



NOTICE OF PROPOSED AMENDMENT (NPA) No 2008-12

DRAFT OPINION OF THE EUROPEAN AVIATION SAFETY AGENCY,

FOR A COMMISSION REGULATION AMENDING 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

and

DRAFT DECISION OF THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY

AMENDING

DECISION NO. 2003/1/RM OF THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY

of 17 October 2003 on acceptable means of compliance and guidance material 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 ("AMC and GM to Part 21")

"Repair and design changes to European Technical Standard Order (ETSO)"

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A. Explanatory Note

I. General

1. The purpose of this Notice of Proposed Amendment (NPA) is to envisage amending Commission Regulation (EC) No 1702/2003¹ (Part-21) and Decision 2003/1/RM of the Executive Director of 17 October 2003². The scope of this rulemaking activity is outlined in Terms of Reference (ToR) 21.027 "Repair and design changes to European Technical Standard Order (ETSO)" and is described in more detail below.
2. The European Aviation Safety Agency (the Agency) is directly involved in the rule-shaping process. It assists the Commission in its executive tasks by preparing draft regulations, and amendments thereof, for the implementation of the Basic Regulation³ which are adopted as "Opinions" (Article 19(1)). It also adopts Certification Specifications, including Airworthiness Codes and Acceptable Means of Compliance and Guidance Material to be used in the certification process (Article 19(2)).
3. When developing rules, the Agency is bound to following a structured process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as "The Rulemaking Procedure"⁴.
4. This rulemaking activity is included in the Agency's Rulemaking Programme for 2008. It implements the rulemaking task 21.027 "Repair and design changes to ETSO".
5. The text of this NPA has been developed by the Agency. It is submitted for consultation of all interested parties in accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.

II. Consultation

6. To achieve optimal consultation, the Agency is publishing the draft opinion and decision of the Executive Director on its internet site. Comments should be provided within 3 months in accordance with Article 6(4) of the Rulemaking Procedure. Comments on this proposal should be submitted by one of the following methods:

CRT: Send your comments using the Comment-Response Tool (CRT) available at <http://hub.easa.europa.eu/crt/>

¹ 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). Regulation as last amended by Commission Regulation (EC) No 287/2008 of 28 March 2008 (OJ L 87, 29.3.2008, p. 3).

² Decision No 2003/1/RM of the Executive Director of the Agency of 17.10.2003 on acceptable means of compliance and guidance material 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 ("AMC and GM to Part 21"), last amended by Decision No 2007/12/R of the Executive Director of the European Aviation Safety Agency of 22.11.2007.

³ 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, 19.03.2008, p. 1).

⁴ Management Board decision concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material ("Rulemaking Procedure"), EASA MB 08-2007, 13.6.2007

E-mail: In case the use of CRT is prevented by technical problems these should be reported to the [CRT webmaster](#) and comments sent by email to NPA@easa.europa.eu.

Correspondence: If you do not have access to internet or e-mail you can send your comment by mail to:
Process Support
Rulemaking Directorate
EASA
Postfach 10 12 53
D-50452 Cologne
Germany

Comments should be received by the Agency before 19 August 2008. If received after this deadline they might not be taken into account.

III. Comment response document

7. All comments received in time will be responded to and incorporated in a comment response document (CRD). The CRD will be available on the Agency's website and in the Comment-Response Tool (CRT).

IV. Content of the draft opinion/decision

The issue of this rulemaking task is split into two subjects; Minor changes or repair to ETSO and Repair to Auxiliary Power Units (APU) as provided below.

8. Minor changes or repair to ETSO.

Both industry and operators have commented that Part-21 is too restrictive in respect of changes and repairs to ETSO other than Auxiliary Power Units (APU). In accordance with the current Part-21 Subpart O, only the ETSO Authorisation holder is entitled to make minor changes to its ETSO. The other possibility to introduce minor changes to an ETSO-article is by making a change on product level in accordance with Part-21 Subpart D or E.

It is considered impractical to only allow the ETSO authorisation holder to make minor changes or repairs at ETSO level. Examples provided by stakeholders of minor changes to seats underpin this situation. Also other natural or legal persons shall be eligible to apply for approval of a minor change or repair at ETSO level. It is however highlighted that a minor change at ETSO level does not mean by default that the installation of that ETSO is also a minor change at product level. Installation approval is required following Part-21 Subpart D or E.

The Agency has considered making allowance for minor changes to ETSO by others than the ETSO authorisation holder by applying the Subpart D process for minor changes to ETSO articles. The main objection to applying Subpart D to changes and repairs to ETSO articles is the difference in the criteria for classification of changes. Changes under Subpart D are classified on the basis of their impact on airworthiness whereas the changes to ETSO articles are classified on the basis of the need for re-investigation to determine compliance. Even though this NPA does not elaborate on the considered principle of "using" Subpart D for minor changes to ETSO; stakeholders are invited to react to this option.

The definition and classification of minor or major changes to ETSO is not addressed or amended in this NPA. The Agency however intends to draft an NPA for AMC to paragraph 21A.611 "Design changes" of Part-21 to provide more details for the classification of minor changes to ETSO. Information such as AC 21-25A currently issued by the FAA will be taken into consideration. Stakeholders are invited to submit feedback to the Agency that can assist in drafting the AMC to 21.A.611 of Part-21. A follow-up NPA to this

proposed amendment will be drafted by the Agency as part of this rulemaking task after the comments and feedback to this NPA have been received.

9. Repair to Auxiliary Power Units (APU).

In accordance with Part-21 Subpart M, paragraph 21A.431(d), repair to ETSO shall be treated as a design change to an ETSO using paragraph 21A.611. However paragraph 21A.604(b) provides a derogation to this principle for Auxiliary Power Units (APU). The consequence of this is that repairs to APU need to be approved in accordance with Subpart D or E procedural requirements for design changes. When Subpart E is applied, a separate ETSO authorisation is required instead of a supplemental type-certificate. An applicant, who is not the ETSO Authorisation holder, needs to follow the Subpart E process for a major repair and will need a separate ETSO authorisation. This is considered highly impractical, especially considering the fact that the repair designer would become fully responsible for the design of the entire APU. In general it is considered more consistent to use Subpart M for repairs to APU in line with repairs to engines.

10. The envisaged changes Part-21 and Decision 2003/1/RM are:

Subpart J

In paragraph 21A.263(c) of Part-21, the privilege to approve design of major repair to APU is added.

Subpart M

The requirement to apply 21A.611 of Part-21 for ETSO, instead of this Subpart M is excluded for APU. Several paragraphs of Subpart M are changed for consistency with the applicability to APU.

In AMC and GM to Part-21, Subpart M-Repairs, AMC and GM are amended to reflect that APU are within the scope of this Subpart. In AMC 21A.433(a) and 21A.447 it is highlighted that repairs to APU critical parts would normally only be accepted with the involvement of the APU ETSO authorisation holder.

Subpart O

21A.604 of Part-21 is changed so that Subpart M is made applicable for repair to APU instead of 21A.611 of Part-21.

21A.605 of Part-21 is changed to introduce Data requirements specifically for applications for a minor design change ETSO approval. The Data requirements for ETSO authorisations are only re-numbered.

In 21A.608 of Part-21 the content of a Declaration of Design and Performance that shall be submitted for an application for a minor changer ETSO approval is introduced.

21A.611 of Part-21 is changed to show that a major change is only possible through an application for a new ETSO. This is currently split over two paragraphs, one for the ETSO authorisation holder and one for any other legal or natural person. A new sub-paragraph is introduced for minor design changes to ETSO by any legal or natural person other than the ETSO authorisation holder.

Subpart Q

Specific marking requirements for minor changes to ETSO are introduced in 21A.807 of Part-21, that need to be added to the original ETSO marking in case of a minor change introduced by any legal or natural person other than the ETSO authorisation holder.

V. Regulatory Impact Assessment

11. Purpose and Intended Effect

- a. Issue which the NPA is intended to address
The NPA is intended to address an amendment to the requirements concerning "Repairs and design changes to ETSO articles" of Part-21. This NPA is addressing the two following issues.

Minor changes or repair to ETSO.

Under the current Part-21 rules, only the holder of the ETSO authorisation is eligible to make minor changes or repair to their ETSO article. A minor change or repair to an ETSO article can only be made by any other natural or legal person if:

- an application is made for a new ETSO authorisation or,
- when it is treated as a change to the product, in which the ETSO article is installed.

Both options are considered too burdensome, impractical and out of balance when compared to the requirements for a minor change made by the ETSO authorisation holder.

Repair to Auxiliary Power Units (APU).

In accordance with 21A.604(b), Subpart D or Subpart E of Part-21 should be used for minor or major repair to APU. An applicant, who is not the ETSO Authorisation holder, needs to follow the Subpart E process for a major change. In 21A.604(b) it is stated that a separate ETSO authorisation shall be issued when Subpart E is used. Therefore the applicant for a major repair, who is not the ETSO authorisation holder, will be issued a new ETSO authorisation. This is considered highly impractical, especially considering the fact that the repair designer would become responsible for the entire design of the APU.

Using Subpart D or Subpart E for repairs is also not consistent with processes used for repairs to engines.

- b. Scale of the issue

Minor changes or repair to ETSO.

Minor changes or repair to ETSO are common. Typical examples of ETSO that frequently are subject to minor design changes are seats. The number of seat manufacturers, seat models and part numbers is significant considering that the Agency has issued approximately 250 ETSO Authorisations to seat manufacturers since 28 September 2003, which contain over 1000 seat part numbers.

The large scale of this issue becomes even more obvious when also the nature of the use of these articles is taken into account. Predominant in commercial air transport, minor repairs and modifications are frequently recurring activities to these items because of normal wear and damage during service life and restyling or refurbishment of cabin interiors.

Major repair to APU.

The number of applications for approval of major repair to APU to the Agency is limited.

12. Options

- a. The options identified

1. Do nothing:

- 1.1 Keep the current requirements for making minor changes or repairs to ETSO articles only applicable for the ETSO authorisation holder.
- 1.2 Treat repair to APU as design changes.

2. Rulemaking action:

- 2.1 Draft an NPA proposing an amendment to the requirements in Part-21, allowing any natural or legal person to make an application for a minor repair or design change to an ETSO article.
- 2.2 Draft an NPA proposing to make Subpart M Repairs applicable to repair to APU instead of using Subpart D or E.

13. Sectors concerned

The affected sectors of the aviation community within the EASA scope are:

- ETSO authorisation holders. Other approved design and production organisations.
- Maintenance organisations involved in minor repair or design changes to the ETSO mentioned above.
- Owner/operators.
- ETSO authorisation holders for APU.
- Maintenance organisations involved in repair to APU.
- EASA

14. Impacts

a. All identified impacts for option 2.

i. Safety

The current requirements are considered as the neutral reference for comparison. There is no effect on safety because the proposed process for a minor repair or changes to an ETSO, made by any legal or natural person who is not the ETSO authorisation holder is similar to the process for any other ETSO minor change or repair. The main difference is that the data related to the minor change is submitted to the Agency before approval is obtained, where in case of the ETSO authorisation holder the information is forwarded to the Agency and the change can be made without authorisation from the Agency.

Changing only the process for repair to APU from Part-21 Subpart D or E to Subpart M has no appreciable effect on safety.

ii. Economic

A positive economic effect is expected when minor repairs and design changes to ETSO can be authorised independent from the installation in a product.

A more competitive market for approvals or authorisations of minor repair and changes to ETSO is expected between ETSO authorisation holders and other legal or natural persons. This will also have an effect on the workload for the EASA certification directorate.

Changing the process for repair to APU from Subpart D or E to Subpart M will have a positive economic effect since it removes the administrative burden for a new ETSO.

iii. Environmental

No impact.

iv. Social

No impact.

- v. Other aviation requirements outside EASA scope

No impact.

- b. Equity and fairness in terms of distribution of positive and negative impacts among concerned sectors.

No impact.

15. Summary and Final Assessment

The drivers for this NPA are request from various stakeholders that are faced by impractical and restrictive procedural requirements for repairs and design changes to ETSO. Providing the option to make minor changes or repairs to ETSO by any legal or natural person other than the ETSO authorisation holder will provide both practical and economical benefits, while there are no safety consequences. The preferred option is therefore to amend the requirements in Part-21, allowing any natural or legal person to make an application for a minor repair or design change to ETSO articles.

The preferred option for repair to APU is, based on positive economical grounds, to make a change to the requirements.

B. DRAFT OPINION AND DECISION

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

- deleted text is shown with a strike through: ~~deleted~~
- new text is highlighted with grey shading: **new**
-

Indicates that remaining text is unchanged in front of or following the reflected amendment.

I Draft Opinion PART-21

SUBPART J – DESIGN ORGANISATION APPROVAL

21A.263 Privileges

- (a)
- (b)
- (c)

5. to approve the design of major repairs to products, or Auxiliary Power Units for which it holds the type-certificate or the, supplemental type-certificate or ETSO authorisation.

SUBPART M – REPAIRS

21A.431 Scope

- (a)
- (d) A repair design to an ETSO article other than an Auxiliary Power Unit shall be treated as a change to the ETSO design and shall be processed in accordance with 21A.611.

....

21A.433 Repair design

- (a) The applicant for approval of a repair design shall:
 1. Show compliance with the type-certification basis and environmental protection requirements incorporated by reference in the type-certificate, supplemental type-certificate or APU ETSO authorisation, as applicable, or those in effect on the date of application (for repair design approval), plus any amendments to those certification specifications or special conditions the Agency finds necessary to establish a level of safety equal to that established by the type-certification basis incorporated by reference in the type-certificate, supplemental type-certificate or APU ETSO authorisation.
 2.
- (b) Where the applicant is not the type-certificate, supplemental type-certificate or APU ETSO authorisation holder, as applicable, the applicant may comply with the requirements of paragraph (a) through the use of its own resources or through an

arrangement with the type-certificate ~~or~~ supplemental type-certificate holder **or APU ETSO authorisation holder** as applicable."

....

21A.437 Issue of a repair design approval

When it has been declared and has been shown that the repair design meets the applicable certification specifications and environmental protection requirements of 21A.433(a)(1), it shall be approved:

- (a) by the Agency, or
- (b) by an appropriately approved organisation that is also the type-certificate, supplemental type-certificate **or APU ETSO authorisation holder**, under a procedure agreed with the Agency, or
- (c) for minor repairs only, by an appropriately approved design organisation under a procedure agreed with the Agency."

....

21A.445 Unrepaired damage

- (a)
- (b) Where the organisation evaluating the damage under paragraph (a) is neither the Agency nor the type-certificate, supplemental type-certificate **or APU ETSO authorisation holder**, this organisation shall justify that the information on which the evaluation is based is adequate either from its organisation's own resources or through an arrangement with the type-certificate, ~~or~~ supplemental type-certificate holder **or APU ETSO authorisation holder**, or manufacturer, as applicable.

SUBPART O - EUROPEAN TECHNICAL STANDARD ORDER AUTHORISATION

21A.604 ETSO Authorisation for an Auxiliary Power Unit (APU)

With regard to ETSO authorisation for an Auxiliary Power Unit:

- (a)
- (b) Subpart D or Subpart E of this Part 21 is applicable for the approval of design changes **and Subpart M of this Part 21 for the approval of repair**, by way of derogation from 21A.611. When Subpart E is used, a separate ETSO authorisation shall be issued instead of a supplemental type-certificate.

21A.605 Data requirements

(a) The applicant **for an ETSO authorisation** shall submit the following documents, to the Agency:

- ~~(a)~~**1.** A statement of compliance certifying that the applicant has met the requirements of this Subpart.
- ~~(b)~~**2.** A declaration of Design and Performance (DDP).
- ~~(c)~~**3.** One copy of the technical data required in the applicable ETSO.

- (d)4. The exposition (or a reference to the exposition) referred to in 21A.143 for the purpose of obtaining an appropriate production organisation approval under Subpart G or the manual (or a reference to the manual) referred to in 21A.125(b) for the purpose of manufacturing under Subpart F without production organisation approval.
- (e)5. For an APU, the handbook (or a reference to the handbook) referred to in 21A.243 for the purpose of obtaining an appropriate design organisation approval under Subpart J.
- (f)6. For all other articles, the procedures referred to in 21A.602B(b)(2).

(b) The applicant for a minor design change ETSO approval, other than the holder of the ETSO authorisation, shall submit the following documents, to the Agency:

1. A declaration of Design and Performance (DDP) in accordance with 21A.608(b).
2. One copy of the technical data, Maintenance, Overhaul and Repair manual amendments applicable to the minor design change ETSO authorisation.

21A.608 Declaration of Design and Performance

(a)

(b) The DDP for a minor design change ETSO approval submitted by an applicant other than the holder of the ETSO authorisation shall contain at least the following information:

1. A description of the change identifying
 - (i) the original marking of the article.
 - (ii) the minor change identification in accordance with 21A.807
 - (iii) All parts of the article design and manuals affected by the change; and
2. A statement certifying that the changed article continues to meet the appropriate ETSO.
3. Reference to relevant test reports.
4. Reference to the applicable amendments of the Maintenance, Overhaul and Repair Manual.

(bc) The DDP shall be endorsed with the date and signature of the holder of the ETSO authorisation or minor design change ETSO approval, or its authorised representative.

21A.611 Design changes

(a)

(b) Any design change ~~by the holder of the ETSO authorisation~~ that is extensive enough to require a substantially complete investigation to determine compliance with an ETSO is a major change. ~~Before making such a change, the holder shall assign a new type or model designation to the article and apply for a new authorisation under 21A.603.~~

(c) ~~No design change by any natural or legal person other than the holder of the ETSO authorisation who submitted the statement of compliance for the article is eligible for~~

~~approval under this Subpart O unless the person seeking the approval applies under 21A.603 for a separate ETSO authorisation.~~

- (c) An application for a new ETSO authorisation under 21A.603 shall be made for an approval of a major design change under this Subpart O.
- (d) Any natural or legal person other than the holder of the ETSO authorisation can make an application for a minor design change ETSO approval in a form and manner established by the Agency. The applicant shall be entitled to have a minor design change ETSO approval issued by the Agency after demonstrating that the minor design change to the article meets the applicable ETSO.

SUBPART Q – IDENTIFICATION OF PRODUCTS, PARTS AND APPLIANCES

21A.807 Identification of ETSO articles

- (a) Each holder of an ETSO authorisation under Subpart O shall permanently and legibly mark each article with the following information:
 1. The name and address of the manufacturer;
 2. The name, type, part number or model designation of the article;
 3. The serial number or the date of manufacture of the article or both; and
 4. The applicable ETSO number.
- (b) Each ETSO article changed through Subpart O paragraph 21A.611(d) shall be permanently and legibly marked in accordance with the approved design data with:
 1. The name and address of the manufacturer of the minor change;
 2. The minor change identification; and
 3. The date of the modification of the article.
- (c) Each part produced for a minor change in accordance with 21A.611(d), not belonging to the initial ETSO authorisation holder of the related article shall be marked with the letters EPA (European Part Approval).
- (bd) By way of derogation from paragraph (a, b or c), if the Agency agrees that a part is too small or that it is otherwise impractical to mark a part with any of the information required by paragraph (a, b or c), the authorised release document accompanying the part or its container shall include the information that could not be marked on the part.
- (ee) Each person who manufactures an APU under Subpart G or Subpart F shall identify that APU 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.

II Draft Decision AMC & GM for Part-21

GM 21A.431(d)

Repairs to ETSO articles other than an APU

A repair to an ETSO article other than an APU can either be seen:

under 21A.611 ~~has to be seen~~ in the context of an ETSO authorisation, i.e., when an article as such is specifically approved under Subpart O, with dedicated rules that give specific rights and obligations to the designer of the article, irrespective of any product type design or change to the type design. For a repair to such an article, irrespective of installation on any aircraft, Subpart O, and 21A.611 in particular, should be followed.

Or

When an airline or a maintenance organisation is designing a new repair (based on data not published in the TC holder or Original Equipment Manufacturer documentation) on an article installed on an aircraft, such a repair can be considered as a repair to the product in which the article is installed, not to the article taken in isolation. Therefore Subpart M can be used for the approval of this repair, that will be identified as "repair to product x affecting article y", but not "repair to article y".

AMC 21A.433 (a) and 21A.447

Repair design and Record Keeping

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5. Repairs to engine or APU critical parts would normally only be accepted with the involvement of the TC holder or ETSO Authorisation holder respectively.

AMC 21A.437(b)

Issue of repair design approval

In order for the approved design organisation that is also the type-certificate or APU ETSO authorisation holder to approve 'Major' repair design the following should be considered applicable:

i) The type-certificate or APU ETSO authorisation holder being approved under Part 21 Subpart J.

....