last amended by Commission Regulation (EC) No 1194/2009 of 30 November 2009 (*OJ L 321, 8.12.2009, p. 5*).

**CRD 2008-07 (Part I)****Table of contents:**

- (a) General comments and resulting two phases approach
  - 1. *The first phase: an opinion to modify Part-21 and amendments to Certification Specifications*
  - 2. *The second phase: a new NPA proposing modification to the Basic Regulation*
  
- (b) The Opinion to Part-21 and changes compared to the NPA:
  - 1. *Type certificates and restricted type certificates*
  - 2. *Criteria for ELA 1 and 2*
  - 3. *Demonstration of capability for design*
  - 4. *Demonstration of capability for production*
  - 5. *Combined POA/DOA*
  - 6. *Qualified entities*
  - 7. *Parts that do not need an EASA Form 1*
  - 8. *Changes to CS-LSA and use of Industry Standards*
  - 9. *Standard changes and repairs*
  - 10. *Harmonisation with FAA*
  
- (c) The resulting text of Part-21

**(a) General comment and resulting two phases approach.**

The NPA was received with mixed feelings. Many commentators expressed the view that the NPA was not achieving what they wanted i.e. a certification comparable to what exists in the USA (the Light Sport Aircraft rule), which does not include organisation approvals or significant involvement of the Federal Aviation Administration (FAA).

A thorough review of comments has led to important modifications to the proposals that were included in the NPA, and has also led the Agency to propose a two-phase approach to this issue.

1. The first phase: an opinion to modify part-21 and amendments to certification specifications

In this first phase, the Agency will remain within the framework of the Basic Regulation<sup>2</sup>, and only introduce a simplification of the existing certification process that is more proportionate. This simplification has advantages, such as the creation of a European Light Aircraft (ELA) process (with two sub-processes: ELA 1 and ELA 2) including:

- the issue of Type Certificates or Restricted Type Certificates, as appropriate, with simplified or adapted requirements for organisations approvals;
- the creation of an approach by which not all parts need an EASA Form 1;
- the creation of two new Certification Specifications (CS) called;
  - CS-LSA (Light Sport Aeroplanes), based on American Society for Testing and Materials (ASTM) standards;
  - CS-23Light (Light aeroplanes up to 1200 kg);
- proposing an extension of the scope of CS-VLA and CS-22; and
- the allocation of certification tasks to qualified entities in addition to National Authorities.

The Agency wishes to stress the use of the word '*process*': ELA has not created categories of aircraft. ELA 1 and ELA 2 provide new means to achieve certification for the aircraft they are applicable to. Aircraft using the ELA process will have the same airworthiness certificates as aircraft using the present Part-21 process.

The Agency will issue these approvals because the introduction of the new ELA process does not change the Basic Regulation. The applicant pays the fees to EASA and EASA needs to set up contracts with the National Aviation Authority (NAA) or qualified entities for the allocated tasks. Also the fees and charge Regulation adopted by the Commission remains applicable even though this is considered by stakeholders as being a major hindrance to certification of new aircraft or to certification of changes or repairs to existing aircraft.

Modifying the fees and charges systems would necessitate an in-depth further study. Several stakeholders made the following proposal:

- *use the financing based on small fee from air tickets - the same as is used in the USA. Such system will assure financing of EASA system without significant increase of air ticket price.*

The Agency will draw the attention of the Commission to this proposal in its Opinion.

The Agency will issue an Opinion for the modification of Regulation 1702/2003 to simplify the certification process as outlined above. Once adopted by the Commission (on average within

---

2 Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) no 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1).

a year), this amendment of Part-21 will allow applicants to benefit from such simplifications for applications received thereafter. Designers of existing aircraft complying with the ELA applicability criteria will also be able to make use on a voluntary basis of the relevant provisions of Part-21.

The modification of Part-21 outlined above is found by the Agency to provide a level of safety proportionate to the risks and will not create undue harmonisation issues with the FAA.

The safety concerns in relation to the simplification of rules are known and the need to proceed with caution is agreed. However, the Agency believes that what is proposed establishes an adequate safety level. Indeed the Agency retains the need for identified design standards (CS) and compliance with these standards will be found by EASA. As a minimum, the capability for design will be evaluated by approving the certification programme by EASA. These findings and evaluations will be based on technical visas issued by accredited NAAs or qualified entities that comply with the criteria laid down in Annex V of the Basic Regulation. (refer to paragraph (b)6 of this CRD for the position on Qualified Entities) In addition, the actual safety level will be monitored using the present system. The Agency wishes to point that the obligation to report is already included in Part-M (paragraph MA.202). The obligation to analyse occurrences is included in Part-21 for TC holders. Therefore the Agency believes that there is no need to include a compulsory reporting system for recreational aviation in the opinion.

The annual safety review for 2007 already includes data for aircraft below 2250kg. The Agency intends to further develop this review to cover aircraft certified following the ELA process and to monitor the trends.

## 2. The second phase: A new NPA proposing modifications to the Basic Regulation

Separate from the current task, the Agency will propose a new NPA (or NPAs) to modify the Basic Regulation, proposing the deregulation of a certain segment of light aviation. The objectives of that new proposal may be summarised as follows:

- To propose the necessary modifications to the Basic Regulation and EASA implementing rules to achieve an adapted and accepted level of regulation for aircraft eligible for the ELA 1 process for airworthiness, maintenance, operations and licensing.
- To harmonise the above with other authorities (FAA/Transport Canada (TCCA) etc.)
- To review the essential requirements for airworthiness to ensure that they are adequate for small aircraft and proportionate.
- To propose that a TC is not needed for engines and propellers for some ELA aircraft: most are day VFR with low stalling speed. Requesting a TC for engine and propeller is considered to be not proportionate. Of course, engine and propellers would be required to comply with technical requirements.
- To ensure that self sustained powered sailplanes equipped with a turbojet are considered non-complex aircraft.

This proposal to modify the Basic Regulation will follow the rulemaking process, thereby allowing full consultation with stakeholders and is likely to be supported by studies. The corresponding rulemaking task should start before the end of 2010, and an Opinion should be issued in 2013. The Agency wishes to point out that, in its Opinion proposing an amendment to Part-21 (refer to the first phase), it will not propose any modifications to the scope of Annex II. If the manufacturer of an aircraft originally classified in Annex II wishes to increase the Maximum Take-Off Mass of the design beyond the limits of Annex II, it will have to comply with requirements applicable to ELA, including design and production requirements.

**(b) The opinion to Part-21 and changes compared to the NPA**

The Opinion will keep the ELA process as follows:

1. Type certificates and restricted type certificates:

Comments have shown that the requirement of type certificates for engine and propellers (Article 5(2)(a) of the Basic Regulation) may be too restrictive (Main reason quoted being fees and charges and organisation approvals for non-aviation manufacturers) for LSA, powered sailplanes, ELA 1, airships and possibly VLA.

The proposal would be to issue restricted type certificates for aircraft that use non-certified engines and propellers as proposed in [Opinion No. 03/2009](#). This will be of no consequence for the operation of such aircraft (e.g. commercial, training) as the draft operational rules envisage that the only limitations for the use of an aircraft are those included in its data-sheet.

Of course, the option to apply for an aircraft (full) type certificate would remain open.

2. Criteria for ELA 1 and ELA 2:

Summary of the NPA proposal.

*The intention of the NPA was to create a lighter regulatory regime based around a new process for the **European Light Aircraft (ELA)**. ELA is not a new category of aircraft defined by criteria such as stalling speed or certification code, but is a substantially simpler new **process** for the regulation of aircraft and related products, parts and appliances. The intention is to issue type certificates for the type and certificates of airworthiness for the individual aircraft. The ELA is sub-divided into two sub-processes: ELA 1 and ELA 2, applicable for certain type of aircraft.*

The concept of two sub-processes is retained with the following changes:

The choice of 1000 kg to discriminate between aeroplanes that would be ELA 1 was intended to cover existing upper weight limits of airworthiness codes such as CS-VLA and CS-22 and the known intention of the Agency (based on existing special conditions) to increase such weights (e.g. 890 kg for VLA and 900 kg for CS-22)

When selecting 1000 kg, it was intended to allow the so-called 2+2 aeroplanes. Based on arguments presented by commenters, an increase of the weight limit of ELA 1 to 1200 kg for aeroplanes is considered more appropriate.

This new limit will necessitate a modification to Commission Regulation (EC) No 2042/2003, as it has introduced the concept of ELA 1 up to 1000 kg; an Opinion to do so will be issued simultaneously with the Opinion to amend Part-21.

The full picture of Certification Specifications for aeroplanes up to 1200 kg will therefore be as follows:

- **CS-LSA (new)**

Up to 600 kg for land-planes and 650 kg for float-planes and amphibians.

Night VFR may also be accepted when complying with an appropriate appendix to CS-LSA. This appendix will include in particular the necessary additional specifications for powerplant and systems

- **CS-VLA**

Up to 890 kg.

A rulemaking task, VLA.008, will increase the maximum limit to 3 seats, 890 kg, IMC and night VFR based on existing special conditions.

- **CS-23Light (new)**

Up to 1200 kg.

A 'CS-23Light' based on FAR-23 at amendment 7 will be drafted. The reason for this proposal is that the vast majority of existing aeroplanes in that weight range have been certificated to this standard. Of course, there will be a need to complement this initial basis by certain special conditions to cover new technologies such as composites and electronic flight instrument systems. This CS-23Light has not been proposed before and requires full consultation. A new NPA will be drafted as part of this rulemaking task to carry the proposal for this new CS.

- **CS-22**

Up to 900 kg for sailplanes and powered sailplanes. The future rulemaking task 22.010 will increase the applicability to 900 kg, based on existing special conditions.

Note: For the long term, a rulemaking task will be created to evaluate the benefits of merging CS-VLA and CS-23Light and harmonise with the FAA.

The criteria for ELA 1 have also been increased to include hot air airships up to 3400 m<sup>3</sup> and 4 occupants, to better reflect the state of the art and to be consistent with what is accepted for aeroplanes.

Comments received on the NPA, as well as questions following the closure of the comment period, have also addressed certain special aircraft: ultra-light balloons, gyroplanes, flex-wing aeroplanes, and unmanned aircraft. In relation to these, the Agency considers that:

- *Ultra-light balloons* are balloons where the envelope and the burner are fixed to a harness carried by the pilot. If they meet the Annex II criteria - either homebuilt or empty weight (seat, fuel system, envelop, burner) including fuel below 70 kg -, they can be certified by NAAs under national Regulations. If they do not meet this criterion, they could be certificated using the ELA 1 process.
- *Gyroplanes* with a maximum take-off mass below 560 kg fall under the remit of Annex II. As this criterion was considered to encompass the vast majority of gyroplanes, there was no consideration given to gyroplanes in the NPA. The Agency was approached by a designer who is planning a gyroplane with a maximum take-off mass of 750 kg. After consultation with the review group, the Agency considers that the process used in such a case should be ELA 2. Certification codes could be based on VLR or CS-27.
- *Flex-wing/weight shift aircraft/powered parachute aircraft not meeting* the Annex II criteria are subject to the ELA process. The Certification Specifications are to be defined when necessary.
- *Unmanned aircraft*: the ELA process is not applicable to such aircraft because they are of a complex design.

### 3. Demonstration of capability for design:

#### Summary of the NPA proposal.

*The demonstration of capability for design proposed in the NPA was as follows:*

- *ELA 1: Approval of certification programme by the Agency in lieu of DOA or Alternative Procedures (AP) to DOA although the applicant may elect to have a higher design approval.*
- *ELA 2: AP to DOA will apply although the applicant may elect to have a higher design approval.*
- *Above 2000 kg and associated products; full DOA will apply.*

The minimum requirement remains the certification programme for ELA 1 and alternative procedures to DOA (APDOA) for ELA 2. The certification programme helps to start a project as

no organisational approval is needed. However, it does not give any privileges to the holder after the Type Certificate or Restricted Type Certificate (RTC) and all changes and repairs will have to be approved by the Agency. Therefore, the Agency proposes to introduce a simplified means of compliance to Part-21 Subpart J as an option for ELA. The Opinion will not propose changes to Part-21 Subpart J, but AMC will be developed to make compliance showing easier. Also a standard handbook will be developed as an AMC that can be used as a tool to draft the necessary material.

This would allow scenarios such as a certification programme for ELA 1 or APDOA for ELA 2 to start a project until TC or RTC are issued, followed by a DOA using simplified means of compliance (also combined with POA) for continuing airworthiness, repairs and modifications.

The review group also considered an alternative concept where not all changes would be considered as changes to the type certificate and therefore would not need an Agency's approval or DOA. Although this concept had merit, the review group considered, and the Agency concurred, that the concept of DOA using simplified means of compliance was more appropriate and would be easier to implement.

#### 4. Demonstration of capability for production.

##### Summary of the NPA proposal.

*The Production Organisation Approvals (POA) was proposed to be handled as at present, except that a simplified process would be introduced for ELA. More specifically the requirement for a quality system would be replaced by a requirement for organisational reviews. This was seen by the affected stakeholders as beneficial. It should be noted that similar simplification has been envisaged for Part-M. Also a Production Organisation for ELA 1 was proposed to have the privilege to maintain the products they have manufactured and to issue the corresponding release into service.*

The NPA proposal for Part-21 Subpart G is not retained since only a marginal difference with the current requirements was proposed and only limited benefit would be derived from this change. Also experience has shown that with the current Subpart G a POA can be issued even for very small organisations. Instead, the Agency proposes to introduce a standard detailed exposition as AMC material.

Acceptance of manufacturers that "hold" an ASTM or ISO qualification can not be seen as an "approved" alternative to a POA. These "approvals" are not issued and controlled as required by the Basic Regulation. It would however be possible to benefit both in content and time from the implementation of these standards by showing that the implemented procedures comply (partly) with the POA requirements of Part-21 Subpart G. This could be reflected in the above mentioned AMC.

#### 5. Combined organisation approval for design and production.

##### Summary of the NPA proposal.

*A combined DOA/POA was proposed for ELA. This takes the form of a new Subpart L that put together the requirements for production and the requirements for design that would have to be complied by such an organisation.*

*It would lead to the issue of one certificate if the Member State would request the Agency to issue the certificate for production in accordance to article 20(2)b(ii) of the Basic Regulation. In such instance the benefits would be maximised: on set of fees and charges; one set of audits and one team.*

*If this does not happen, the concept would still work but in order to comply with the Basic Regulation, two certificates would have to be issued: one by the Agency, one by the Member State. The Agency could allocate the tasks of the DOA investigation to the Competent*

*Authority of the Member State. In such case the benefits would be limited to one team, one set of audits but there would be separate certificates and separate fees and charges.*

*This situation is proposed in a new Subpart L.*

Although comments received confirmed the difficulties mentioned in the NPA to implement such a concept, it has been retained as an option because it was introduced at the request of Industry. It also allows for the coordination of the oversight of the organisation. Coordination of the oversight should consider and take account of the differences in audit intervals between production and design.

The privilege to do repair and overhaul introduced by the NPA in a combined approval raised a number of concerns related to fairness in relation to approved maintenance organisations in Part-M. Because the current maintenance rules for pilot owner maintenance (Refer to M.A.803) and release by certifying staff (Refer to M.A.801(c)) provide options to perform maintenance on ELA 1 aircraft, it has been decided to only keep the maintenance privilege that currently exists for POA (only for new aircraft).

With respect to combined approvals, the Agency also would like to highlight the ICAO initiative on Safety Management Systems (SMS). The aim of the SMS system is to create a consistent framework which would provide flexibility for organisations that conduct business in more than one sector. It aims to allow various acceptable methods of compliance and recognition of existing safety systems. It is expected that this aim of SMS will address the objective captured in the combined organisation approvals. At the same time a provision exists in AMC M.B.704(b)(6) that encourages combining audits for separate approvals.

#### 6. *Qualified entities:*

##### *Summary of the NPA proposal.*

*Today the Agency can only allocate tasks to accredited national authorities. This is defined by Management Board decision 04-2005 dated 3 May 2005<sup>3</sup>. When doing so the Agency remains responsible to issue the relevant certificates or approvals. The limitation to accredited national authorities only was due to the fact that the previous basic regulation (Regulation (EC) No 1592/2002) did not provide criteria for qualified entities. Present Basic Regulation (Regulation (EC) No 216/2008) has clarified the concept of qualified entities (QE) in particular in introducing an Annex stating the requirements they need to comply with. The Agency will use such QE in the certification process when it will be found to improve the overall efficiency of the process and because it could increase the proximity with applicants and cope for the case where national authorities don't have the resources to be allocated tasks by the Agency.*

*QEs are defined in Regulation 216/2008 and the definition reads as follows:*

*"Qualified Entity" means a body which may be allocated a specific certification task by, and under the control and the responsibility of, the Agency or a national authority.*

*QEs for design issues will be appointed by the Agency and are organisations that have demonstrated to the Agency that they have the technical capability and independence to confirm findings of compliance (The criteria for appointing Qualified Entities is included in the Appendix V of the Regulation that replaces the Basic Regulation). The concept is that QEs would be derived from existing or new Sporting Organisations. QEs may be specialised, limiting their terms of approval to specific categories of aircraft: sailplanes, LSA, Very Light Rotorcraft, etc. Within each member state there may therefore be more than one QE.*

---

<sup>3</sup> Decision of the Management Board on guidelines for the allocation of certification tasks to national aviation authorities or qualified entities. Indeed the Management Board is responsible to define guidelines for allocating such tasks in accordance with Article 33(2)d of the Basic Regulation.

*These QEs would be used by the Agency in addition to the already accredited national authorities.*

*QEs for production may be appointed by a Competent Authority of the member state because Member States are competent to issue Production Organisation Approvals.*

*It is clear that qualified entities have no legal competences and can not issue certificates or legal approvals. That would remain the competence of the Agency or the Competent Authority.*

*In addition to accreditation and oversight procedures for QE involved in design, there will be a need to define appropriate working procedures between the Agency and those qualified entities so that the ELA process is fully effective and that the QE are the day to day interface with applicants.*

There were many comments on the concept of qualified entities. They addressed the following points:

- the expected benefits;
- their exact role;
- their level of involvement in certification activities;
- how they will be accredited;
- what would be the limitations put on their scope and area of coverage (the possibility of having pan-European organisations was specifically asked);
- what would happen if a qualified entity ceased to exist;
- the resources for the Agency to adequately monitor the accredited qualified entities;
- how would they exist in parallel with National Authorities.

The Agency recognises that these are valid points and has set-up an internal working group to address the outsourcing of its activities. The working group has made the following proposals that are different from the concept originally envisaged by the NPA:

- qualified entities should have applied for Agency's accreditation;
- the applicant should be able to propose its selected qualified entity for Agency's approval.

The proposals of the EASA internal working group result from the wish to build on the current system for outsourcing (contracts with NAAs).

The Agency is in the process of defining the areas where it wishes to outsource. When this is done, calls for tenders in accordance with the Agency's procurement procedures will be published. Additional detailed criteria to those of Annex V to the Basic Regulation will be introduced in the call for tender to select and accredit organizations. The procedure will define the principles for allocation of tasks. The accreditation procedure and the detailed criteria for accreditation are under development. The Agency will pay particular attention to clarifying the criteria concerning independence from industrial activities.

The EASA Management Board has not yet adopted the policy for using Qualified Entities

## 7. *Parts that do not need an EASA Form 1:*

### *Summary of the NPA proposal.*

*The purpose is to limit the burden on stakeholders while maintaining an acceptable level of safety. Several options were explored including envisaging a system of owner-produced parts comparable to the one that exists in the US. The NPA proposal was to limit the applicability of the number of parts that need a form 1 to ELA 1 and ELA 2. This would only be possible for parts which are produced under the responsibility of the aircraft owner for installation on his*

own aircraft. For ELA 1 this possibility would be open to all parts but for ELA 2 it would be limited to those that are not life limited parts and appliances, not primary structure and not flight controls. Maintaining an acceptable level of safety would be achieved by following two safeguards:

- The airworthiness review by the Competent Authority or the CAMO
- The requirement that the part must comply with an approved design

This issue has been the subject of many comments addressing the following issues:

- applicability to commercial activities or limitation to non-commercial activities only;
- traceability;
- criteria for parts that would not need an EASA form 1.

The review of the comments indicates that the proposals made in the NPA may have been too ambitious. As a consequence the following is proposed:

- EASA now proposes that the ELA 2 criteria (EASA Form 1 is required for primary structure, flying controls, or life limited parts) apply for both ELA 1 and ELA 2 unless, in the case of ELA 1, the owner is able to produce a declaration of conformity to the approved design.
- AMC material will be developed to provide details on the process for "parts without an EASA form 1":
  1. No organisational approval needed.
  2. Obligation on the owner to obtain the relevant approved data.
  3. Specifies contents of declaration to be signed by owner.

With this proposal, it is not necessary to limit ELA to non-commercial operations. This procedure is intended to address the replacements of parts and modifications after TC or RTC.

Comments regarding traceability showed that parts marking should be maintained for all parts. Therefore the proposed changes to 21A.804 and 21A.805 are not kept.

## 8. Changes to CS-LSA

### Summary of the NPA proposal.

*The NPA proposes the creation of a Certification Specification for Light Sport Aeroplanes. This Certification is envisaged to allow such aeroplanes that are currently produced in Europe to be sold and used in Europe, which is currently not the case. The definition of Light Sport Aeroplane is slightly different from the one used in the USA based on the experience of European industry. However the airworthiness code is the ASTM International standard F2245 that is also used in the USA and other countries for the airworthiness approval of such aeroplanes.*

*The envisaged certification specification incorporates by reference this standard. This standard has been chosen because it is used without adverse service experience in several countries.*

*The Agency intends to participate in the ASTM International standard development process to ensure the standard provides an adequate level of safety. The Agency reserves the right to complement this standard in the CS-LSA when justified by service experience.*

*Light Sport Aeroplanes would become one of the aircraft categories covered by the ELA process.*

The Certification Specification CS-LSA as proposed in NPA 2008-07 was welcomed by commentators. Nevertheless it needs some amendment to include parts of other ASTM Standards, as ASTM F2245 is only one part of the ASTM Standards for LSA and does not cover the full range of initial airworthiness. CS-LSA also needs to be adapted to the European LSA

approach and some additional requirements are necessary for aeroplanes exceeding the FAA LSA Definition (14 CFR Part 1.1) in speed and complexity.

The FAA approach for LSA with a self declarative system and a special airworthiness certificate is fundamentally different from the traditional European approach with Type Certification and Certificate of Airworthiness (CofA) for LSA aeroplanes. Regardless of these differences, the technical standards should be harmonised as much as possible to allow an open market for LSA between the U.S. and Europe. MDM.032 intended to establish rules and procedures to enable the certification of aeroplanes meeting the FAA LSA Definition ([14 CFR Part 1 Definitions and abbreviations](#)) without significant modifications. For example, compliance with the ETSO Standards is only required for equipment that is required for safe operation in the European air traffic environment (e.g. radio, transponder, nav-lights). Other installed equipment does not need to meet ETSO standards and the approval of equipment can be included in the type certification or in post-TC installation approval.

The majority of sales of LSA aircraft within USA are made by manufacturers that are based in European countries. For these manufacturers it is essential that their specific aircraft type and model, as exported to the USA, must be certifiable in the same configuration, with the same limitations, in its country of manufacture as this is required by the FAA (14 CFR Part-21.190 (d)). The European certification basis should therefore be as close as possible to the FAA requirements, which are the ASTM consensus standards.

To avoid repeating the present issue with microlight that fly frequently above their maximum take-off mass when two adults and full fuel are on board, this issue is addressed in the CS-LSA by defining an operational limitation for the maximum empty weight established during the type certification. It will be proposed to the ASTM to develop a higher payload requirement. CS-LSA should not introduce a higher requirement for Europe only as this could exclude designs that would have a safety level complying with CS-VLA or CS-23. This would not be in line with the harmonisation of technical standards.

The scope of the CS-LSA has also been discussed based on comments that suggest full harmonisation with FAA (the scope proposed by the NPA allows higher performance aircraft than the ones allowed by FAA) and comments in relation to the compliance of ASTM standards with our essential requirements: the applicability is kept and for the 'high speed' LSA an 'appendix' will be defined based on CS-VLA. This appendix will be proposed to ASTM for future consideration to be included in their standards.

Several questions were asked on the acceptability of industry standards and practical issues related to reference to external standards.

ASTM standards are not directly used by EASA: they are referenced in CS-LSA, a certification code that is under the control of EASA. EASA needs to establish a rulemaking process to accept later revisions to ASTM standards. As there is a similar process required for FAA acceptance of new ASTM revisions, CS-LSA amendments could be processed in parallel. The Agency can always introduce further provisions in CS-LSA if necessary to ensure an appropriate level of safety. In addition, EASA plans to participate in the ASTM process in order to ensure that EASA standards are incorporated and the technical standards are harmonised.

CS-LSA will reference ASTM Standards with defined revision status. This CS-LSA will be used as standard certification basis for TC/RTC applications at the time of application. This fixed certification basis gives certainty for the applicant as to which standards he has to show compliance with. The TC-Holder can apply for upgrading the certification basis to later amendments of CS-LSA on a voluntary basis.

Essential Requirements for initial airworthiness are given in Annex I of the Basic Regulation. CS-LSA has been checked against CS-VLA and CS-22 to confirm that no essential omissions exist. In general, it can be stated that structural and performance aspects match the CS-VLA philosophy. Design and Construction, Systems and Equipment philosophy match the CS-22 philosophy, applicable for powered sailplanes. Therefore it can be considered that the EASA certification basis for LSA complies with Annex I of the Basic Regulation. As in some areas the

missing guidance material could lead to problems, additional information was introduced in the CS-LSA (for example clarification of demonstration for fatigue).

Access to ASTM standards for LSA can be obtained at a cost of 75 USD. This allows also for commenting and developing the standards. It should be noted that CS-ETSO refers to documents of standardisation bodies that can be obtained at a fee and this does not create insurmountable problems.

*CS-LSA will also reference acceptable European standards for propellers and engines (CS-E, CS-22 Subpart H and J).*

The Agency considers that CS-LSA making use of references to ASTM Standards is a detailed airworthiness code complying with ICAO Annex 8.

## 9. Standard changes and repairs

### Summary of the NPA proposal.

*Standard changes and repairs (New 21A.96 and 21A.436) are proposed for aeroplanes below 5700 kg, rotorcraft below 3175 kg MTOM, sailplanes, powered sailplanes, balloons and airships. No application would be needed and the change/repair would be deemed approved by the Agency when in accordance with a new dedicated Certification Specifications (CS) that would detail such changes and repairs. The dedicated CS will be based on Federal Aviation Administration (FAA) Advisory Circular (AC) 43-13 1B and 2B as appropriate. It may be necessary to do a proper evaluation of these two AC when developing the CS. As the Agency will approve the dedicated CS after a rulemaking process leading to decisions by the Executive Director, it is considered that this act is comparable to the direct approval of individual modifications. The CS would be adopted by the Agency following the usual rulemaking process and the benefit of such consultation is to ensure that the contents of the CS achieve the proper level of safety.*

In general the proposal for standard changes and repairs is supported. Comments show that there is some concern regarding classification of standard changes and repairs. These standard changes and repairs are however not classified as minor or major, but will have a dedicated "approval" through the rulemaking process when such an approved change or repair is introduced in this CS. The standard repairs and changes in the CS therefore are actually approved data that a maintenance organisation may use in accordance with Part-M.

## 10. Harmonisation with FAA

EASA intends to establish a long term harmonisation on LSA with the FAA (and other authorities) by working in close cooperation with the FAA in the follow-up of their FAR-23 CPS study and in the ASTM process.

With respect to harmonisation with the FAA, the following would apply for import/export of LSA between US and Europe when Part-21 is changed as proposed by this rulemaking task:

### 1) Import of US-LSA to EASA countries

Non European LSA have to comply with EASA regulations:

- Issuance of TC or RTC for the type design
- Issuance of CofA or restricted CofA for the individual aircraft.
- Statement of conformity for production by POA

The compliance with European CS-LSA should not be a problem as the specifications mainly refer to the ASTM standards and differences mainly address the wider scope of European LSA.

A restricted TC might be issued to TC-Holder outside of EASA as it is not clear if EASA could act as "state of design" according ICAO. Main barrier for smaller non European manufactures are the related costs as travel expenses outside Europe for certification and auditing teams have to be paid by the applicants.

## 2) EU-LSA Export to the US

The eligibility criteria for US-LSA are defined in Section 6 of FAA ORDER 8130.2F "LIGHT-SPORT CATEGORY AIRCRAFT AIRWORTHINESS CERTIFICATIONS":

*" ... b. Eligibility. LSA are eligible for a special airworthiness certificate in the LSA category in accordance with § 21.190 when the aircraft has not been previously issued a standard, primary, restricted, limited, or provisional airworthiness certificate, or an equivalent airworthiness certificate issued by a civil aviation authority outside the United States, ....."*

According this regulation used aircraft are excluded, but new aircraft that never received a standard, primary, restricted, limited, or provisional airworthiness certificates issued to the individual aircraft are eligible.

*"The aircraft manufactured outside the United States is eligible for an airworthiness certificate, flight authorization, or other similar certification in its country of manufacture. ..."*

It is required that the individual aircraft would have been eligible for some kind of airworthiness certificate or flight authorization. This requires acceptance or approval for the type in Europe. TC or RTC in Europe is fulfilling this requirement.

The European approach of RTC or TC for LSA will not prevent European LSA exported to the US if they have not received any individual certificate of airworthiness.

**(c) The resulting text of Part-21**

The text of the amendment is arranged to show deleted text, new text or new paragraph as shown below:

1. deleted text is shown with a strike through: ~~deleted~~
2. new text is highlighted with grey shading: **new**
3. .... Indicates that remaining text is unchanged in front of or following the reflected amendment.

Note 1: Comments received that address formatting such as bulleting or editorial corrections have been addressed but are not grey shaded as a change when they are consistent with the current text of Part-21 or within already grey shaded text changes.

Note 2: The proposed change to 21A.47 is removed because this paragraph will be consistent with the proposed amendment of opinion 03/2009. For more information also refer to CRD 2008-064 in the EASA website.

Note 3: The proposed paragraph 21A.96 is re-numbered to 21A.98 because it created a split between the minor and major changes paragraphs. Standard changes do not contain the concept of minor or major change classification.

**SECTION A****SUBPART B****21A.14 Demonstration of capability**

(a) ...

(b) By way of derogation from paragraph (a), as an alternative procedure to demonstrate its capability, an applicant may seek Agency agreement for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this Part, when the manned aircraft, engine or propeller is one of the following:

1. ~~a very light aeroplane or rotorcraft, a sailplane or a powered sailplane, a balloon, a hot air airship; or~~
2. ~~a small aeroplane meeting all of the following elements:~~
  - (i) ~~Single piston engine, naturally aspirated, of not more than 250 hp Maximum Take-Off Power (MTOF);~~
  - (ii) ~~Conventional configuration;~~
  - (iii) ~~Conventional material and structure;~~
  - (iv) ~~Flights under VFR, outside icing conditions;~~
  - (v) ~~Maximum 4 seats including the pilot and maximum take off mass limited to 3000 lb. (1361 kg);~~
  - (vi) ~~Unpressurised cabin;~~
  - (vii) ~~Non-power assisted controls;~~
  - (viii) ~~Basic aerobatic flights limited to +6/-3g; or~~
3. ~~a piston engine; or~~

---

4 See page: <http://easa.europa.eu/rulemaking/r-archives.php>

- ~~4. an engine or a propeller type-certificated under the applicable airworthiness code for powered sailplanes; or~~
- ~~5. a fixed or variable pitch propeller.~~

1. an aeroplane with a Maximum Take off Mass (MTOM) less than 2000 kg that is not classified as complex-motor-powered aircraft
2. a sailplane or powered sailplane with a MTOM less than 2000 kg
3. a balloon
4. a hot-air airship
5. a gas airship meeting all the following elements:
  - (i) 3% maximum static heaviness
  - (ii) Non vectored thrust (except reverse thrust)
  - (iii) Conventional and simple design of:
    - Structure
    - Control system
    - Ballonet system
  - (iv) Non power assisted controls
6. a Very Light Rotorcraft
7. an engine installed in aircraft referred to in this paragraph
8. a propeller installed in aircraft referred to in this paragraph
9. a piston engine; or
10. an engine or a propeller type-certificated under the applicable airworthiness code for powered sailplanes; or
11. a fixed or variable pitch propeller.

- (c) By way of derogation from paragraph (a), an applicant may elect for demonstration of capability through Agency approval of a certification programme detailing the means for compliance demonstration when the manned aircraft, engine or propeller is one of the following:

1. an aeroplane with a MTOM less than 1200 kg that is not classified as complex-motor-powered aircraft
2. a sailplane or powered sailplane with a MTOM less than 1200 kg
3. a balloon with a maximum design lifting gas or hot air volume of not more than:
  - (i) 3400 m<sup>3</sup> for hot-air balloons
  - (ii) 1050 m<sup>3</sup> for gas balloons
  - (iii) 300 m<sup>3</sup> for tethered gas balloons
4. an airship designed for not more than 4 occupants and a maximum design lifting gas or hot-air volume of not more than:
  - (i) 3400 m<sup>3</sup> for hot-air airships
  - (ii) 1000 m<sup>3</sup> for gas airships
5. an engine installed in aircraft referred to in this paragraph
6. a propeller installed in aircraft referred to in this paragraph

7. a piston engine; or
8. an engine or a propeller type-certificated under the applicable airworthiness code for powered sailplanes; or
9. a fixed or variable pitch propeller.

### 21A.35 Flight Tests

- (a) Flight testing for the purpose of obtaining a Type Certificate shall be conducted in accordance with conditions for such flight testing specified by the Agency.
- (b) The applicant shall make all flight tests that the Agency finds necessary:
  1. To determine compliance with the applicable Type Certification basis and environmental protection requirements, and
  2. For aircraft to be certificated under this section, except:
    - (i) ~~hot air balloons, free gas balloons, tethered gas balloons,~~ sailplanes and powered sailplanes, and
    - (ii) balloons and airships defined in paragraph 21A.14(b) or 21A.14(c) and
    - (iii) ~~airships and~~ aeroplanes of 2722 Kg or less Maximum Take-Off Mass (MTOM),

to determine whether there is reasonable assurance that the aircraft, its parts and appliances are reliable and function properly.
- (c) ....

## SUBPART D

21A.97....

### 21A.98 Standard changes

By way of derogation to paragraph 21A.91, the following applies to standard changes:

- (a) Applicability: This paragraph is applicable only to aeroplanes with a Maximum Take-Off Mass (MTOM) below 5700 kg, rotorcraft with a MTOM below 3175 kg, sailplanes, powered sailplanes, balloons and airships as defined in paragraph 21A.14(b) or 21A.14(c).
- (b) Standard changes are defined in a certification specification adopted by the Agency. The certification specifications contain acceptable methods, techniques and practices for such changes and include the associated instructions for continuing airworthiness.
- (c) The standard change is deemed to be approved by the Agency when it is designed in accordance with the certification specification mentioned in paragraph (b) and not contrary to TC holder's data.

21A.101 ....

## SUBPART E

### 21A.112B Demonstration of capability

- (a) .....
- (b) .....
- (c) By way of derogation from paragraph (a) and (b), an applicant may elect for demonstration of capability through Agency approval of a certification programme

detailing the means for compliance demonstration for an STC on an aircraft, engine and propellers defined in paragraph 21A.14(c):

### **21A.116 Transferability**

A supplemental type-certificate shall only be transferred to a natural or legal person that is able to undertake the obligations of 21A.118A and for this purpose has demonstrated its ability to qualify under the criteria of 21A.112B except for aircraft defined in 21A.14(c) that has sought the Agency agreement for the use of procedures setting out its activities to undertake these obligations.

## **SUBPART K**

### **21A.307 Release of parts and appliances for installation**

No part or appliance (except a standard part), shall be eligible for installation in a type-certificated product unless it is:

- (a) Accompanied by an authorised release certificate (EASA Form 1), certifying that the item was manufactured in conformity to approved design data and is in a condition for safe operation; ~~and or~~
- (b) in the case of aircraft defined by one of the criteria of 21A.14(b) or 21A.14(c), and except for life limited parts and appliances, parts of the primary structure and parts of the flight controls, produced in conformity with an approved design under the responsibility of the aircraft owner when installed in his aircraft; or
- (c) in the case of aircraft defined by one of the criteria of 21A.14(c), produced in conformity with an approved design under the responsibility of the aircraft owner when installed in his aircraft; and
- (~~b~~d) Marked in accordance with Subpart Q.

## **SUBPART L - Combined Approval of Organisations Responsible for Design and Production of aircraft defined in Paragraph 21A.14(b) and (c)**

### **21A.351 Scope**

This Subpart establishes:

- (a) The procedures for the approval of combined Design and Production Organisations applicable to aircraft defined in Paragraph 21A.14(b) and (c).
- (b) The rules governing the rights and obligations of applicants for, and holders of, such approvals.

### **21A.353 Eligibility**

- (a) Any natural or legal person ('organisation') shall be eligible as an applicant for an approval under this Subpart.
- (b) For combined Design and Production Organisation Approval the applicant shall hold or have applied for:
  1. a Type Certificate or equivalent, or approval of a major change to a type design; or
  2. a Supplemental Type Certificate or equivalent; or
  3. a major repair design approval; or
  4. privileges to approve design changes or repairs, or

5. 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
6. hold or have applied for an approval of that specific design.

#### **21A.355 Application**

Each application for a combined Design and Production Organisation Approval shall be made to the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)(b)(ii) of the Basic Regulation in a form and manner established by that authority and shall include an outline of the terms of approval and associated privileges requested to be issued.

#### **21A.357 Issue of Approval**

A combined Design and Production Organisation shall be entitled to have a combined Design and Production Organisation Approval issued by the Agency when the Member State has made use of article 20(2)(b)(ii) of the Basic Regulation or a Design Organisation Approval issued by the Agency and a Production Organisation Approval issued by the Competent Authority when it has demonstrated compliance with the applicable requirements under this Subpart.

#### **21A.359 Design Assurance System**

- (a) The organisation shall demonstrate that it has established and is able to maintain a design assurance system for the control and supervision of the design, and of design changes, of products, parts and appliances covered by the application. This design assurance system shall be such as to enable the organisation:
  1. to ensure that the design of the products, parts and appliances or the design change thereof, comply with the applicable Type Certification basis and environmental protection requirements; and
  2. to ensure that its responsibilities are properly discharged in accordance with the appropriate provisions of this Subpart; and the terms of approval issued under this Subpart;
  3. to independently monitor the compliance with, and adequacy of, the documented procedures of the system. This monitoring shall include a feed-back system to a person or a group of persons having the responsibility to ensure corrective actions.
- (b) The design assurance system shall include an independent checking function for the showing of compliance.
- (c) The organisation shall specify the manner in which the design assurance system accounts for the acceptability of the parts and appliances designed or the tasks performed by partners or subcontractor according to methods which are the subject of written procedures.

#### **21A.361 Production Quality system**

- (a) The organisation shall demonstrate that it has established and is able to maintain a quality system. 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 a condition for safe operation, and thus exercise the privileges granted under this Subpart.
- (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 co-ordination 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 life-limited 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 sub-paragraph 21A.365(c)(ii) [Approval Requirements] and ultimately to the manager referred to in sub-paragraph 21A.365(c)(i) to ensure, as necessary, corrective action.

### **21A.363 Exposition**

- (a) The organisation shall submit to the Agency and Competent authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation an exposition providing the following information:

1. A statement signed by the accountable manager confirming that the 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 nominated managers accepted by the Agency and Competent authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation;
3. The duties and responsibilities of the manager(s) including matters on which they may deal directly with the Agency and Competent authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation on behalf of the organisation;
4. An organisational chart showing associated chains of responsibility of the managers;

5. A list of certifying staff;
6. A general description of manpower resources;
7. A general description of the facilities located at each address specified in the organisation's certificate of approval;
8. A general description of the scope of work relevant to the terms of approval;
9. The procedure for the notification of organisational changes to the Agency and Competent authority or Agency when the Member State has made use of article 20(2)(b(ii) of the Basic Regulation;
10. The amendment procedure for the exposition;
11. A description of the organisational review system and associated procedures.

- (b) The 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 Agency/Competent Authority.

### **21A.365 Approval Requirements**

The organisation shall demonstrate, on the basis of the information submitted in the exposition that:

- (a) With regard to general approval requirements, facilities, working conditions, equipment and tools, processes and associated materials, number and competence of staff, general organisation and coordination are adequate to discharge the organisation's obligations under this Subpart;

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

1. The organisation is in receipt of such data from the Agency, and from the holder of, or applicant for, the type approval or design approval, to determine conformity with the applicable design data;
2. The 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 organisation, and is accountable to the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)(b(ii) of the Basic Regulation. His or her responsibility within the organisation shall consist of ensuring that all design and production is performed to the required standards and that the organisation is continuously in compliance with the data and procedures identified in the exposition;
2. A person or group of persons have been nominated to ensure that the organisation is in compliance with this Subpart, 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 subparagraph i). 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 organisation in respect of airworthiness, noise, fuel venting and exhaust emission data matters.

- (d) With regard to certifying staff authorised by the organisation to sign the documents issued under the privileges of this 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 organisation maintains a record of all certifying staff which shall include details of the scope of their authorisation;
  3. Staff is provided with evidence of the scope of their authorisation.

#### **21A.367 Changes to the Approved Organisation**

- (a) After the issue of the organisation approval, each change to the organisation, particularly changes to the design assurance or organisational review systems, that is significant to the showing of compliance, conformity or to the airworthiness and environmental protection of the product, part or appliance, shall be approved by the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation.
- (b) An application for approval shall be submitted to the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b (ii) of the Basic Regulation and before implementation of the change the organisation shall demonstrate that it will continue to comply with this Subpart after implementation.
- (c) A change of the location of the facilities of the approved organisation is deemed a change of significance and therefore necessitates application to the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation.

#### **21A.369 Transferability**

Except as a result of a change in ownership, which is deemed a significant change and necessitates application to the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation, a combined Design and Production Approval in accordance with this Subpart is not transferable.

#### **21A.371 Terms of Approval**

- (a) The terms of approval shall identify the scope of work, the categories of products, parts and appliances, for which the holder is entitled to exercise the privileges of this approval.
- (b) Those terms shall be issued as:
1. One certificate when the Member State has requested the Agency to issue the production certificate in accordance to article 20(2)b(ii) of the Basic Regulation
  2. Two certificates in all other cases.

#### **21A.373 Changes to the Terms of Approval**

Each change to the terms of approval shall be approved by the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation. Any application for a change to the terms of approval shall be made in a form and manner established by the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation. The organisation shall comply with the applicable requirements of this Subpart.

#### **21A.375 Investigations**

The organisation shall make arrangements that allow the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation to make any inspection or attend investigations, including investigations of partners and subcontractors, or to witness flight or ground tests, necessary to determine compliance and continued compliance with the applicable requirements of this Subpart.

### **21A.377 Findings**

(a) When objective evidence is found showing non-compliance of the holder of a combined Design and Production Approval with the applicable requirements, the finding shall be classified as follows:

1. A level one finding is any non-compliance with the requirements of this Subpart which could lead to uncontrolled non-compliances with applicable requirements and which could affect the safety of the aircraft;
2. A level two finding is any non-compliance with the requirements of this Subpart which is not classified as level one.

(b) A level three finding is any item where it has been identified, by objective evidence, to contain potential problems that could lead to non-compliance under 21A.377(a).

(c) After receipt of notification of findings:

1. In case of a level one finding, the holder of the organisation approval shall demonstrate corrective action to the satisfaction of the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation 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 Agency/Competent Authority shall be appropriate to the nature of the finding but in any case initially shall not be more than six months. In certain circumstances and subject to the nature of the finding the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation may extend the six month period subject to a satisfactory corrective action plan;
3. A level three finding shall not require immediate action by the holder of the organisation approval.

(d) In the case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

### **21A.379 Duration and Continued Validity**

(a) A combined Design and Production Approval shall be issued for an unlimited duration; it shall remain valid unless:

1. The organisation fails to demonstrate compliance with the applicable requirements; or
2. The Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation is prevented by the approved organisation, or any of its partners or subcontractors, from performing its investigations; or
3. There is evidence that the organisation cannot maintain satisfactory control of the design or manufacture of products, parts or appliances under the approval; or

4. The organisation no longer meets the eligibility requirements for this approval; or
5. The certificate has been surrendered or revoked.

(b) Upon surrender or revocation, the certificate shall be returned to the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation.

### **21A.381 Design Privileges**

(a) The holder of a combined Design and Production Approval shall be entitled to perform design activities within its scope of approval.

(b) Subject to 21A.375 compliance documents submitted by the holder of a combined Design and Production Approval for the purpose of obtaining:

1. A Type Certificate or approval of a major change to a type design; or
2. A Supplemental Type Certificate; or
3. A major repair design approval

shall be accepted by the Agency without further verification.

(c) The holder of a combined Design and Production Approval shall be entitled, within its terms of approval and under the relevant procedures of the design assurance system:

1. To classify changes to type design and repairs as 'major' or 'minor';
2. To approve minor changes to type design and minor repairs;
3. To issue information or instructions containing the following statement: 'The technical content of this document is approved under the authority of the combined Design and Production Organisation Approval reference [EASA] [x/y/z].'
4. Approval for changes to flight and/or technical manuals;
5. Approval to issue or amend continuing airworthiness instructions
6. Approval of flight conditions for the issue of Permits to Fly

(d) The holder of a combined Design and Production Organisation Approval may be Type Certificate holder for aircraft defined in part 21A.14(b) and (c) that it has not designed, subject to having access to the necessary design data.

### **21A.383 Production Privileges**

Pursuant to the terms of approval issued under these requirements the holder of a combined Design and Production Organisation Approval may:

(a) Perform production activities under these requirements.

(b) In the case of complete aircraft and upon presentation of an Aircraft Statement of Conformity (EASA Form 52) under 21A.174, obtain an aircraft certificate of airworthiness, restricted certificate of airworthiness or permit to fly and, if appropriate, a noise certificate without further showing.

(c) In the case of other products, parts or appliances issue Authorised Release Certificates (EASA Form 1) under 21A.307 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 establish the flight conditions for the issue of a Permit to Fly in accordance with the 21A.710(b).

### **21A.385 Obligations of the Holder**

The holder of a combined Design and Production Organisation Approval shall, as applicable:

- (a) Ensure that the exposition, and the documents to which it refers, are used as basic working documents within the organisation;
- (b) Maintain the organisation in conformity with the data and procedures approved for the organisation approval;
- (c) Determine that the design of products, or changes or repairs thereof, as applicable, comply with applicable requirements and have no unsafe feature;
- (d) Except for minor changes or repairs approved under the privileges of the combined Design and Production Organisation Approval, provide to the Agency a Certificate of Design conformity confirming compliance with paragraph c);
- (e) Ensure that required manuals or instructions for continued airworthiness, or changes thereof, are approved either by the combined Design and Production Organisation or the Agency as appropriate and are provided to each known owner of aircraft affected;
- (f) Provide to the Agency information or instructions related to Airworthiness Directives;
- (g) 1. Determine that each completed aircraft conforms to the type design and is in condition for safe operation prior to submitting a Statement of Conformity (EASA Form 52); or
2. Determine that other products, parts or appliances are complete and conform to the approved design data and are in condition for safe operation before issuing an EASA Form 1 to certify airworthiness, and additionally in the case of engines, determine according to data provided by the engine type approval holder that each completed engine is in compliance with the applicable emissions requirements, current at the date of manufacture of the engine, to certify emissions compliance; or
3. Determine that other products, parts or appliances conform to the applicable data before issuing an EASA Form 1 as a conformity certificate;
- (h) Record all details of work carried out;
- (i) Establish and maintain an internal occurrence reporting system 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;
- (j) 1. Report to the holder of the type approval 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 approval or design approval in order to identify those deviations which could lead to an unsafe condition;
2. Report to the Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation the deviations which could lead to an unsafe condition identified according to subparagraph i). Such reports shall be made in a form and manner established by the Agency and Competent Authority or Agency when the Member State has made use of article

20(2)b(ii) of the Basic Regulation; Where the holder of the combined Design and 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;

- (k) Provide assistance to the holder of the type approval or design approval in dealing with any continuing airworthiness actions that are related to the products parts or appliances that have been produced;
- (l) 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 Agency and Competent Authority or Agency when the Member State has made use of article 20(2)b(ii) of the Basic Regulation and be retained in order to provide the information necessary to ensure the continuing airworthiness of the products, parts or appliances;
- (m) 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;
- (n) Where applicable, under the privilege of 21A.383(f), determine the conditions under which a permit to fly can be issued.

## SUBPART M

### 21A.432B Demonstration of capability

- (a) An applicant for a major repair design approval shall demonstrate its capability by holding a design organisation approval, issued by the Agency in accordance with Subpart J.
- (b) By way of derogation from paragraph (a), as an alternative procedure to demonstrate its capability, an applicant may seek Agency agreement for the use of procedures setting out the specific design practices, resources and sequence of activities necessary to comply with this Subpart.
- (c) By way of derogation from paragraph (a) and (b), an applicant may seek Agency agreement for the approval of a certification programme setting out the specific design practices, resources and sequence of activities necessary to comply with this part for a repair on aircraft defined in paragraph 21A.14(c).

### 21A.436 Standard repairs

By way of derogation to Paragraph 21A.437, the following applies to standard repairs:

- (a) Applicability: This paragraph is applicable only to aeroplanes with a Maximum Take-Off Mass (MTOM) below 5700 kg, rotorcraft with a MTOM below 3175 kg, sailplanes, powered sailplanes, balloons and airships as defined in paragraph 21A.14(b) or 21A.14(c).
- (b) Standard repairs are defined in a certification specification adopted by the Agency. The certification specifications contain acceptable methods, techniques and practices for such repairs and include the associated instructions for continuing airworthiness.
- (c) The standard repair is deemed to be approved by the Agency when it is designed in accordance with the certification specification mentioned in paragraph (b).

**21A.439 Production of repair parts**

Parts and appliances to be used for the repair shall be manufactured in accordance with production data based upon all the necessary design data as provided by the repair design approval holder:

- (a) Under Subpart F, or
- (b) By an organisation appropriately approved in accordance with Subpart G or L, or
- (c) By an appropriately approved Maintenance Organisation.

**21A.441 Repair embodiment**

- (a) The embodiment of a repair shall be made by an appropriately approved maintenance organisation, or by a production organisation appropriately approved in accordance with Subpart G or L, under 21A.163(d) or 21A.383(d) privilege.
- (b) The design organisation or the combined design and production organisation shall transmit to the organisation performing the repair all the necessary installation instructions.

**SUBPART P****21A.710 Approval of flight conditions**

- (a) When approval of the flight conditions is related to the safety of the design, the flight conditions shall be approved by:
  - 1. the Agency; or
  - 2. an appropriately approved design organisation, under the privilege of 21A.263(c)(6).

For aircraft defined in 21A.14(b) or (c), the Agency can accept without further verification compliance documents submitted by the applicant for the purpose of obtaining the establishment of flight conditions required for a permit to fly.

**SUBPART Q****21A.801 Identification of products**

- (a) The identification of products shall include the following information:
  - 1. Manufacturer's name.
  - 2. Product designation.
  - 3. Manufacturer's Serial number.
  - 4. Any other information the Agency finds appropriate.
- (b) Any natural or legal person that manufactures an aircraft or engine under Subpart G or Subpart F or Subpart L shall identify that aircraft or engine by means of a fireproof plate that has the information specified in paragraph (a) marked on it by etching, stamping, engraving, or other approved method of fireproof marking. The identification plate shall be secured in such a manner that it is accessible and legible, and will not likely be defaced or removed during normal service, or lost or destroyed in an accident.
- (c) Any natural or legal person that manufactures a propeller, propeller blade, or propeller hub under Subpart G or Subpart F or Subpart L shall identify it by means of a plate, stamping, engraving, etching or other approved method of fireproof identification that is placed on it on a non-critical surface, contains the information specified in paragraph

(a), and will not likely be defaced or removed during normal service or lost or destroyed in an accident.

(d) ....

## **SECTION B**

### **SUBPART L: Combined Approval of Organisations Responsible for Design and Production of aircraft defined in Paragraph 21A.14(b) and (c)**

#### **21B.620 Procedures for subpart L**

The requirements of paragraphs 21B.220 to 21B.260 are applicable.