



**COMMENT RESPONSE DOCUMENT (CRD)
TO NOTICE OF PROPOSED AMENDMENT (NPA) 2008-12**

**for 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

**for amending the Executive Director Decision No 2003/01/RM
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)"

Explanatory Note

I. General

The purpose of the Notice of Proposed Amendment (NPA) 2008-12, dated 16 May 2008 was to propose an amendment to Commission Regulation (EC) No 1702/2003¹ (Part-21) and to Decision 2003/1/RM of the Executive Director of the European Aviation Safety Agency of 17 October 2003².

II. Consultation

2. The NPA 2008-12 was published on the web site (<http://www.easa.europa.eu>) on 19 May 2008.

By the closing date of 19 August 2008, the European Aviation Safety Agency (the Agency) had received 62 comments from 23 National Aviation Authorities, professional organisations and private companies.

III. Publication of the CRD

3. All comments received have been acknowledged and incorporated into this Comment Response Document (CRD) with the responses of the Agency.

4. In responding to comments, a standard terminology has been applied to attest the Agency's acceptance of the comment. This terminology is as follows:

- **Accepted** – The comment is agreed by the Agency and any proposed amendment is wholly transferred to the revised text.
- **Partially Accepted** – Either the comment is only agreed in part by the Agency, or the comment is agreed by the Agency but any proposed amendment is partially transferred to the revised text.
- **Noted** – The comment is acknowledged by the Agency but no change to the existing text is considered necessary.
- **Not Accepted** - The comment or proposed amendment is not shared by the Agency.

The resulting text highlights the changes as compared to the current rule.

5. The Agency's Opinion on Repair and design changes to European Technical Standard Order (ETSO) will be issued at least two months after the publication of this CRD to allow for any possible reactions of stakeholders regarding possible misunderstandings of the comments received and answers provided.

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 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"), last amended by Decision No 2007/12/R of the Executive Director of the European Aviation Safety Agency of 22 November 2007.

6. Such reactions should be received by the Agency not later than 29 June 2009 and should be submitted using the Comment-Response Tool at <http://hub.easa.europa.eu/crt>.

IV. Evaluation of comments

7. A number of comments in this CRD have identified issues that are discussed in the following paragraph.

General principles of the NPA proposal for minor repair and design changes to ETSO (not APU)

8. The ETSO authorisation differs from other approvals, because the authorisation addresses design and production aspects. The proposal in the NPA 2008-12 envisaged introducing an approval of a minor design change to an ETSO article only under Subpart O. This would create a split between the design of the change and the embodiment of the change in the ETSO article. This seems in a way similar to a minor design change approval to products in accordance with Subpart D and separate production through for instance Subpart G. The main differences between applying Subpart D or Subpart O to changes and repairs to ETSO are:
- The definition of minor and major 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 reinvestigation to determine compliance to the ETSO standard.
 - Different requirement standards. Subpart D requires compliance with the airworthiness code applicable to the product. Subpart O requires compliance with the applicable ETSO minimum performance standard.
9. The proposal in the NPA 2008-12 introduces a "*minor design change ETSO approval*" that only approves the minor change to the ETSO article and shows compliance with the applicable ETSO standard. It does not cover approval of the installation of such a changed ETSO article. The installation would require an approval following Part-21 Subpart D or E.

Minor repairs and design changes to ETSO (not APU)

Classification of changes at ETSO article level versus classification at installation level

10. Several comments received indicate that the classification of a change to an ETSO article should already take the airworthiness requirements into account that would be applicable at installation of the ETSO article. The reasoning behind this is that the classification of changes at ETSO article level is not always equal to the minor/major classification at installation level. This is true because the classification of a change at installation level considers the airworthiness requirements, where the classification of changes to ETSO articles considers the compliance showing to the minimum operational performance of the ETSO standard. Examples provided show that minor changes at ETSO article level could be classified as major at installation level. Also a change to the ETSO article that would be classified as minor at installation level could result in an ETSO article that no longer meets the minimum operational performance of ETSO standard. Several comments anticipate that the clarification for the classification will be provided by the new AMC that needs to be developed to 21A.611. The intended new AMC to 21A.611 would however only provide examples of minor changes at ETSO article level that meet the ETSO definition of minor. Acceptable means of compliance for installation would not be provided in this AMC.
11. The possible conflict between classification at ETSO level and at installation level was already recognised when the NPA proposal was drafted; and for that reason the proposal was limited to the minor changes and repair at ETSO article level. The

approval for installation and, as a consequence, the classification in accordance with 21.A.91, remains required after the minor design change ETSO approval is issued.

Responsibility for continued airworthiness

12. In accordance with 21A.605(b)(2) of the current NPA proposal, the applicable maintenance data for the changed ETSO article is part of the data required for approval of this minor change. There is however no obligation in the NPA proposal, similar to 21A.609(d), that requires the approval holder to make that information available to users of the article. Therefore an obligation for the minor design change ETSO approval holder should be introduced to make the maintenance information available to users of the changed article. This would also be consistent with minor changes at aircraft level requiring that maintenance information is made available to the applicable aircraft owner and known operators (Refer to 21A.107).

Privilege for a DOA to classify and approve minor design changes to ETSO articles

13. A number of comments indicate that there is a preference to allow additional privileges to DOA to classify and approve minor changes or repair to ETSO articles. The following two options to achieve this are identified.
 - Make Subpart D also applicable to minor changes to ETSO articles that can be classified and approved either by the Agency or by an appropriately qualified DOA; or
 - Introduce classification and approval of minor changes by the Agency or an appropriately qualified DOA in Subpart O.

The main objection against applying Subpart D to changes and repairs to ETSO articles, as stated in the NPA paragraph 8, 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 reinvestigation to determine compliance. Also Subpart D is clearly written for changes to type-certificates, which is not appropriate for ETSO.

This objection against allowing a DOA to classify and approve minor changes to ETSO articles (So also when introduced in Subpart O) is the loss of control over multiple changes to an ETSO article. It is likely that ETSO articles that have a minor change embedded can be removed from one aircraft type and built into other aircraft types. When subsequent changes are introduced by different DOA this will result in a complex configuration control. This is different from minor changes approved by various DOA on one aircraft type, where all information is tied to this one aircraft. In the current situation the ETSO authorisation holder would be the single entity in control of ETSO article configuration. In the NPA proposal, the Agency would play a role similar to the ETSO approval holder that currently is in control of all minor changes.

Regulatory impact assessment of the proposal

14. The NPA indicated in paragraph 14(a)(ii) that a positive economic impact is expected. The comments and re-evaluation shows that there will be little benefits from allowing a separate minor repair or design ETSO change approval. Additional work, costs and administrative burden are introduced by this separate approval of the ETSO article that is independent from the installation approval.
15. Also harmonisation with FAA regulation needs to be considered if such a new kind of approval is introduced. Acceptance of changed ETSO by other authorities would need to be discussed before introduction as well as the possible impact on bilateral agreements.

Conclusion; minor repairs and design changes to ETSO (not APU)

16. Based on the evaluation of comments related to the minor repair or design changes to ETSO articles (Refer to paragraph IV(8) of NPA 2008-12), the Agency considers that the proposed rule change will not achieve the objective and benefits that were anticipated for this rulemaking task, for the following reasons:

- The work, costs and administrative burden associated with the additional process are not considered commensurate to the limited benefits resulting from this change.
- Harmonisation with other aviation authorities would need to be discussed to determine acceptability of this new type of approval.

The Agency has therefore decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. The anticipated task 21.027(b) (Refer to the 2009-2012 Rulemaking Programme on the EASA web-site) for the introduction of AMC/GM related to this task 21.027(a) will be removed from the rulemaking programme.

17. From the comments it seems that there is limited awareness of the existing option to apply for a minor change to an ETSO as part of a specific TC or STC (at product level). (Part-21 Subpart D or E). The Agency has therefore decided to add guidance material to 21A.611 explaining this possibility (See page 20 of this CRD).

Conclusion; repair to Auxiliary Power Units (APU)

18. There are no substantial comments against the proposed change to accept repair to APU in accordance with Part-21 Subpart M. The proposal will be carried in the opinion that will be issued no earlier than 2 month after publication of this CRD.

V. CRD table of comments, responses and resulting text

(General Comments)		-
comment	30	comment by: <i>CAA-NL</i>
	CAA-NL: we support this proposal in general, however we have some detail comments furtheron.	
response	<i>Noted</i>	
	Refer to paragraph "IV. Evaluation of comments" of this CRD.	
comment	33	comment by: <i>Luftfahrt-Bundesamt</i>
	The LBA accepts and supports the contents of the NPA.	
response	<i>Noted</i>	
	Refer to paragraph "IV. Evaluation of comments" of this CRD.	
comment	35	comment by: <i>CAA CZ</i>
	The CAA-CZ would like to support the intent of this EASA NPA 2008-12 to solve the impracticability of Part-21 with regard to minor changes or repairs to ETSO and repairs to Auxiliary Power Unit (APU) in the cases specified.	
	The CAA-CZ is, however, of an opinion, that the definition and classification of minor changes to ETSO is a prerequisite for the proper implementation of this new way of treatment of minor changes to ETSO. The procedure described might be acceptable for minor changes to seats but on the other hand it may be found inappropriate for example for minor changes to complex avionics.	
response	<i>Noted</i>	
	The definition of minor and major design changes to ETSO articles is provided in Subpart O, 21A.611. The AMC which was planned to be drafted following this NPA would provide examples of changes to ETSO articles and their classification and address the concerns as mentioned in the comment. The Agency has however decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.	
comment	39	comment by: <i>KLM EASA DOA 21J.012</i>
	EASA NPA 2008-12 envisages to amend EASA Part-21 and AMC/GM to Part-21 to allow a DOA other than the ETSO-holder to make minor repairs or minor changes to ETSO-articles. Both Industry and Operators had commented that Part-21 was too restrictive in respect of changes and repairs to ETSO-articles other than APU's. Under the current Part-21 requirements a minor change or repair design to an ETSO by others than the ETSO-holder should be treated as a change or repair to the product rather than to the ETSO or apply for a separate ETSO. The final assessment of NPA 2008-12 states: The preferred option is 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 draft of NPA 2008-12 however requires any natural or legal person to apply for an EASA minor design change approval via a Declaration of Design and Performance (DDP) which should be endorsed or approved by the ETSO holder (draft 21A.608). This way the original ETSO-holder could have approved it himself (in case of a A-DOA). As such EASA possibly creates/encourages a commercial conflict of interest with the ETSO-holders not willing to integrate the approvals or not willing to cooperate.

As written now, in contrary to what was envisaged, nothing changes for the airline or maintenance Subpart J DOA organisations with the draft of NPA 2008-12. An airline or maintenance Subpart J DOA should get the ETSO privilege added in 21A.263(c)(2) to approve minor changes to type design (and embedded ETSO's) and minor repairs. Changes and repairs to ETSO's could be handled as an isolated component within the ETSO properties (In the ETSO definition the EASA requirements for large/ small aircraft are already properly embedded). The ETSO repair/ change approvals should have the standard restriction that "the Operator/Installer shall verify whether the subject change or repair needs an additional EASA installation approval". This should also be mentioned on the release document. (This is not different from SB's or TC-holders approvals we use on our aircraft. Moreover, ETSO-articles cannot be exchanged at all from one type of aircraft to another type of aircraft that complies with the same TSO build in. All ETSO's have dedicated p/n's preventing that).

Classification should be not a showstopper:

In the NPA is indicated that the main objection is the difference in classification criteria. Changes under Subpart D are classified on the basis of their impact on airworthiness whereas changes to ETSO articles are classified on the basis of the need for reinvestigation to determine compliance.

However, looking into the classification criteria and guidance material provided in GM 21A.91, a change to the type design is judged to have an "appreciable effect on other characteristics affecting the airworthiness of the product" and therefore should be classified major, in particular but not only, when one or more of the following conditions are met: "*Where the extent of new substantiation data necessary to comply with the applicable airworthiness requirements and the degree to which the original substantiation data has to be re-assessed and re-evaluated is considerable*". Compared to the classification criteria for a major change to an ETSO, i.e. "*Any design change that is extensive enough to require a substantially complete investigation to determine compliance with an ETSO is a major change*", we believe there is hardly any difference in classification criteria for a major change to an ETSO and a change to a product. These guidelines could be interpreted as being similar. Thus we believe that the envisaged amendment to Part-21 should not be restrictive to only APU's but apply to all ETSO.

Besides, in the case that an airline or maintenance Subpart J DOA organisation should issue a minor approval to an ETSO (with the restriction that "the Operator/Installer shall verify whether the subject change or repair needs an additional EASA installation approval"), the installation into the product still can result in the need for an EASA-major change approval.

response *Noted*

The comment shows that the NPA proposal is partly misinterpreted. The proposed change is intended to allow any legal person to apply for a minor repair or minor change to an ETSO article. The proposed 21A.608(c) in the NPA was intended to show that the DDP for an ETSO authorisation or the DDP for a minor design change approval need to be

signed by the applicant. The DDP for a minor change by a third party does not need to be signed by the original ETSO holder.

The classification of the installation of a changed or repaired ETSO article needs to be classified in addition to and independent from the article classification. A minor change at ETSO article level can be a major change at installation level or vice versa.

It is correctly stated that an ETSO article change cannot be exchanged from one type of aircraft to another type of aircraft without approval.

The similarity between classification at aircraft level and classification at ETSO article level, as expressed in the comment, is not shared.

Classification of changes of ETSO articles must be established from the required re-investigation to determine the compliance with the ETSO minimum performance standard, not to the airworthiness requirements at aircraft level.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 52

comment by: AEA

In comparison with the privileges that any FAR 145 organisation may perform maintenance on TSO articles using / producing acceptable data (minor changes AND minor repairs under FAR 43) this proposal is a major step backwards in respect to competitiveness to American industry without improving safety significantly.

- It should be allowed that all repairs and changes can be designed by DOA's. The possibility to approve minor repairs and changes by a DOA Holder under Subpart D or M should be granted.
- Under FAA rules on the repair station the operator may issue and use acceptable data by themselves and can easily optimize their maintenance without any involvement of a DER or the Agency (EASA). An EASA maintenance organisation or operator has to go for the same minor minor repair or change through EASA, pay the fee and wait for the approval. This is a major disadvantage for the EU industry.

response *Noted*

Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:

- The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O.
- When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed).

A change to the requirements for approval of major repairs and changes to ETSO is not part of the NPA proposal. A major change would in any case require a new ETSO authorisation (21A.611(b)). To be eligible for such an authorisation, you would need to comply with both the design and production requirements (21A.602B). A DOA would not qualify.

The comment addressing that the proposed process involving the Agency is too

burdensome is shared, especially when considering that an additional installation approval still remains required.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 53

comment by: *AEA*

Comment:

The classification criteria of minor is not included in the NPA. Therefore, it is our opinion that the NPA does not fully cover the rulemaking task assigned.

Proposal: We propose some criteria for minor:

1. No criteria of the ETSO specification is significantly affected.
2. A reinvestigation of initial showing of compliance is not necessary, investigation can be done by simple means, e.g. by comparison
3. The interchangeability of the article is not affected.
4. Minor design where no additional work to show compliance with the applicable CS and environmental protection requirements is necessary as defined in AMC No. 1 to 21A.263(c)(2), 2.3.
5. The criteria of FAA AC 25.562-1B for 16g seats is met.
6. The criteria of EASA minor for products are met in principle.

response *Not accepted*

The NPA is intended to establish a process that is acceptable for approval of changes and repair to ETSO. As indicated in the NPA, AMC providing criteria and examples of changes and repairs to establish this classification would be drafted after the comments to this NPA have been reviewed.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 59

comment by: *Royal Danish Aeroclub*

Royal Danish Aeroclub have no comments NPA 2008-12 "Repair and design changes to European Technical Standard Order".

response *Noted*

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

A. Explanatory Note - IV. Content of the draft opinion/decision - Minor changes or repair to ETSO

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comment 5

comment by: *Francis Fagegaltier Services*

General comment for ETSO articles other than APUs.

Article 5, 2 (a) of Basic regulation states that : «The type-certificate shall cover

the product, including all parts and appliances fitted thereon ».

Article 5, 2 (b) states that : « parts and appliances may be issued with specific certificates ... ».

This is of course reflected in Part 21 (subpart B and subpart O respectively).

However, the Agency should step back from the detailed wording and have a global view of the issues.

- A change or a repair to an ETSO article is a change or repair to the type certificate (see above first abstract from Basic regulation).

- The ETSO authorisation is a special certificate, which does not allow installation in an aircraft.

- Contrary to a type certificate, an ETSO authorisation covers both the design and the production. It is really a different animal. This is more a "commercial" piece of paper than an airworthiness document. This is illustrated by the fact that FAR 25, FAR 33, etc. are laws in the US legal structure when the TSOs are at a much lower legal level.

- The current subpart O is correct in principle (wording may be questioned) : only the ETSO authorisation holder should be allowed to make minor changes to its "commercial piece of paper".

The fact that Part 21 is not always very well written is not a reason for changing the fundamental principles :

- Subpart O should be limited to organisations willing to have and keep a "commercial" piece of paper called an ETSO authorisation, in compliance with article 5, 2 (b) of basic regulation.

- Subpart D and E should be applicable to all people willing to change a type certificate, which includes all parts and appliances having individual ETSO authorisations, in accordance with article 5, 2 (a) of Basic regulation.

If this rationale is supported by EASA, all the NPA proposals should be modified accordingly.

response *Not accepted*

The expressed global view that a change or repair to an ETSO article is a change or repair to the type certificate is not shared by the Agency. Only at installation that change to the ETSO article becomes a change to a type certificate. It is emphasised that different criteria apply at part or at installation level.

The NPA proposal was therefore aiming at an approval for a minor change or repair at ETSO article level that would require an additional approval for installation.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 8

comment by: *Skyforce Avionics*

It may or may not be impractical to allow only the ETSO holders to make minor design changes to seats and purely mechanical assemblies. But for articles incorporating electronics hardware, firmware and software it is almost impossible to envisage a circumstance where a third party could make any modifications that had not been expressly allowed by the original design

organisation. Compiled software (DO-178B) and firmware (DO-254) cannot be modified with predictable consequences without full access to the source code, development environment, V&V test cases etc that are proprietary to the original designer. Design changes to electronics hardware can likewise have unintended consequences such as modifications in EMC or in fault conditions that may not be apparent during a return-to-service type test. Unless it is EASA's intent to oblige ETSO holders to publish all design data that was previously regarded as proprietary information, and to provide design support for any third party that requests it, it is hard to see how any third party organisation could accept the liability that would flow from making design changes with unknown consequences.

There could and should be acceptance that articles can be designed specifically to allow third party software and/or databases to be loaded and run. In these cases the third party software and/or data would need to conform to the specification provided by the equipment designer (ie: there is NOT complete freedom to make arbitrary changes), and may also need to be a validation activity and transposition of the modified part into the part numbering system used by the modifying organisation.

response *Noted*

The NPA proposal does not intend to oblige ETSOA holders to publish their proprietary data. It is supported that certain changes, like the example of software, would not qualify as a minor change and cannot be introduced by anybody other than the ETSO holder.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment *13*

comment by: *LHT DO*

In comparison with the privileges that any FAR 145 organisation may perform maintenance on TSO articles using / producing acceptable data (minor changes AND minor repairs under FAR 43) this proposal of EASA is a major step backwards in respect to competitiveness to American industry without improving safety significantly.

LHT proposes to define minor and major repairs or changes to all ETSO articles, not only to APU's.

The possibility to design all repairs and changes to ETSO articles should exist if the necessary data is available or achievable. The approval by the DOA Holder under Subpart D or M should be possible for minors.

Major changes or repairs should be performed under DOA and approved by EASA and/or ETSO Holder.

response *Noted*

Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:

- The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O.
- When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or

EASA as proposed).

A change to the requirements for approval of major repairs and changes to ETSO is not part of the NPA proposal. A major change would in any case require a new ETSO authorisation (21A.611(b)). To be eligible for such an authorisation, you will need to comply with both the design and production requirements (21A.602B). A DOA would not qualify.

The comment addressing that the proposed process involving the Agency is too burdensome is shared, especially when considering that an additional installation approval still remains required.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 29

comment by: *LHT DO*

Under FAA rule PMA's may be issued even for TSO articles. In addition, EASA allows 145 organisations to use PMA's for maintenance. ETSO articles are not excluded and the ETSO is still valid after applying PMA's on that article.

So, under EASA 145 rules and EASA decisions we can use PMA without marking and traceability requirements on the article.

Under the EASA rules an EPA part cannot be designed and applied and the article has to be marked and the ETSO marks may have to be removed.

To ease the differences, repairs should be allowed to be approved by DOA's and treated in a simplified way compared to changes.

response *Noted*

Replacement parts which were approved under an FAA PMA can be installed in an ETSO article because they receive automatically an EASA approval through ED Decision No 2007/003/C.

However the EASA approval for the installation of this part should be considered a change to the product (aircraft, engine or propeller) in which the ETSO article is installed. This means that the situation is the same as for changes to ETSO articles designed in Europe and approved under a change to the product; they invalidate the ETSO approval.

Approval of minor repairs by DOA at ETSO article level using Subpart M is not accepted because:

- The definitions for minor and major used to classify the repair in Subparts M are not consistent with the definitions applicable to ETSO in Subpart O.
- When DOA's would be allowed to design, classify and approve minor repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed).

comment 44

comment by: *UK CAA*

Paragraph: A IV 8 1st para

Comment:

a) The applicability of the comment from industry and operators is unclear in support of the case for revision of Part 21 Subpart O.

b) It is noted that whilst there is reference to APUs in the context of ETSO Authorisation there is no ETSO pertinent to APUs.

	<p>Proposed Text: Both industry and operators have commented that, <i>other than for Auxiliary Power Units (APU), Part 21 Subpart O is too restrictive in respect of changes and repairs to ETSO articles.</i></p>
response	<p><i>Noted</i></p> <p>The proposed text is clearer; however it addresses the explanatory note of the NPA and this will not result in a text change in Part-21.</p>
comment	<p>45 comment by: UK CAA</p> <p>Paragraph: A IV 8 2nd para Comment: 'Impractical' is not the correct word to reflect the argument. Proposed Text: ...impractical now not justifiable...</p>
response	<p><i>Noted</i></p> <p>The proposed text is clearer; however it addresses the explanatory note of the NPA and this will not result in a text change in Part-21.</p>
comment	<p>48 comment by: UK CAA</p> <p>Paragraph: A IV 8 2nd para Comment: Change text to better reflect the argument. Proposed Text: AlsoIt is therefore proposed that ...</p>
response	<p><i>Noted</i></p> <p>The proposed text is clearer; however it addresses the explanatory note of the NPA and this will not result in a text change in Part-21.</p>
comment	<p>61 comment by: Goodrich Power Systems</p> <p>Attachment #1</p> <p>Goodrich Power Systems has attached general comments.</p>
response	<p><i>Noted</i></p> <p>Goodrich has provided an example (see "Appendix A – Attachments" at the end of this CRD) that could require extensive re-testing to show compliance with aircraft interface requirements, which are outside the scope of the ETSO standard.</p> <p>The comment underlines that an installation approval remains required after a minor change would be approved on ETSO level.</p> <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>

A. Explanatory Note - IV. Content of the draft opinion/decision - Minor changes or repair to ETSO - Subpart D process

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comment *1* comment by: *TAP Maintenance & Engineering*

1. What is this re-investigation?
2. Who may perform the re-investigation? I presume it is the responsible for the minor modification/repair.
3. What is the border line between minor and major?
4. Will there be also non-significant, significant and substantial classification?
5. Is there a concept for the minimum and maximum re-investigation?
6. What are the airworthiness codes to be accomplished? I presume that the ones from the original ETSO and also the ones related to the product where the ETSO will be embodied, is this correct?

response *Noted*

- 1) The re-investigation refers to the investigation required for a change to show compliance with the ETSO MOPS as mentioned in 21A.611(b).
- 2) This re-investigation should be performed by the applicant for the change or repair.
- 3) Minor or major are defined in 21A.611.
- 4) No, there is only a classification for minor and major.
- 5) There is no concept for a minimum and maximum re-investigation. The current requirement 21A.611(b) only defines that a change is a major change when substantial complete investigations would be required to determine compliance with the ETSO minimum performance standards. The planned AMC is intended to provide examples and guidelines to classify the repair or change.
- 6) Only compliance with the applicable ETSO standard needs to be considered when the repair or change at ETSO article level is classified. Airworthiness requirements need to be considered when the installation is classified. This is independent from the ETSO article classification.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment *9* comment by: *Skyforce Avionics*

It is quite possible to make a design change that does not affect safety of flight, but which nevertheless breaks the requirements of an ETSO. For example, replacing the cover glass on a screen would likely not affect flammability or crash safety etc, but may well affect the optical characteristics demanded by the ETSO for displays. Limiting the assessment of the change to airworthiness requirements would therefore only be possible if the modified article lost its ETSO and could thereafter only be installed under an STC or similar aircraft-level approval.

Each Design Organisation operates according to its own procedures. These procedures will include its own interpretation of the classification of Major and Minor design changes in the context of that organisation's work. Hence a change that is thought to be minor by a third party might be classed as major by the original ETSO holder. This is plainly not workable. Obliging ETSO holders to approve third party's classifications of proposed changes would be

response	<p>burdensome, and would give an unwarranted implication of approval for the change.</p> <p><i>Noted</i></p> <p>The classification of a change or repair, as proposed in the NPA, does not need to be reviewed by the ETSOA holder. Refer to comment 39 for interpretation of 21A.608(c).</p> <p>The comment shows the complexity of classification of changes that can have an effect at ETSO or installation level.</p> <p>A DOA operates to procedures agreed with the Agency (refer to 21A.95(b) and 21A.243(a)). It is the responsibility of the Agency to perform oversight of DOA's and ensuring a common interpretation of rules by those organisations</p> <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>
comment	<p><i>14</i> comment by: <i>LHT DO</i></p> <p>The definition of minor has to be defined within this rulemaking in the context of ETSO specification.</p> <p>The application of Subpart D and M should be applied for all ETSO articles and the approval (minor change/repair) should be done by a DOA as well.</p> <p>For the definition of ETSO minor changes/repairs we propose the following criteria:</p> <ol style="list-style-type: none"> 1. No criteria of the ETSO specification is significantly affected 2. A reinvestigation of initial showing of compliance is not necessary, investigation can be done by simple means, e.g. by comparison 3. The interchangeability of the article is not affected. 4. Minor design where no additional work to show compliance with the applicable CS and environmental protection requirements is necessary as defined in AMC No. 1 to 21A.263(c)(2), 2.3. 5. The criteria of FAA AC 25.562-1B for 16g seats is met. 6. The criteria of EASA minor for products are met in principle. <p>Without definition of the classification criteria LHT does not see that the rulemaking task is covered in full.</p>
response	<p><i>Noted</i></p> <p>The NPA is intended to establish a process that is acceptable for approval of changes and repair to ETSO. As indicated in the NPA, AMC providing criteria and examples of changes and repairs to establish this classification would be drafted after the comments to this NPA have been reviewed.</p> <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>
comment	<p><i>34</i> comment by: <i>Austro Control GmbH</i></p> <p>The proposed changes of Part-21 and AMC triggered by this NPA should be done together with the changes proposed by the NPA which will deal with the definition and classification for minor and major changes to ETSOs.</p>

response	<p>Justification: Without the paragraph for the definition and classification of ETSO changes it will be very difficult for applicants to judge with what type of change they are dealing with. Furthermore it would be helpful to have a guidance material with practical examples like those in GM 21A.91.</p> <p><i>Noted</i></p> <p>The NPA is intended to establish a process that is acceptable for approval of changes and repair to ETSO. As indicated in the NPA, AMC providing criteria and examples of changes and repairs to establish this classification would be drafted after the comments to this NPA have been reviewed.</p> <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>
comment	<p>36 comment by: CAA-NL</p> <p>Proposed GM for 611: As stated in 21A.431(d) a repair design and a change to an ETSO article will be treated the same under 21A.611. To emphasize this the GM for paragraph 21A.431(d), can with some rewording also be used as GM to 21A.611(d)</p> <p>GM to 21A.611(d) Changes to ETSO articles other than an APU A change to an ETSO article other than an APU can either be seen: under this 21A.611 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 change to such an article, irrespective of installation on any aircraft, Subpart O, and this 21A.611 in particular, should be followed. Or When an airline or a maintenance organisation is designing a new change (based on data not published in the TC holder or Original Equipment Manufacturer documentation) on an article installed on an aircraft, such a change can be considered as a change to the product in which the article is installed, not to the article taken in isolation. Therefore Subpart D can be used for the approval of this change that will be identified as "change to product x affecting article y", but not "change to article y".</p>
response	<p><i>Partially accepted</i></p> <p>From comments received to this NPA it is apparent that GM to 21A.611 is required for a better understanding of the existing possibilities to introduce changes to ETSO articles on article or at aircraft level. New GM is introduced for 21A.611 instead of for 21A.611(d) because the GM is applicable to design changes to ETSO articles in general.</p>
comment	<p>40 comment by: Amsafe Bridport Ltd.</p> <p>If the original ETSO approval was achieved by complying with the ETSO and the associated Standards, then any minor change should also comply with the ETSO and Standards. An ETSO is a MPS (Minimum Performance Standard) and</p>

this should be maintained. While you would expect that any assessment in respect of the impact of airworthiness is not detrimental to the ETSO article, you cannot be sure if that assessment has not considered the full compliance with the ETSO and the associated Standards.

response *Accepted*

An ETSO article will be required to meet the MPS after a minor change or minor repair. This is also reflected in the proposed 21A.611(d) in the NPA 2008-12, in which it is required to demonstrate that the minor design change to the article meets the applicable ETSO MPS.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment *41*

comment by: *Amsafe Bridport Ltd.*

You mention that you will provide an AMC for 21A.611, this is important. Currently anyone who does minor changes to an ETSO (i.e. the ETSO holder), must be an EASA approved ADOA (APDOA) and the product they are changing must be within their scope. I assume, but I think the NPA is not clear on this, that any potential new organisation who does a minor change to the ETSO MUST also be an approved ADOA and the ETSO article in question MUST be within their scope. If not this would appear not to fit properly, as anyone who applies for the original ETSO approval must be an ADOA and the product must be within their scope.

response *Not accepted*

The NPA proposes the possibility for any legal or natural person to apply for an approval of a minor design change to an ETSO article. This is consistent with the way minor changes to a product are treated; an applicant for the approval of a minor change to a product does not need DOA or AP-DOA. There is no requirement for these applicants to hold a DOA or ADOA. Both classification and approval, as proposed in the NPA, are handled by the Agency. Refer to paragraph "IV. Evaluation of comments" of this CRD.

comment *42*

comment by: *Amsafe Bridport Ltd.*

Currently approved repair organisations (EASA Part 145) do repairs using approved maintenance data (CMM), they cannot produce new approved data unless they have other approvals (e.g. APDO or DOA). Is this NPA saying that ANYONE can do a minor change, but they have to get the agency (EASA) to approve that change? i.e. a Part 145 organisation can apply to the agency for approval of a minor change and then do the change once it is approved?

If an organisation is already a ADOA holder already (organisations sometimes have multiple approvals: Part 145, POA, ADOA, DOA), can they just do the minor change to the ETSO article so long as it is within their scope when the article is NOT their ETSO approval and thus they do NOT have to get agency approval? If the article is NOT within their scope would they have to get the agency approval? Could they apply to get their scope changed and then do the changes without agency approval?

While the reasons for the NPA are understood etc, it must be remembered that ETSO approvals are gained by organisations who have shown their competence (i.e. they have an ADOA) and they have also shown compliance with the ETSO

& associated Standards, (they submit an application, along with a data pack and get an approval from the agency), so long as others who are now being proposed to be able to do minor changes have to achieve the same TWO things then this proposal has its merits. My current understanding of the proposal is that they have to get the minor change approved by the agency, but their overall competence (i.e. an ADOA approval or the like) is NOT required, this does not seem right.

response *Noted*

This NPA is not proposing that anyone can **do** ("do" is understood as "embody") a minor change to an ETSO article.

The NPA introduces the possibility for any legal person to make an application for a design change for a minor change or repair. When approved by the Agency, a 145 organisation can embody the repair since it is approved data.

The NPA does not introduce the option for a DOA to classify or approve the design; this is an Agency task only. Therefore scope or extension of scope, for a DOA is not relevant to the proposal of this NPA.

The fact that no AP-DOA is required for the applicant of a minor change to an ETSO is consistent with the way minor changes to a product are treated; an applicant for the approval of a minor change to a product does not need DOA or AP-DOA.

comment 43

comment by: *Walter Gessky*

The intent of the NPA is fully supported by the Austrian Ministry of Transport, Innovation and Technology, but with regard to classification of changes and repairs of ETSO parts, to avoid misunderstandings and problems in the implementation of the rule, guidance material is urgently required.

response *Noted*

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 64

comment by: *DGAC France*

The paragraph asks for stakeholders to comment on drafting AMC to 21A.611. DGAC France believes special content in the AMC shall be introduced to address specifically software amendments. Minor changes are often made to software, traced in an amendment change, but the amendment change is not easily identified at product level, so it might be difficult at the integration level to be sure there is no impact. In the case of an ETSO, it should be recommended that the change is clearly identified, so the ETSO equipment installation is fully reassessed to ensure adequate behaviour with the minor changed software within an ETSO equipment.

response *Noted*

The considerations provided by this comment for the drafting of AMC to 21A.611 are appreciated.

The Agency has however decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

resulting text

GM to 21A.611
Design changes
 A change to an ETSO article other than an APU can either be seen: under this 21A.611 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 change to such an article, irrespective of installation on any aircraft, Subpart O, and this 21A.611 in particular, should be followed.
 Or
 When an airline or a maintenance organisation is designing a change (based on data not published in the TC holder or Original Equipment Manufacturer documentation) on an article installed on an aircraft, such a change can be considered as a change to the product in which the article is installed, not to the article taken in isolation. Therefore Subpart D can be used for the approval of this change that will be identified as "change to product x affecting article y", but not "change to article y".

A. Explanatory Note - IV. Content of the draft opinion/decision - Repair to Auxiliary Power Units (APU) p. 5

comment 6 comment by: Francis Fagegaltier Services
 APUs
 The Agency has identified only some of the inconsistencies of Part 21 in relation to APUs. If EASA intends to clean up subpart O in relation to APUs, this commenter would be happy to provide details of all inconsistencies identified to date. The Agency should explain its intents in this regard.

response *Noted*
 The objective of this NPA in regard of APU is restricted to repair to APU, which currently are approved using Subpart D or E.

comment 7 comment by: Francis Fagegaltier Services
 Repair to APU.
 The consistency of APU repair procedures with engine procedures is supported because this is in accordance with the fact that, for APUs, everything is done as if an APU was an engine except that the final certificate is not called "APU type certificate" but "ETSO authorisation" (see 21A.604 (a)).

response *Noted*

comment 16 comment by: LHT DO
 We cannot see differences on safety issues on APU and other articles. Therefore, all articles should be treated with Subpart M and D by a DOA.

response *Noted*
 Safety issue comparison between APU and any other article are not addressed in this NPA. APU are however treated similar to a product (engines) and as

such are regulated differently from other ETSO articles. The comment is however interpreted as supporting the alternative as mentioned in paragraph IV(8) of the NPA, in which DOA approval of minor changes was considered. Refer also to paragraph "IV. Evaluation of comments" of this CRD.

A. Explanatory Note - IV. Content of the draft opinion/decision - The envisaged changes Part-21 and Decision 2003/1/RM

p. 5

comment 10

comment by: *Skyforce Avionics*

Ref Subpart O Data Requirements & DDP
It is hard to see how a third party could comply with the Data Requirements or provide the information needed for a DDP without access to information that is proprietary to the ETSO holder.

For purely mechanical parts or parts containing only simple electronics, it may be possible for a third party to establish compliance with the standard by conducting their own independent tests. Such tests would necessarily be substantially similar to those required for a new ETSO unless the third party could claim credit for the performance of the originally-certified article in some categories. (ie: the activity would be equivalent to a major mod to the article even if the design change is minor, unless the ETSO holder cooperates or the third party is allowed to claim similarity for most tests). In the event that similarity is accepted then it must be limited to a specific configuration / revision of the original article, and no credit can be assumed for the proposed design change applied to future or earlier versions of the ETSO holder's equipment.

response *Noted*

The proposed content of the DDP for minor design changes to an ETSO article is limited to information supporting the change and general available information. If proprietary information would be required to design and approve a minor change, it is obvious that such a change would not be possible without that information from the ETSO authorisation holder.

A. Explanatory Note - V. Regulatory Impact Assessment

p. 6

comment 2

comment by: *TAP Maintenance & Engineering*

1. May a Part 145 organization design a minor repair/modification to an ETSO?
2. With what document shall an ETSO be released to service? EASA Form one? if so which field will be filled? Field 14, dedicated to manufaxturers or field 19 dedicated to MRO?

response *Noted*

1. The NPA proposal introduces that any legal person would qualify to design a minor repair/change to an ETSO article; therefore a Part-145 organisation would also qualify. The design is approved by the Agency.
2. Release of articles is not changed by this proposal. The article is repaired/changed in accordance with approved data (by the Agency) and will require an EASA Form 1 for release. A minor repair to an article

would be released on "the right-hand side" of EASA Form 1.
Refer also to paragraph "IV. Evaluation of comments" of this CRD.

A. Explanatory Note - V. Regulatory Impact Assessment - Purpose and Intended Effect

p. 6

comment

46

comment by: UK CAA

Paragraph: A V 11(a) 3rd para

Comment:

'Impractical' is not the correct word to reflect the argument.

Proposed Text:

...~~impractical~~ now not justifiable...

response

Noted

The proposed text is clearer; however it addresses the explanatory note of the NPA and this will not result in a text change in Part-21.

A. Explanatory Note - V. Regulatory Impact Assessment - Impacts

p. 7-8

comment

11

comment by: Giovanni Zamboni, GEMELLI QAM

We think that a description of minor change shall be submitted to the ETSO authorisation holder and that a permission of the change by ETSO authorisation holder will be necessary before approval by the Agency.

response

Not accepted

This comment will not provide the intended "open market" for minor changes or repairs because it will maintain control by the ETSO authorisation holder of any change. The Agency considers that such control by the ETSO holder is not necessary for safety reasons. It is already the case since the first issue of JAR-21 in 1994, the predecessor of Part-21, that minor changes can be designed outside the control of the original design approval holder.

comment

28

comment by: Recaro Aircraft Seating GmbH / Office of Airworthiness / T. Moseley

An impact to other Aviation Requirements/Regulations does sometimes exist (i.e. FAA).

Some Boeing and Airbus Aircraft Passenger (C127a/C39) Seats have both EASA ETSOA and FAA TSOA. For these seats, a minor change to an ETSO seat will also impact the FAA TSO; And any change to an FAA TSO must be approved by the FAA (i.e. IAW FAR's)

Therefore, prior to implementation of NPA 2008-12, RECARO recommends harmonization & a common (FAA/EASA) understanding of the procedures and procedural guidance concerning pax seats having both FAA TSOA and EASA ETSOA .

Note 1: Reference FAA AC 21-25A 'Approval of Modified Seating Systems Initially Approved Under A Technical Standard Order', for the changes to an FAA TSO seat.

Note 2: A Minor Change to a seat, very often requires testing to show

	compliance with the FAA/EASA regulations.
response	<p><i>Accepted</i></p> <p>The Agency agrees that additional discussion with the FAA would be needed for this proposal. Refer to paragraph "IV. Evaluation of comments" of this CRD.</p>

comment	<p>49 comment by: UK CAA</p> <p>Paragraph: A V 14 a i Comment: The rationale does not address the aircraft installation, continued airworthiness. Justification: The rationale does not address how the effect on the aircraft is to be managed with this modified ETSO or who is to manage it. Also, once modified, it is not apparent who is responsible for continued airworthiness and with whom assessment of safety related matters in service rests.</p>
response	<p><i>Noted</i></p> <p>The installation of a modified ETSO is considered to be independent from the proposed process for a change to the ETSO. The current requirements for a change at aircraft level remain applicable and are unchanged. Continued airworthiness requirements are addressed in 21A.107. This comment however does raise a point that the obligation of the minor design change ETSO approval holder to provide continued airworthiness information was missing from the NPA proposal. This information is required for the installation approval in order to evaluate and manage impact on the continued airworthiness. Please also refer to paragraph "IV. Evaluation of comments" of this CRD.</p>

A. Explanatory Note - V. Regulatory Impact Assessment - Summary and Final Assessment

p. 8

comment	<p>47 comment by: UK CAA</p> <p>Paragraph: A V 15 Comment: 'Impractical' is not the correct word to reflect the argument. Proposed Text: ...impractical now not justifiable...</p>
response	<p><i>Noted</i></p> <p>The proposed text is clearer; however it addresses the explanatory note of the NPA and this will not result in a text change in Part-21.</p>
comment	<p>65 comment by: Seppo Raevuori</p> <p>I understood that a legal person, in case of minor change to a part for an ETSO article, is allowed to make an application to the Agency directly, not only through the ETSO authority holder. This applies aircraft seats and its parts. What is the cost effect and what is the turnover time in the Agency?</p>

I represent a small interiors part supplier.
Overall, this will make the dealing with old seats some easier.
Regards
Seppo Raevuori

response *Noted*

The cost effects and turnover time have not been established but may depend on complexity of the change and hours required for approval, value of the equipment.
Remark:
The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

B. Draft Rules - I. Draft Opinion Part-21 - Subpart J Design and Organisation Approval - 21A.263 Privileges

p. 9

comment 57

comment by: *Virgin Atlantic Airways*

Privileges should be modified to allow DOA's to classify and approve changes and repairs to ETSO articles, justification given in comment to 21.A605.

response *Not accepted*

Even though the classification and approval of minor changes to ETSO articles seems similar to minor changes to ETSO as part of a (S)TC, the fact that ETSO minor changes could be approved by various DOA and migrate from one TC to another could create a chain of changes where there is no single entity in control. Currently the ETSO authorisation holder plays that role.
Remark:
The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 62

comment by: *DGAC France*

DGAC-F proposes the following wording:

to approve the design of major repairs to products, *(remove the comma)* or Auxiliary Power Units, *(add here a comma)* for which it holds the typecertificate or the, *(remove the comma)* supplemental type certificate or ETSO authorisation.

Justification:

typo: The comma between "the" and "supplemental" should not be there and deleted.

The comma and "auxiliary power unit" words added seems to be the only one item "for which it holds the type certificate" applies. That last part of the sentence shall apply to "products" and therefore, it is proposed to add a comma after "power units" and remove the one after "products".

response *Accepted*

resulting text 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.**

B. Draft Rules - I. Draft Opinion Part-21 - Subpart M Repairs - 21A.431
Scope

p. 9

comment *18* comment by: *LHT DO*
(d) a repair design to an ETSO article should be treated in accordance with 21A.611.

response *Not accepted*

The proposed text would change 21A.431(d) back to the current intent and would eliminate ETSO articles from the scope of Subpart M of Part-21. This is not consistent with the other comments from the same commenter to the Subpart M. These comments indicate that the commenter proposes to make Subpart M applicable for repair to ETSO articles in general. This is not supported by the Agency and, making Subpart M applicable to all ETSO, is considered outside of the scope of this NPA.

B. Draft Rules - I. Draft Opinion Part-21 - Subpart M Repairs - 21A.433
Repair design

p. 9-10

comment *17* comment by: *LHT DO*
(a) and (b)
Delete "APU" and use "or ETSO authorization"

response *Not accepted*

This comment is part of a number of comments (16-23) from LHT which propose to use Subpart D for changes to ETSO articles. Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:

- The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O.
- When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed).

Remark:
The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

**B. Draft Rules - I. Draft Opinion Part-21 - Subpart M Repairs - 21A.437
Issue of a repair design approval**

p. 10

comment	19	comment by: <i>LHT DO</i>
	Delete "APU" and use "or ETSO authorization"	
response	<p><i>Not accepted</i></p> <p>This comment is part of a number of comments (16-23) from LHT which propose to use Subpart D for changes to ETSO articles. Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:</p> <ul style="list-style-type: none"> • The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O. • When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed). <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>	

comment	58	comment by: <i>Aeroworks Composites.nl</i>
	<p>Re: - EASA Notice of Proposed Amendment (NPA) No2008-12</p> <p>Dear Madam, sir</p> <p>As regards the Notice of Proposed Amendment (NPA) No. 2008-12 dated the May 16, 2008, I would like to comment as follows:</p> <p>As now proposed in the NPA No. 2008-12 to adjust the regulations, I read the following:</p> <p>A Minor design change to an ETSO article can only be approved by:</p> <ul style="list-style-type: none"> • - 21A.611(a) The holder of the ETSO authorisation • - 21A.611(d) The Agency through a minor design change ETSO approval after demonstrating that the minor design change to the article meets the applicable ETSO. <p>In my opinion this is too limited and classifying and approving Minor design changes to an ETSO article should be reserved for a DOA organisation.</p> <p>Motivation:</p> <p>Within the scope of the regulations PART 21 Subpart D, Subpart J, Subpart M and also Subpart O it should be the case that: a Minor change to an article covered by an ETSO authorisation shall be classified and approved in accordance with Subpart D (an approved DOA organisation).</p>	

A DOA organisation according PART 21 Subpart J is approved to classify "Minor - Major" and to approve a minor change to type design or a minor repair to the product.

According to the regulations GM 21.431(d) it is the case that; repairs to ETSO articles other than an APU can be considered as a repair to the product. Therefore Subpart M can be used for the approval of this repair..... This repair will be classified and approved by an approved DOA organisation.

In practice this can mean that "a minor repair to an ETSO article" concerns the same activity/act as a "minor design change to the ETSO article". Why would a DOA organisation be allowed to classify and approve the repair while the placement of a new component may not be classified and released by a DOA organisation?

response *Noted*

Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:

- The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O.
- When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed).

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

B. Draft Rules - I. Draft Opinion Part-21 - Subpart M Repairs - 21A.445
Unrepaired damage

p. 10

comment 20

comment by: *LHT DO*

Delete "APU" and use "or ETSO authorization"

response *Not accepted*

This comment is part of a number of comments (16-23) from LHT which propose to use Subpart D for changes to ETSO articles.

Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:

- The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O.
- When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed).

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

B. Draft Rules - I. Draft Opinion Part-21 - Subpart O European Technical Standard Order Authorisation - 21A.604 ETSO Authorisation for an Auxiliary Power Unit (APU)	p. 10
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comment	21	comment by: <i>LHT DO</i>
	Use paragraph 604 (b) for all ETSO articles	
response	<i>Not accepted</i>	
	This comment is considered outside of the scope of this NPA. It proposes to make 21A.604 applicable to all ETSO where it is now specifically for APU.	

B. Draft Rules - I. Draft Opinion Part-21 - Subpart O European Technical Standard Order Authorisation - 21A.605 Data requirements	p. 10-11
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comment	3	comment by: <i>TAP Maintenance & Engineering</i>
	<ol style="list-style-type: none"> 1. Will the agency approval be always needed? 2. How long does the agency approval take? 3. How much does it cost? 4. Why can't a DOA organization approve a design of a minor modification/repair to an ETSO? Example: TAP ME is DOA n° 21J344, we have in the scope of approval cabin interiors. Why can't we approve a minor modification to a seat outside the aircraft? But if it is inside the A/C already installed we can design and approve it. I presume that this privilege will continue existing for DOAs, then what is the plus of this NPA for DOAs? 	
response	<i>Noted</i>	
	<p>In accordance to the NPA proposals, the following is applicable:</p> <ol style="list-style-type: none"> 1. Yes. 2. Dependent on the complexity of the change. 3. The cost effects have not been established but may depend on complexity of the change and hours required for approval, value of the equipment. 4. Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because: <ul style="list-style-type: none"> o The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O. o When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed). <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>	

comment	22	comment by: <i>LHT DO</i>
	(b) the applicant for a , other than the holder of the ETSO authorisation,	

	<p>shall prepare the following documents:</p> <ol style="list-style-type: none"> 1. ... 2. ...
response	<p><i>Not accepted</i></p> <p>This comment is part of a number of comments (16-23) from LHT which propose to use Subpart D for changes to ETSO articles. Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:</p> <ul style="list-style-type: none"> • The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O. • When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed). <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>

comment	<p>37</p> <p style="text-align: right;">comment by: CAA-NL</p> <p><i>Acc. to 21A.95 minor changes to type design shall be approved by the Agency or by an appropriately approved design organization. Acc. to 21A.611 minor changes to ETSO design made by another than the holder of the ETSO authorization shall be approved by the Agency</i></p> <p><i>We are of the opinion that the difference made between minor changes to type design and minor changes to ETSO (made by another than the holder of the ETSO authorization) is not correct. They should be treated in the same way, which means that minor changes to ETSO made by another than the holder of the ETSO authorization could be approved either by the Agency, or by an appropriately approved design organization.</i></p> <p><i>In this respect we should take notice of the fact that it is nowadays common practice that especially airline operators or dedicated maintenance facilities carry out many minor changes or repairs to the aircraft in their fleet or components thereof (e.g. a seat arm cap with a different color). In several cases they have obtained a DOA to do so. And as a result it is current practice that nowadays they also make minor changes and minor repairs - under their DOA-privileges - to ETSO-articles installed in a product. The present proposal continues the current practice to approve these changes or repairs through product approvals, instead of the approval of a change to an ETSO article. If there is a need for an approval of the change to the ETSO article as such, they have to apply for an approval at EASA. That means a large workload for EASA in stead of optimizing the use of DOA's, under the conditions that the DOA is both capable to assess the ETSO article and the need for re-investigation as well as the impact on the airworthiness of the products the article may be installed.</i></p> <p>21A.605 Data requirements</p> <p>(b) The applicant for a minor design change ETSO approval, other than the holder of the ETSO authorization shall submit the following documents to the Agency or to an appropriately approved design organisation:</p> <ol style="list-style-type: none"> 1. A declaration of Design and Performance (DDP) in accordance with 21A.608(b).
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	2. One copy of the technical data, Maintenance, Overhaul and Repair manual amendments applicable to the minor design change ETSO authorisation.
response	<p><i>Not accepted</i></p> <p>Even though the classification and approval of minor changes to ETSO articles seems similar to minor changes to ETSO as part of a (S)TC, the fact that ETSO minor changes could be approved by various DOA and migrate from one TC to another could create a chain of changes where there is no single entity in control. Currently the ETSO authorisation holder plays that role.</p> <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>
comment	<p>54 comment by: <i>Virgin Atlantic Airways</i></p> <p>Minor changes to ETSO articles should be possible by Design Organisation Approval (DOA) holders without the requirement for submission of documentation or approval by EASA. Costs and time constraints associated requiring EASA approval would make it more practical to make an aircraft level modification allowed under current regulations. DOA's are already deemed capable of classifying and approving minor modifications, the commenter cannot see any reason why this should not be extended to ETSO articles.</p>
response	<p><i>Not accepted</i></p> <p>Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:</p> <ul style="list-style-type: none"> • The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O. • When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed). <p>Remark: The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.</p>

B. Draft Rules - I. Draft Opinion Part-21 - Subpart O European Technical Standard Order Authorisation - 21A.608 Declaration of Design and Performance

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comment	<p>23 comment by: <i>LHT DO</i></p> <p>Exchange "submitted" by "prepared" in first line.</p>
response	<p><i>Not accepted</i></p> <p>This comment is part of a number of comments (16-23) from LHT which propose to use Subpart D for changes to ETSO articles. Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:</p> <ul style="list-style-type: none"> • The definitions for minor and major used to classify the change in

Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O.

- When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed).

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 50

comment by: UK CAA

Paragraph: B Subpart O 21A.608

Comment:

It is understood that a change of part number is not required and that the change is identified by marking the article with the minor change identification. It is understood that most operators will track articles by part and serial number and consequently will be unable to trace by mod status.

response *Noted*

There is no change to the current situation were a minor change to an ETSO article made by the ETSOA holder would result in a part number, whose root remains unchanged whilst the suffixes (letters or numbers or both) shall evolve in accordance with the ETSOA holder AP to DOA concerning the numbering system of ETSO article. There is no provision that specifically requires that changes to a part are tracked only by part number and serial number.

comment 56

comment by: Virgin Atlantic Airways

Changes to an ETSO approved by a DOA should not require a DDP, the referenced requirements of 21A.608 (b) 1-4 will be covered as part of the modification approval sheet.

response *Noted*

This comment assumes a minor change approval by a DOA, which is not the NPA proposal.

Refer to paragraph "IV. Evaluation of comments" of this CRD.

B. Draft Rules - I. Draft Opinion Part-21 - Subpart O European Technical Standard Order Authorisation - 21A.611 Design changes

p. 11-12

comment 24

comment by: LHT DO

add (e)

Any DOA holder other than the holder of the ETSO authorization can make an application for a major ETSO repair to the Agency.

response *Not accepted*

A major change to an ETSO article requires a new ETSO authorisation. This proposal is outside of the scope of this NPA.

comment 32

comment by: *Belgraver b.v.*

A **Minor** design change to an ETSO article can only be approved by:

- 21A.611(a) The holder of the ETSO authorisation
- 21A.611(d) The Agency through a minor design change ETSO approval after demonstrating that the minor design change to the article meets the applicable ETSO.

In my opinion this is too limited and classifying and approving Minor design changes to an ETSO article should be reserved for a DOA organisation.

Motivation:

Within the scope of the regulations PART 21 Subpart D, Subpart J, Subpart M and also Subpart O it should be the case that:

a Minor change to an article covered by an ETSO authorisation shall be classified and approved in accordance with Subpart D (an approved DOA organisation).

A DOA organisation according PART 21 Subpart J is approved to classify "Minor - Major" and to approve a minor change to type design or a minor repair to the product.

According to the regulations GM 21.431(d) it is the case that; repairs to ETSO articles other than an APU can be considered as a repair to the product. Therefore Subpart M can be used for the approval of this repair.....

This repair will be classified and approved by an approved DOA organisation!!!

In practice this can mean that "a minor repair to an ETSO article" concerns the same activity/act as a "minor design change to the ETSO article".

Why would a DOA organisation be allowed to classify and approve the repair while the placement of a new component may not be classified and released by a DOA organisation?

response *Noted*

The Agency has considered the alternative where Subpart D would be applied for making for minor changes to ETSO by others than the ETSO authorisation holder. This was however not retained in the proposal of this NPA for reasons given in paragraph A. IV(8).of the NPA.

The comment does not provide justification to change the Agency's position.

Please also refer to paragraph IV "Evaluation of comments" of this CRD.

(See also comment 58)

comment 38

comment by: *CAA-NL*

Acc. to 21A.95 minor changes to type design shall be approved by the Agency or by an appropriately approved design organization. Acc. to 21A.611 minor changes to ETSO design made by another than the holder of the ETSO authorization shall be approved by the Agency

We are of the opinion that the difference made between minor changes to type design and minor changes to ETSO (made by another than the holder of the ETSO authorization) is not correct. They should be treated in the same way, which means that minor changes to ETSO made by another than the holder of the ETSO authorization could be approved either by the Agency, or by an

*appropriately approved design organization.
In this respect we should take notice of the fact that it is nowadays common practice that especially airline operators or dedicated maintenance facilities carry out many minor changes or repairs to the aircraft in their fleet or components thereof (e.g. a seat arm cap with a different color). In several cases they have obtained a DOA to do so. And as a result it is current practice that nowadays they also make minor changes and minor repairs - under their DOA-privileges - to ETSO-articles installed in a product. The present proposal continues the current practice to approve these changes or repairs through product approvals, instead of the approval of a change to an ETSO article. If there is a need for an approval of the change to the ETSO article as such, they have to apply for an approval at EASA. That means a large workload for EASA in stead of optimizing the use of DOA's, under the conditions that the DOA is both capable to assess the ETSO article and the need for re-investigation as well as the impact on the airworthiness of the products the article may be installed.*

21A.611 Design changes

(d) Minor changes to an ETSO article designed by any natural or legal person other than the holder of the ETSO authorization shall be classified and approved either:

- 1. By the Agency. The application must be made in a form and manner established by the Agency. The applicant shall be entitled to have a minor design change to ETSO approval issued by the Agency after demonstrating that the minor change to the article meets the applicable ETSO. Or
- 2. By an appropriately approved design organization under a procedure agreed with the Agency.

response

Noted

Even though the classification and approval of minor changes to ETSO articles seems similar to minor changes to ETSO as part of a (S)TC, the fact that ETSO minor changes could be approved by various DOA and migrate from one TC to another could create a chain of changes where there is no single entity in control. Currently the ETSO authorisation holder plays that role.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

B. Draft Rules - I. Draft Opinion Part-21 - Subpart Q Identification of Products, Parts and Appliances - 21A.807 Identification of ETSO articles

p. 12

comment 4

comment by: *TAP Maintenance & Engineering*

For a small ETSO, without space for its identification, the document accompanying the ETSO will have its identification.

1. If the ETSO has already been modified/repared (minor) several times, what identification shall the document have? The last identification or all the history of modifications/repairs?
2. Is there a limit for repairs/modifications to an ETSO?

response	<p><i>Noted</i></p> <p>The minor change identification should be an addition to the existing identification. Therefore, if there are already other changes identified, this needs to be an addition to the existing information. The proposed minor repair or modifications are limited by the definition of minor (See 21A.611).</p>
comment	<p>25 comment by: <i>LHT DO</i></p> <p>(b) Each ETSO Article changed through Subpart O or with a major repair through Subpart O.... (b) 1. Whom do you mean by "manufacturere of the minor change". Is it the design approval holder?</p>
response	<p><i>Not accepted</i></p> <p>A major repair to an ETSO article shall be treated consistent with a major change and would therefore require a <u>new</u> ETSO authorisation. The marking requirement 21A.611(b) is for changes only, and therefore not applicable to major repairs or design changes to ETSO articles. Similar to the marking of an ETSO article, the marking would identify the manufacturer of the change, not the design approval holder.</p>
comment	<p>51 comment by: <i>UK CAA</i></p> <p>Paragraph: B Subpart Q 21A.807 Comment: It is understood that a change of part number is not required and that the change is identified by marking the article with the minor change identification. It is understood that most operators will track articles by part and serial number and consequently will be unable to trace by mod status.</p>
response	<p><i>Noted</i></p> <p>There is no change to the current situation where a minor change to an ETSO article made by the ETSOA holder would result in a part number, whose root remains unchanged whilst the suffixes (letters or numbers or both) shall evolve in accordance with the ETSOA holder AP to DOA concerning the numbering system of ETSO article. There is no provision that specifically requires that changes to a part are tracked only by part number and serial number.</p>
comment	<p>63 comment by: <i>DGAC France</i></p> <p>modify 21A.807(a) 2 as follows:</p> <p>(2) the name, type, part number or model designation <u>model designation and when applicable the part number</u> of the article.</p> <p>Justification: The bullet (2) asks for the part number <u>OR</u> the model designation of the article. Regarding a minor change in paragraph (b) developed by somebody else than ETSO authorisation holder, it is requested to provide the minor change identification. When we read §21A.611(a), it describes that in case of a minor change, the original model number stays the same, and the part number or amendment change identifies the minor change. Therefore, to be consistent</p>

with 21A.807 (b) 2 where it is necessary to identify properly the minor change, paragraph 21A.807 (a) 2 shall be changed to remove the "OR" and replace by a "AND, when applicable".

response *Not accepted*

A change to the identification requirement in 21A.807(a) for ETSO articles by the ETSOA holder is not part of the NPA, and is unchanged to the current requirements.

**B. Draft Rules - II. Draft Decision AMC & GM for Part-21 - GM 21A.431(d)
Repairs to ETSO articles other than an APU**

p. 13

comment 26

comment by: *LHT DO*

Add paragraph of FAA GM 21A.431

1st paragraph:
FAA GM21A.431 allows the definition and usage of acceptable data according to FAR 43 also for TSO Parts. To have competitive structures EASA shall allow at least the design of comparable minor changes / repairs by the design organisation on its own without involvement of the Agency.

Add 2nd paragraph by
... "repair to article y". The affected article has then to be marked with the repair design identification.

response *Not accepted*

Approval of minor repairs and changes by DOA using Subpart D or M is not accepted because:

- The definitions for minor and major used to classify the change in Subparts D and M are not consistent with the definitions applicable to ETSO in Subpart O.
- When DOA's would be allowed to design and classify minor changes or repair, this would result in minor changes to ETSO articles that could not be controlled by a single entity (like currently the ETSO authorisation holder or EASA as proposed).

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

comment 31

comment by: *Caledonian Airborne Systems Ltd*

GM 21A.431(d) the paragraph after "or". This states that an ETSO item may be repaired as part of the host aircraft. All well and good providing that ETSO part is specific to an aircraft type. e.g. a dedicated passenger seat installed to a Boeing 737. Where it is repaired or changed in one example of the aircraft and can be easily taken off and refitted on another example. Great no problem. What happens now if that ETSO part is generic to a number of different aircraft types.

Once it has been removed from the original host aircraft type in which it was repaired or changed that repair or change now becomes invalid once the part has been fitted to another aircraft type. The only way the repair can be made

legal on the second aircraft type will be to go through the whole repair and change process again. And to do so will be an economic burden, which is not in line with the EU's philosophy of facilitating commercial activities on a level playing field. This proposal needs rethinking.

response *Noted*

The comment addresses the issue that was intended to be resolved by this NPA proposal. The installation however always needs to be approved for each aircraft type.

Remark:

The Agency has decided to withdraw the original proposal for the approval of minor changes to an ETSO article at ETSO level. Please refer to paragraph "IV. Evaluation of comments" of this CRD.

**B. Draft Rules - II. Draft Decision AMC & GM for Part-21 - AMC 21A.437(b)
Issue of repair design approval**

p. 13

comment 27

comment by: *LHT DO*

Delete "APU" and use "or ETSO authorization"

response *Not accepted*

Major repair to APU are handled consistent with major repair to engines. Major repair to all other ETSO articles require a new ETSO authorisation.

Appendix A - Attachments

Goodrich Power Systems (GPS) is the leader in development and manufacture of 28Vdc electrical generators and starter-generators for the aircraft industry. GPS acknowledges the benefits to industry through competitive factors and the implementation of the proposed rule across various categories of equipment ETSO's. GPS has concerns regarding the effective enforcement and verification of the supporting compliance data which demonstrate the validity of a Minor classification for design changes to DC generators holding ETSO under C56a (C56b). In addition to compliance to ETSO requirements, there is concern that additional requirements imposed by the air-framer during the OEM development cycle are not apparent at the time of installation approval for a modified product. A modified product may meet ETSO requirements, but could fail to meet additional air-frame requirements.

The level of testing, analysis, etc. which is required to demonstrate performance to the requirements of ETSO's can vary widely depending on the type of equipment and the nature of a proposed change. As an example of the level of complexity involved for DC starter-generators, a partial list of ETSO required testing is provided below. The electrical carbon brushes used in DC starter-generators are consumable wear-items which require scheduled maintenance. Brushes are a typical component for which alternative approvals are sought. Specific and relatively complex testing which forms a part of brush and generator ETSO qualification tests is as follows (a partial listing):

1. EMI Tests – Conducted and Radiated Emissions
2. Demonstrated Brush and Commutator Life – Requires life demonstration at altitudes to 51,000 feet, as well as sea-level
3. Ripple Frequency – Amplitude in time-domain, content in frequency domain
4. Over-load capability

Other machine characteristics, not specific to brushes, but potentially impacted by alternate approvals on other components include: transient voltage response, equalizing voltage (used for paralleling function), minimum speed for voltage regulation, etc.

GPS has concerns whether alternative component approvals have followed a proper and rigorous test schedule to demonstrate compliance to requirements. There are numerous requirements from the customer specification (air-framer), the ETSO, DO-160, and additional standards which form the basis of a new component approval. Frequently, the air-framer will require an ETSO approval on equipment, and will have additional requirements imposed from their equipment specification in support of aircraft type certification. These types of requirements also require a rigorous review and compliance verification process.

If the rule is implemented, GPS sees the use and proper interrogation of the DDP as critical to ensuring compliance to ETSO requirements, by citing the substantiating data through specific test reports. An auditing process or other means of enforcement (submittal of test data is an option) could ensure an effective implementation of the rule, with no impact on machine performance or compliance to requirements. To address specific airframe requirements which are not apparent to an applicant, another mechanism may be required to ensure a valid installation approval.