



# Notice of Proposed Amendment 2020-04

## Regular update of the Acceptable Means of Compliance and Guidance Material to Annex I (Part 21) to Regulation (EU) No 748/2012

RMT.0031

### EXECUTIVE SUMMARY

EASA, as necessary, issues acceptable means of compliance (AMC) and guidance material (GM) to Part 21 to illustrate means to establish compliance with the Regulation or to illustrate the meaning of a requirement. These AMC or GM require regular amendments to take specific safety issues into consideration and introduce new acceptable means of compliance or procedures.

The objective of this Notice of Proposed Amendment (NPA) is to:

- address a safety recommendation following an accident that occurred in Norway on 29 April 2016;
- resolve certain recurrent implementation issues by improving the text of the AMC and GM to Part 21;
- leave no room for misinterpretation of the Regulation, as noticed during design organisation approval (DOA) holder initial investigation and surveillance activities, by including clarifications;
- align the means of compliance with the current industry practice; and
- remove unnecessary guidance material and correct typographical errors.

The proposed amendments are expected to increase the efficiency of implementing Part 21 and ensure alignment with the current industry practices.

<b>Action area:</b>	Design and production		
<b>Affected rules:</b>	AMC and GM to Part 21		
<b>Affected stakeholders:</b>	Design and production organisations; EASA; national aviation authorities (NAAs)		
<b>Driver:</b>	Efficiency/proportionality	<b>Rulemaking group:</b>	No
<b>Impact assessment:</b>	None	<b>Rulemaking Procedure:</b>	Standard

● EASA rulemaking process milestones



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## 1. About this NPA

### 1.1. How this NPA was developed

The European Union Aviation Safety Agency (EASA) developed this NPA in line with Regulation (EU) 2018/1139<sup>1</sup> (the 'Basic Regulation') and the Rulemaking Procedure<sup>2</sup>. This rulemaking activity is included in the European Plan for Aviation Safety (EPAS) [2020-2024](#) under rulemaking task (RMT).0031. It is hereby submitted to all interested parties<sup>3</sup> for consultation.

### 1.2. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt/><sup>4</sup>.

The deadline for submission of comments is **8 May 2020**.

### 1.3. The next steps

Following the closing of the public commenting period, EASA will review all the comments that have been received. These comments and the EASA responses to them will be reflected in a comment-response document (CRD). The CRD will be published on the EASA website<sup>5</sup>.

In consideration of the comments received, EASA may develop a Decision that amends the AMC and GM to Annex I (Part 21) to Regulation (EU) No 748/2012<sup>6</sup>.

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<sup>1</sup> Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1535612134845&uri=CELEX:32018R1139>).

<sup>2</sup> EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EU) 2018/1139. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (<http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure>).

<sup>3</sup> In accordance with Article 115 of Regulation (EU) 2018/1139 and Articles 6(3) and 7 of the Rulemaking Procedure.

<sup>4</sup> In case of technical problems, please contact the CRT webmaster ([crt@easa.europa.eu](mailto:crt@easa.europa.eu)).

<sup>5</sup> <https://www.easa.europa.eu/document-library/comment-response-documents>

<sup>6</sup> Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576855243692&uri=CELEX:32012R0748>).

## 2. In summary — why and what

### 2.1. Why we need to change the rules — issue/rationale

This NPA includes amendments to the AMC and GM to Part 21 as the outcome of a regular update process to take specific safety issues into consideration and to introduce new methods of compliance considered non-controversial and mature enough to be implemented. The changes selected for this NPA are presented in the sections below.

#### 2.1.1. Safety recommendation

Following the accident involving helicopter EC 225 LP on 29 April 2016 in Norway, the Norwegian safety investigation authority issued the following safety recommendation and addressed it to EASA.

SR NORW-2018-007:

‘The Accident Investigation Board Norway recommends that EASA make sure that helicopter manufacturers review their Continuing Airworthiness Programme to ensure that critical components, which are found to be beyond serviceable limits, are examined so that the full nature of any damage and its effect on continued airworthiness is understood, either resulting in changes to the maintenance programme, or design as necessary, or driving a mitigation plan to prevent or minimise such damage in the future.’

To accommodate this request, the new AMC3 21.A.3A(a) is proposed, together with the update of the content of AMC1 21.A.243(a). In addition, it is proposed to extend the applicability of AMC 21.A.3B(b) and GM 21.A.3B(b) to point 21.A.3A(a).

#### 2.1.2. Certain recurrent Part 21 implementation issues

During the audits conducted for the surveillance of DOA holders, EASA identified certain recurrent issues concerning the proper definitions of changes and repair designs. These issues pertain to the proper identification of the product configuration affected by the change or the repair (e.g. pre-mod and post-mod configurations). Clarifications in AMC1 21.A.263(c)(1), AMC2 21.A.263(c)(1), AMC1 21.A.263(c)(2) and AMC2 to 21.A.263(c)(2) are proposed to resolve such issues.

#### 2.1.3. Clarifications on the way to implement certain Part 21 requirements

During the activities for the initial investigation and surveillance of DOA holders, EASA has collected a number of issues related to the implementation of Part 21. These may lead to misunderstandings, difficulties and uneven application of Part 21 requirements.

In addition, industry, through associations<sup>7</sup>, proposed to EASA some improvements, clarifications and simplifications of the content of the AMC and GM to Part 21. Following a review of the industry proposals, where EASA agreed to the need for improvement, clarification or simplification, EASA considered them in this NPA. The amendments associated with the industry proposals are listed below:

- (1) clarifications related to point 21.A.3A;

<sup>7</sup> A dedicated task force named DOA TF#3 was established. The TF proposed to EASA a list of improvements to Part 21 and its AMC and GM. This NPA addresses only some of the recommendations related to AMC and GM. The remaining recommendations will be considered for inclusion in future NPAs.

- (2) clarification of the statement related to the data and information required in point 21.A.14 by design organisations that use procedures alternative to those used by DOA holders;
- (3) clarification that an AMC does not have a prescriptive nature;
- (4) clarifications related to the marking of parts and the definition of critical parts; and
- (5) clarification regarding the conditions when a POA or DOA may be transferred.

#### **2.1.4. Alignment with the current industry practice**

The technological evolution provides new and more efficient practices and working methods using digital data or platforms based on intranet. The new AMC1 21.A.265(a) is proposed to recognise the acceptability of these new methods.

#### **2.1.5. Simplification/reduction of the GM text and correction of typographical errors**

It is considered that some GM is redundant, since it repeats the related requirements without offering any additional information. In addition, the opportunity was taken to remove a typographical error in AMC 21A.163(d).

### **2.2. What we want to achieve — objectives**

The overall objectives of the EASA system are defined in Article 1 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Section 2.1.

The specific objective of this proposal is to amend the AMC and GM to Part 21 in order to reflect the state of the art and the best industry practices. This amendment is based on a selection of non-controversial and mature subjects. The ultimate goal is to increase safety and efficiency.

### **2.3. How we want to achieve it — overview of the proposals**

#### **2.3.1. Safety recommendation**

Following the safety recommendation ‘SR NORW-2018-007’, the new AMC3 21.A.3A(a) is proposed to provide a methodology for the TC holder to perform ‘investigation’ and ‘analysis’ of information related to failures, malfunctions, defects or other occurrences. When during the overall inspection of a part, especially of a part that is considered critical, its condition is found to be beyond the serviceable limit, a thorough investigation and analysis should be performed to understand the reason why the condition of the part is not consistent with the expected level of wear. In addition, the TC holder should assess whether a change to the design (e.g. to improve the durability of the part) or to the instructions for continuing airworthiness (e.g. to change the inspection or replacement frequency) are necessary, in order to maintain an acceptable level of safety.

Moreover, it is proposed to also make applicable to point 21.A.3A(b)(1) the criteria for the determination of an ‘unsafe condition’ defined in AMC 21.A.3B(b) and GM 21.A.3B(b), since the term ‘unsafe condition’ is also used in this point.

Finally, an amendment to point (10) of AMC1 21.A.243(a) is proposed to clarify that the DOA handbook should include a description of the means to collect, monitor, analyse and respond to reports of problems which cause or might cause an adverse effect on the airworthiness or operational suitability

of the product, part or appliance. A link with point 21.A.3A(a) is proposed, as well as a clarification of the types of reports which should be included regarding in-service issues.

### 2.3.2. Certain recurrent Part 21 implementation issues

In order to address the implementation issues regarding the design definition of changes and repairs, it is proposed to amend AMC1 21.A.263(c)(1) to highlight the need to identify the pre-mod (pre-repair) configuration to be affected by the change (repair), including parts, appliances, and systems, but also other type certificate (TC) constituents (operational suitability data (OSD) constituents, manuals, etc.) that might be affected. Together with this affected configuration, the DOA holder is also expected to identify the affected type certification and OSD certification basis. The same level of detail should be applied for the definition of the post-mod (post-repair) configuration.

Regarding the development of the justification of the change, when the classification is not straightforward, it is proposed to clarify that this should be done with reference to the specific applicable airworthiness requirements of the affected items and, consequently, against the criteria provided in point 21.A.91 as complemented by the guidance provided in GM 21.A.91. The applicant should justify whether or not any additional demonstration of compliance is required.

In a similar manner, it is proposed to amend AMC1 21.A.263(c)(2) on the DOA procedure to approve minor changes or minor repairs. In particular, it is proposed to specifically include the identification of the pre-mod and post-mod configurations in the document defined by the DOA holder for the approval of the minor change or minor repair.

In a similar way, an amendment to AMC2 21.A.263(c)(1) and AMC2 21.A.263(c)(2), defining the classification procedure for a DOA holder that designs only minor changes or minor repairs, is also proposed.

### 2.3.3. Clarifications on the ways to implement certain Part 21 requirements

#### 2.3.3.1 Clarifications related to point 21.A.3A

According to the criteria for the classification of design changes (defined in point 21.A.91), and of repairs (defined in point 21.A.435), minor changes and minor repairs have no appreciable effect on the characteristics affecting the airworthiness of the product. Consequently, the design approval holder of a minor change or of a minor repair has no obligations related to the continued airworthiness of the part affected by the change or repair. In order to make this concept clearer, it is proposed to modify GM 21.A.3A(a) to clarify that organisations that only design minor changes and minor repairs do not have to comply with the requirements defined in point 21.A.3A(a).

Moreover, EASA received several questions regarding the interpretation of the text included in point 21.A.3A(a) ‘... or any other relevant approval deemed to have been issued under this Regulation ...’. This opportunity was taken to clarify that the above-mentioned text was introduced with the first issue of Regulation (EU) No 748/2012 in order to grant ‘grandfathered’ approvals to projects, which at that time were in use in EU Member States, following an approval based on national regulations.

#### 2.3.3.2 Clarification of the statement related to the data and information required in point 21.A.14

AMC 21.A.14(b) defines the AMC for design organisations that use procedures alternative to those used by DOA holders. Paragraph 4 of this AMC requires design organisations to issue information and instructions (e.g. instructions for continued airworthiness, instructions for the embodiment of design

changes, repair instructions) to owners, operators or others that are required to use the design data they produce. As part of this information, point 4.4 of the AMC requires a statement showing EASA approval.

An amendment to AMC 21.A.14(b) is proposed in order to clarify that the data and information are initially approved by EASA as part of the respective design approval (i.e. TC, supplemental type certificate (STC), major change/repair approval, minor change/repair approval). Changes to this data and information defined at a later stage are carried out by the design organisation according to the EASA-agreed procedures. The statement to be included in the data and information should reflect the fact that the documentation has been produced in accordance with a procedure alternative to that used by a DOA holder, and make reference to the EASA approvals (TC, STC, major change/repair approval, minor change/repair approval), when applicable.

### **2.3.3.3 Clarification that an AMC does not have a prescriptive nature**

The current AMC 21.A.263(c)(6) uses ‘must’ in several instances, which is not appropriate for an AMC. An AMC cannot prescribe a requirement; it only provides one way to show compliance with the regulation. This term is used also in regard to the applicability of EASA Form 18A, as the template for the approval of flight conditions. As a confirmation of the non-prescriptive nature of the AMC, in several cases, forms developed by DOA holders, equivalent to EASA Form 18A, have been accepted. Consequently, an amendment to this AMC is proposed to replace all instances of ‘must’ with ‘should’ and to better clarify that a DOA holder may develop its own template for the approval of flight conditions under the privilege of point 21.A.263(c)(6). In any case, the template developed by the DOA holders should be such that it is evident that the requirements defined in the Regulation are met.

Moreover, in several instances, EASA noticed incorrect use of EASA Form 18A and EASA Form 18B by applicants holding a DOA, with or without the privilege to approve the flight conditions, as defined in point 21.A.263(c)(6). An amendment to AMC 21.A.709(b) is proposed to make clear when an EASA Form 18B should be used for the approval of flight conditions; that is, when the DOA holder does not have the privilege to approve flight conditions or when it has such a privilege but the respective flight conditions are outside the approved scope of work.

### **2.3.3.4 Clarifications related to the marking of parts and the definition of critical parts**

New AMC and GM (GM1 21.A.804(a)(3), AMC1 21.A.804(b) and GM1 21.A.805) are proposed to clarify the respective part-marking requirements, as follows:

- Point (a)(3) of point 21.A.804 mandates manufacturers to apply a European part approval (EPA) marking to parts or appliances produced in accordance with approved design data that does not belong to the TC holder of the related product, except for European technical standard order (ETSO) articles. EASA has received several questions on the applicability of this requirement in cases of repairs. In such cases, if the repair design does not need to incorporate new parts, the EPA marking is not required. The EPA marking only applies to the new parts to be incorporated as defined in the repair scheme. The new GM1 21.A.804(a)(3) is proposed to include this clarification.
- Point 21A.804(b) provides the possibility for totally or partially omitting the marking of a part when EASA concurs that the part is too small or that marking it is impractical. In such cases, the missing marking information should be provided in the authorised release document or on the container.

- The new AMC1 21.A.804(b) is proposed to define that an acceptable means to comply with this requirement consists of the description to be added to the procedures developed by the design organisation, and of the conditions that qualify the lack of the necessity for the part to be marked. In such cases, the design data should specify the contents of the marking and the location where it will be added.
- Point 21.A.805 provides the requirements for the marking of some parts referred to as ‘critical parts’. This term is defined in some Certification Specifications (CSs) (i.e. CS-E, CS-APU, CS-27, CS-29); however, other CSs related to aeroplanes (i.e. CS-23, CS-25) do not include such a definition. New GM is proposed to explain that what this point requires is to have individual traceability for continued airworthiness management. The GM provides guidance to the design approval holder in order to identify when a part needs to be marked.

### 2.3.3.5 Clarification regarding the conditions when a POA or DOA may be transferred

Points 21.A.149 and 21.A.249 provide a basic principle that a POA or DOA, respectively, are not transferable, with only one exception when the transfer is the result of a change in ownership.

The requirement has been expressed in a very clear and prescriptive way, since a transfer puts in question the continuous compliance of the assessed organisation with the requirements in Subpart G or Subpart J.

So, as consequence, the natural or legal person needs to (re-)apply for a POA or a DOA. If many aspects of the previous approval holder remain unchanged, no full substantial re-investigation may be necessary.

If the transfer is the result of a change in ownership, then the transfer is considered a significant change requiring the POA or DOA holder to apply for an approval according to point 21.A.147 or 21.A.247.

As the above is an exception, it has to be interpreted in a narrow way, and it shall only be applied in demonstrated cases of a change in ownership resulting in a need to transfer.

Based on the feedback received from the stakeholders, GM 21.A.149 and GM 21.A.249 are considered to be unclear, since they do not really clarify what a ‘transfer as a result of a change of ownership’ is.

For example, the following terms used in the GM should be reconsidered:

- ‘substantially unchanged’ which leaves room for interpretation, may be even better replaced by ‘unchanged’; and
- ‘change of company name’; this addresses the certificate (paper), as a transfer situation. A change of ownership may result in a new company name. The new company name does not affect the approval if there are no changes to the company’s premises and key personnel. If the company, as a result of the name change, also changes its registration number and therefore may be considered to be a new legal entity, then the GM may make sense, by saying that the ‘change in ownership’ is an acceptable transfer, i.e. only a significant change.

### 2.3.4. Alignment with the current industry practice

It is becoming common for some DOA holders to replace the traditional design organisation handbook with an integrated management system manual, often based on an intranet platform, containing





procedures related to different management systems. In this case, the design organisation procedures become merely an element of the overall manual. If the system guarantees that all the required information is available, either directly or through a cross reference/link, and ensures the effective use of the handbook by the DOA holder's staff, then this is considered acceptable. Consequently, the new AMC1 21.A.265(a) is proposed to clarify the format and means to publish such a handbook.

It is also clarified that it is mandatory for EASA to have access to the handbook, in whatever form it is made available.

### 2.3.5. Simplification/reduction of the GM text and correction of typographical errors

During the revision of the content of some GM, it was noticed that in some cases, the GM does not provide any additional clarification of the requirement it refers to, and that it is only a repetition of it. It is therefore proposed to delete:

- GM 21.A.439 and GM 21.A.441, since they basically repeat the text of the Regulation; and
- GM 21.443, which refers to procedures required by Regulation (EU) No 965/2012<sup>8</sup> on air operations, which are not applicable to design or production organisations.

Following the changes to Part 21 introduced with Regulation (EU) 2019/897, point 21.A.15 was amended to delete the definition of operational suitability data (OSD) as it was introduced in paragraph (k) of Article 1 of Regulation (EU) 748/2012. Then ED Decision 2019/018/R accordingly amended the relevant AMC and GM; however, GM No 4 to 21.A.15(d) was not revised to reflect the new location of the OSD definition. Moreover, GM No1 to 21.A.15(d)(6) was not deleted, following the deletion of the subparagraphs of paragraph (d) of point 21.A.15. These two mistakes are proposed to be corrected.

AMC-ELA No 1 to 21.A.263 was also revised to update the statement that DOA are required to include in the aircraft flight manual, in case of minor revision, to reflect the new text that was introduced, with the last amendment of Part 21, in paragraph (h) of point 21.A.265. In addition, a revision to AMC 21.A.163(d) is proposed to correct a typographical mistake. It was identified that the text of this AMC refers to GM 21.A.163(c) (EASA Form 1). Actually, there is no such GM, and the AMC should refer to point 21.A.163(c) instead.

Lastly, it has been noted that GM No 1 to 21.A.112B only addresses STCs for products for which a DOA is required according to point 21.A.14. It is therefore proposed to add a line in the table reported in the GM to also cover STCs for products where a DOA is not required as defined in point 21.A.14(b).

## 2.4. What are the expected benefits and drawbacks of the proposals

The main benefits of the proposals in this NPA are that they:

- address safety concerns; and
- increase the efficiency of the Part 21 implementation.

There are no foreseen drawbacks.

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<sup>8</sup> Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576866466722&uri=CELEX:32012R0965>).

### 3. Proposed amendments

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

- deleted text is ~~struck through~~;
- new or amended text is highlighted in **blue**;
- an ellipsis '[...]' indicates that the rest of the text is unchanged.

#### Draft acceptable means of compliance and guidance material (draft EASA decision)

#### AMC3 21.A.3A(a) Failures, malfunctions and defects

##### INVESTIGATION AND ANALYSIS

The 'investigation' and 'analysis' functions of the system should include means to identify adverse trends in the collected failures, malfunctions, defects or other occurrences, to investigate the associated root cause(s), and to identify the required corrective action(s). It should also allow the identification of reportable occurrences as required under point 21.A.3A(b).

In particular, the system should ensure that critical parts found to be beyond serviceable limits are thoroughly investigated so that the full nature of any damage, malfunction, or defect and its effect on continuing airworthiness is understood. This should then result in changes to the design, instructions for continued airworthiness, and/or in establishing a mitigation plan to prevent or minimise such occurrences in the future, as necessary.

#### GM1 21.A.3A(a) ~~The system for collection, investigation and analysis of data~~ Failures, malfunctions and defects

##### GENERAL

~~In the context of this requirement the~~ The word "~~Collection~~" 'collection' means the setting up of systems and procedures which will enable relevant malfunctions, failures and defects to be properly reported when they occur.

In the context of point 21.A.3A(a), the phrase '[...] or any other relevant approval deemed [...]' refers to 'grandfathered' design approvals under Part 21, as defined in Article 3 of Regulation (EU) No 748/2012.

Minor change and minor repair approval holders do not have to comply with the requirements in point 21.A.3A(a) since according to the classification criteria for design changes and repairs (see points 21.A.91 and 21.A.435), minor changes and minor repairs have no appreciable effect on the characteristics affecting the airworthiness of the product.

#### AMC1 21.A.3A(b)(1) and 21.A.3B(b) ~~Unsafe condition~~ Failures, malfunctions and defects

##### UNSAFE CONDITION

[...]

## GM1 21.A.3A(b)(1) and 21.A.3B(b) ~~Determination of an unsafe condition~~ Failures, malfunctions and defects

### DETERMINATION OF AN UNSAFE CONDITION

It is important to note that these guidelines are not exhaustive. However, this material is intended to provide guidelines and examples that will cover most cases, taking into account the applicable certification requirements.

#### 1. INTRODUCTION

Certification or approval of a product, part or appliance is a demonstration of compliance with requirements which are intended to ensure an acceptable level of safety. This demonstration however includes certain accepted assumptions and predicted behaviours, such as:

- fatigue behaviour is based on analysis supported by test,
- modelling techniques are used for Aircraft Flight Manual performance calculations,
- the system safety analyses give predictions of what the system failure modes, effects and probabilities may be,
- the system components reliability figures are predicted values derived from general experience, tests or analysis,
- the crew is expected to have the skill to apply the procedures correctly, and
- the aircraft is assumed to be maintained in accordance with the prescribed instructions for continued airworthiness (or maintenance programme), etc.

In-service experience, additional testing, further analysis, etc., may show that certain initially accepted assumptions are not correct. Thus, certain conditions, initially demonstrated as safe, are revealed by experience as unsafe. In this case, it is necessary to mandate corrective actions in order to restore a level of safety consistent with the applicable certification requirements.

See AMC1 21.A.3A(b)(1) and 21.A.3B(b) for definition of 'unsafe condition' used in 21.A.3A(b).

[...]

## AMC1 21.A.14(b) ~~Alternative procedures to demonstrate design capability~~ Demonstration of capability

### ALTERNATIVE PROCEDURES TO DEMONSTRATE DESIGN CAPABILITY

[...]

4. Issue of data and information (including instructions) to owners, operators or others required to use the data and information.

#### 4.1 General

Data and information include the operational suitability data.

#### 4.2 Data related to changes



The data and information (including instructions) issued by the holder of a design approval (for a TC, STC, approval of a change, approval of a repair design) are intended to provide the owners of a product with all the necessary data and information to embody a change or a repair on the product, or to inspect it.

The data and information (including instructions) may be issued in the format of a service bulletin as defined in the ATA 100 system, or in structural repair manuals, maintenance manuals, engine and propeller manuals, etc.

The preparation of this data involves design, production and inspection. The three aspects should be properly addressed and a procedure should exist.

#### 4.3 Procedure

The procedure should address the following points:

- preparation;
- verification of technical consistency with corresponding approved change(s), repair design(s) or approved data, including effectivity, description, effects on airworthiness or operational suitability, especially when limitations are changed;
- verification of the feasibility in practical applications; and
- approval for the release of data and information.

The procedure should include the information (including instructions) prepared by subcontractors or vendors, and declared applicable to its products by the holder of the TC, STC, approval of changes or approval of repair designs.

#### 4.4 Statement

~~The data and information (including instructions) should contain a statement showing EASA's approval.~~

The data and information should include a statement:

- confirming that the documentation has been produced in accordance with an accepted alternative procedure to that used by the DOA holder; and
- containing a reference to EASA approvals of related changes or repairs, when applicable<sup>9</sup>.

[...]

<sup>9</sup> EASA does not directly approve information or instructions. These are approved as part of the TC, STC, change approval or repair design approval. When stand-alone changes (i.e. not related to a TC change or repair design) to the issued information or instructions (e.g. for answering to in-service experience) are needed, these should be prepared, verified and approved according to the agreed procedures (see above).

## GM No 4 to 21.A.15(d) Scope of operational suitability data

### Application

#### SCOPE OF OPERATIONAL SUITABILITY DATA

In the application-extension for approval of operational suitability data, the TC applicant may apply for the approval of different types of operations. If the aircraft is **certificated** certified for certain types of operations (e.g. ETOPS, RNP, LVO), the impact on the OSD constituents of [21.A.15\(d\)](#) should be addressed.

The five defined OSD constituents are listed in [point \(2\)\(k\) of Article 1 of Regulation \(EU\) 748/2012 21.A.15\(d\)\(1\) through \(5\)](#). As explained in [GM No 1 to 21.A.15\(d\)](#), they may not all be **all** applicable to all aircraft types. The content of each of the OSD constituents is defined in the relevant certification specification [\(CS\)](#) and will be approved under a type certificate (TC), supplemental type certificate (STC) or change to those certificates. As explained in [GM No 3 to 21.A.15\(d\)](#), each OSD constituent can have a part that is mandatory for the end-user (operator, training organisation, etc.) and a part that is not mandatory (recommendation) for the end-user. However, both the mandatory and the non-mandatory part together are the OSD constituent. Furthermore, the OSD constituent always includes the element required from the TC/STC applicant, as specified in the CS, and may include additional elements **at** the request of the TC/STC applicant, but still as defined in the CS.

## GM No 1 to 21.A.15(d)6 Other type-related operational suitability elements

*ED Decision 2016/007/R*

~~In addition to the five defined OSD constituents, there may be other data which could qualify as OSD when it is relevant for the operational suitability of the aircraft type, is not included in the type design and is specific to that aircraft type.~~

~~The term 'element' as used in this GM carries its normal dictionary meaning, i.e. part, portion, component, etc.~~

~~In order for this 'element' to qualify as 'other type-related operational suitability element', the following conditions apply:~~

- ~~—— it concerns data (not the approval of equipment);~~
- ~~—— the data is type specific;
 
  - ~~—— the data is not already be part of the 'classic' part of the type certificate (TC) (such as Airworthiness Limitations Section (ALS), aircraft flight manual (AFM), etc.);~~~~
- ~~—— the data is relevant for the safe operation of the aircraft type; and~~
- ~~—— conditions/criteria for the approval of the data can be established.~~

~~The other type-related operational suitability elements can only contain data that is not mandatory for the end-users unless they are covered by one of the existing requirements in Regulations (EU) Nos 965/2012, 1178/2011 or 1321/2014 referring to OSD approved in accordance with Part 21.~~

~~If data can be included in one of the five defined OSD constituents, it does not qualify as an additional operational suitability element under [21.A.15\(d\)6](#). For example, the pilot training necessary to introduce an electronic flight bag (EFB) can be included in the OSD constituent flight crew data (FCD), and is not considered an additional operational suitability element.~~



## GM ~~No 1 to 21.A.112B~~ Demonstration of capability ~~for supplemental type certificate (STC) cases~~

### DEMONSTRATION OF CAPABILITY FOR SUPPLEMENTAL TYPE CERTIFICATE (STC) CASES

See also [AMC 21.A.14\(b\)](#) for the details of the alternative procedures.

The following examples of major changes to type design (ref: [21.A.91](#)) are classified in two groups. Group 1 contains cases where a design organisation approved under Part 21 Subpart J ('Subpart J DOA') should be required, and Group 2 cases where the alternative procedure may be accepted. They are typical examples, but each STC case should be addressed on its merits, and there would be exceptions in practice. This classification is valid for new STCs, not for evolutions of STCs, and may depend upon the nature of the STC (complete design or installation).

Product	Discipline	Kind of STC	Group
<b>All aircraft</b>			
	<b>OSD</b>		
		Major stand-alone change to any OSD constituent	1
<b>Products for which an alternative procedure may be accepted according to 21.A.14(b)</b>		<b>All disciplines</b>	<b>2</b>
<b>CS-23 (products where a Subpart J DOA is required for TC)</b>			
<b>Notes:</b>			
* an STC which leads to a reassessment of the loads on large parts of the primary structure should be in Group 1.			
* 2/1 means that an assessment of consequences in terms of handling qualities, performance or complexity of demonstration of compliance may lead to classification in Group 1.			
	<b>Aircraft</b>		
		Conversion to tail wheel configuration	1
		Auxiliary fuel tank installations	2/1
		Glass fibre wing tips	2/1
		Fairings: nacelle, landing gear	2
		Gap seals: aileron, flap, empennage, doors	2
		Vortex generators	2/1
		Spoiler installation	1
		Increase in MTOW	1
	<b>Structures</b>		
		Stretcher installation	2
		Change to seating configuration	2
		Windshield replacement (heated, single piece, etc.)	2
		<del>Light weight</del> Lightweight floor panels	2
		Ski installations	2/1
	<b>Propulsion</b>		
		Engine model change	1
		Fixed pitch propeller installation	2



Product	Discipline	Kind of STC	Group
		Constant speed propeller installation	2/1
		Installation of exhaust silencer	2
		Installation of <b>Graphic graphic</b> engine monitor	2
		Installation of fuel flow meter	2
		Accessory replacement (alternator, magnetos, etc.)	2
		Inlet modifications: oil cooler; induction air	2
	<b>Equipment</b>		
		Avionics upgrades (EFIS, GPS, etc.)	2/1
		Engine instrument replacements	2
		Carburettor ice detection system	2
		Autopilot system installation	1
		Wing tip landing light; recognition lights	2
		WX radar installation	2
		Aeromedical system installations	2
		De- and anti-ice system installations	1
		Emergency power supply installations	2
<b>CS-25</b>			
	<b>Cabin Safety</b>		
	<u>Note:</u> Basically all changes related to cabin configuration should be in Group 2.	Cabin layout (installation of seats (16G), galleys, single class or business / economy class, etc.)	2
		Floor path marking	2
		Crew rest compartment	1
		Change of cargo compartment classification (from class D to class C)	1
	<b>Structure</b>		
	<u>Note:</u> An STC which leads to a reassessment of the loads on large parts of the primary structure should be in Group 1.	Cargo door	1
		Change from <b>P</b> passenger to <b>F</b> freighter configuration	1
	<b>Avionics</b>		
	<u>Notes:</u> For CS-25 products, the existence of an ETSO is not taken into account for the classification. The impact on aircraft performance, and influence of aircraft performance are criteria to assess the classification. Subjective assessment of human factors is considered for determination of the classification.	CVR	2
		VHF	2
		NAV (ADF, VOR, GPS, BRNAV)	2
		Autopilot, HUD, EFIS, FMS	1
		DFDR	2/1
		Meteo radar	2
		ILS Cat 3	1

Product	Discipline	Kind of STC	Group
		RVSM	1
		TCAS, EGPWS	1
		GPWS	2
	<b>Powerplant</b>		
		Auxiliary fuel tanks	1
		Thrust Reverser system	1
		Hushkit	1
		Fire detection	1
		Fuel gauging	1
		Change of Engine or Propeller	1
<b>CS-27 or 29</b>	<b>All disciplines</b>		
<b>Note:</b> 2/1 means that an assessment of consequences in terms of handling qualities and performance may lead to classification in Group 1.		Replacement of Main rotor or tail rotor blades replacement	1
		Autopilot	1
		Engine type change	1
		GPS installation	2
		Jettisonable overhead raft installation	2
		Utility basket installation	2/1
		Nose or side mount camera installation	2/1
		Passenger access step installation	2/1
		Protection net & handle installation (parachuting)	2
		VIP cabin layout	2
		Navigation system installation	2
		Fuel boost pump automatic switch-on installation	2
		Decrease of maximum seating capacity	2
		Agricultural spray kit installation	2/1
		Long exhaust pipe installation	2
		Flotation gear installation	2/1
		Wipers installation	2
		Engine oil filter installation	2
		Skid gear covering installation	2/1
		Gutter installation (top pilot door)	2
		Cable cutter installation	2
		Auxiliary fuel tank fixed parts installation	2
		Cabin doors windows replacement	2
		Radio-altimeter aural warning installation	2
		Stand-by horizon autonomous power supply	2
		Fire attack system	2/1
		Hoisting system installation	2/1
		External loads hook installation	2
		Emergency flotation gear installation	2/1
		Heating/demisting (P2 supply)	2



## GM 21.A.149 and 21.A.249 Transferability

### GENERAL

~~A Transfer of approval would normally only be agreed in cases where the ownership changes but the organisation itself remains effectively unchanged. For example:~~

~~An acceptable transfer situation could be a change of company name (supported by the appropriate certificate from the National Companies Registration Office or equivalent) but with no changes to site address, facilities, type of work, staff, accountable manager or person nominated under 21.A.145.~~

~~Alternatively, in the event of receivership (bankruptcy, insolvency or other equivalent legal process) there may be good technical justification for continuation of the approval provided that the company continues to function in a satisfactory manner in accordance with their POE. It is likely that at a later stage the approval might be voluntarily surrendered or the organisation transferred to new owners in which case the former paragraphs apply. If it does not continue to operate satisfactorily then the competent authority could suspend or revoke the approval under 21.B.245.~~

~~In order for the competent authority to agree to a transfer of approval, it will normally prescribe it as a condition in accordance with 21.A.147(b) that the obligations and responsibilities of the former organisation should be transferred to the new organisation, otherwise transfer is not possible and application for a new approval will be required.~~

A transfer of the approval to another production or design organisation is by default excluded by points 21.A.149 or 21.A.249, respectively. These points only allow it exceptionally if it is a direct consequence of a transfer of ownership in an approved production or design organisation, which is then considered a significant change to the existing approval (to which point 21.A.147 or 21.A.247 applies).

As a consequence, and in order to apply this exception, the production or design organisation has to demonstrate to the competent authority the existence of a change in ownership which resulted in the fact that a different legal entity is now conducting the approved production or design functions while remaining effectively unchanged.

An example of such an exception is a change of ownership that leads to a re-registration of the organisation (supported by the appropriate certificate from the National Companies Registration Office or equivalent). In order to demonstrate that the organisation remains effectively unchanged, the organisation needs to demonstrate that there are no changes affecting the initial demonstration of compliance of the organisation with Subpart G or J. If, for instance, the change of ownership would in addition lead to a change of address, facilities, type of work, staff, accountable manager or persons nominated under points 21.A.145 or 21.A.245, then it is not an acceptable transfer situation; the exception does not apply in this case. A new investigation by the competent authority would be necessary. The new organisation has to apply for its own approval. In such a case where the organisation applies for a new approval, the demonstration of compliance in accordance with points 21.A.135 or 21.A.235 may be limited to the demonstration that the changes in the organisation comply with the Subpart G or J requirements, while referring for the rest to the compliance demonstration of the previous approval holder.

A pure name change, where the ownership does not change, does not require a transfer of the approval. In this case, the natural or legal person holding the approval remains the same. However, as

a consequence of the name change, the approval document needs to be amended to reflect the new company name. This is a significant change, to which point 21.A.147 or 21.A.247 directly applies.

Another example of a transfer of ownership, which may be exceptionally accepted under points 21.A.149 or 21.A.249, may be the event of receivership (bankruptcy, insolvency or other equivalent legal process). In this case, there is no change to the production or design organisation, except that the custodial responsibility for its property, including its tangible and intangible assets and rights, is transferred to a receiver or insolvency administrator. The receivership aims to continue the business of the same organisation.

## AMC1 21.A.163(d) Privileges – Maintenance

### MAINTENANCE

[..]

#### MAINTENANCE OF COMPONENTS OUTSIDE THE POA CAPABILITY

Such a maintenance activity outside the capability of the Aircraft POA holder may still be accomplished under the production approval of the original release organisation. In such circumstances, the engine(s), propeller(s), parts and appliances will require re-release in accordance with point GM 21.A.163(c) (EASA Form 1).

[..]

## AMC No-1 to 21.A.243(a) Data requirements

### HANDBOOK CONTENT

The handbook should provide the following information for each product covered by the design organisation approval.

[...]

10. A description of the means by which the organisation collects, monitors, analyses and responds to reports of problems which cause or might cause an adverse effect affecting on the airworthiness or operational suitability of its product, part or appliance during design, production and in service, in particular to comply with point 21.A.3A (see also AMC3 21.A.3A(a) and GM No 1 to 21.A.239(a), points paragraphs-3.1.4(s) and (u)). The reports should include both mandatory and voluntary occurrence reports from organisations and natural persons involved in the operation and maintenance of the product, part or appliance.

[...]



## AMC-ELA ~~No 1 to 21.A.263~~ Privileges and AMC-ELA ~~No 1 to 21.A.265(h)~~ Obligations of the holder

[...]

- (d) The approval of minor revisions to the AFM and its supplements should contain the following statement: '~~Revision No [YY] to AFM (or supplement) ref. [ZZ] is approved under the authority of DOA ref. EASA. 21J. [XXXX].~~ The technical content of this document is approved under the authority of the DOA ref. EASA. 21J.[XXXX].' Such a change is treated as a change to the type certificate, as the AFM is formally a part of the type certificate, and it is consequently classified on the basis of the application of the method defined in response to [AMC-ELA No 2 to 21.A.239\(a\)](#), and identified as being related to a 'minor' design change. Administrative revisions to the AFM are also expected to be classified as 'minor'. The following revisions to the AFM are defined as minor revisions:
1. editorial revisions or corrections to the AFM;
  2. changes to parts of the AFM that are not required to be approved by EASA;
  3. changes to limitations or procedures that are achieved without altering or exceeding the certification data;
  4. conversions of units of measurement that were previously approved by the FAA or by EASA, and that are added to the AFM in a previously approved manner;
  5. the addition of aircraft serial numbers to an existing AFM if the aircraft configuration, as related to the AFM, is identical to the configuration of the aircraft already in that AFM;
  6. the removal of references to aircraft serial numbers that are no longer applicable to that AFM;
  7. the translation of an EASA-approved AFM into the language of the State of Design or the State of Registration;
  8. AFM revisions as part of minor changes to a type design.

## ~~AMC No 1 to 21.A.263(c)(1) Procedure for the classification of changes to a type certificate (TC) or to a supplemental type certificate (STC) and of repair designs as 'minor' or 'major'~~ Privileges

### PROCEDURE FOR THE CLASSIFICATION OF CHANGES TO A TYPE CERTIFICATE (TC) OR TO A SUPPLEMENTAL TYPE CERTIFICATE (STC), AND OF REPAIR DESIGNS AS 'MINOR' OR 'MAJOR'

[...]

2. PROCEDURE FOR THE CLASSIFICATION OF CHANGES TO A TC, APU ETSO, OR TO THAT PART OF THE PRODUCT COVERED BY AN STC, AND REPAIR DESIGNS

#### 2.1 Content

The procedure should address the following points:

- the identification of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs;
- classification;
- justification of the classification;



- acceptance of the classification by authorised signatories; and
- supervision of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs initiated by subcontractors.

~~For changes to a TC, APU ETSO or to that part of the product covered by an STC, the criteria used for the classification should be in compliance with point 21.A.91 as further explained in GM 21.A.91.~~

~~For repairs, the criteria used for classification should be in compliance with point 21.A.435 as further explained in GM 21.A.435.~~

## 2.2 Identification of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs

The procedure should indicate how the following are identified:

- ~~major changes to a TC, APU ETSO or to that part of the product covered by an STC or major repairs;~~
- ~~those minor changes to a TC, APU ETSO or to that part of the product covered by an STC or minor repairs where additional work is necessary to demonstrate compliance with the CS and environmental protection requirements; and~~
- ~~other minor changes to a TC, APU ETSO or to that part of the product covered by an STC or minor repairs that require no further demonstration of compliance.~~
- items (consisting of areas, systems, parts, or appliances) to be affected by the change or repair following the definitions provided in paragraph 4 of GM 21.A.101;
- other constituents of the TC and of the pre-existing change(s) to TC as applicable to the affected items (see the definitions provided in the GM to 21.A.90A, for instance, operating limitations, OSD constituents, manuals, etc.) to be affected by the change or repair;
- the existing type-certification basis of the affected items: the certification specifications, special conditions, deviations from the applicable certification specifications and the equivalent level of safety findings incorporated by reference in the TC of the product to be changed;
- the existing OSD certification basis;
- the definition of the change or repair to the affected items and to the other affected constituents of the TC and of the pre-existing change(s) to the TC, if applicable, in accordance with the provisions of point 21.A.31;
- the certification basis of the change or repair determined in accordance with point 21.A.101 with the support of GM 21.A.101 (point 21.A.433 for repairs); this might lead to pre-classification of the change as major significant as per associated definitions (see point 2.3 below).

The procedure should request the applicant to record a justification that the information, on which those identifications is based, is adequate. This may be done either using the DOA holder's own resources, or through an arrangement with the TC holder.



The procedure should address cases where the pre-existing configuration of the type design is the result of multiple changes or repairs applied to the same areas, systems, parts, equipment or appliances.

### 2.3 Classification

The procedure should show how the effects on airworthiness, operational suitability and environmental protection are analysed, from the very beginning, by reference to the specific applicable requirements of the affected items.

If no specific CS or environmental protection requirements are applicable to the ~~change or repairs~~ affected items, the above review should be carried out at the level of the part or system where the ~~change or repair~~ affected items are ~~is~~ integrated and where specific CS or environmental protection requirements are applicable.

For changes to a TC, the criteria used for the classification should be in compliance with point 21.A.91 and follow the guidelines provided in GM 21.A.91.

For repairs, the criteria used for the classification should be in compliance with point 21.A.435 and follow the guidelines provided in GM 21.A.435.

The procedure should define provisions to contact EASA in case of doubts regarding the classification.

The procedure should take into consideration that a change to a TC may have been found to be significant according to point 21.A.101 and following the definitions provided in GM 21.A.101. Therefore, they are already pre-classified at the stage of the determination of the certification basis (see point 2.2 above).

### 2.4 Justification of the classification

All decisions of classification of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs as 'major' or 'minor' should be recorded, and, for those which are not straightforward, also documented justified according to the procedure and criteria in point 2.3 above. These records should be easily accessible to EASA for sample checking.

### 2.5 Acceptance of the classification by the ~~a~~ Authorised signatories

All classifications of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs should be accepted by an appropriate authorised signatory, belonging to or tasked by the ~~O~~ Office of ~~A~~ Airworthiness, as explained in GM No 1 to 21.A.239(a)(3.1.4)(r).

The procedure should indicate the authorised signatories for the various products listed in the terms of approval.

For those changes or repairs that are handled by subcontractors, as described under ~~point paragraph~~ 2.6, a description ~~it~~ should be ~~described~~ provided of how the DOA holder manages its classification responsibility.

The final classification may be:

- major changes significant to a TC;
- major changes not significant to a TC or major repairs;

— minor changes to a TC or minor repairs where additional work is necessary to demonstrate compliance with the certification basis, the operational suitability data certification basis, where applicable, and the environmental protection requirements; and

— minor changes to a TC or minor repairs requiring no further demonstration of compliance.

The procedure should indicate how the above four classes of changes/repairs are identified, taking into consideration the requirements set forth in point 21.A.31.

## 2.6 Supervision of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs initiated by subcontractors

The procedure should indicate, directly or by cross reference to written procedures, how changes to a TC, or to that part of the product covered by an STC, and repair designs may be initiated and classified by subcontractors, and are controlled and supervised by the DOA holder, taking into consideration the requirements set forth in point 21.A.239(c) and the associated GM 21.A.239(c).

## ~~AMC No 2 to 21.A.263(c)(1) Privileges – Organisations designing minor changes to a type certificate (TC) or a supplemental type certificate (STC) and minor repairs to products: classification procedure~~

### ~~ORGANISATIONS DESIGNING MINOR CHANGES TO A TYPE CERTIFICATE (TC) OR A SUPPLEMENTAL TYPE CERTIFICATE (STC), AND MINOR REPAIRS TO PRODUCTS: CLASSIFICATION PROCEDURE~~

#### 1. Content

The procedure should address the following points:

- the configuration control rules, especially the identification of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs;
- the classification in compliance with point 21.A.91 and considering GM 21.A.91 for changes and GM 21.A.435 for repairs;
- the justification of the decisions for the classification; and
- the acceptance of the classification by authorised signatories.

#### 2. Identification of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs

The procedure should indicate how the following ~~minor changes to a TC or minor repairs~~ are identified:

- ~~— those minor design changes to a TC or minor repairs where additional substantiation data is necessary to demonstrate compliance with the CS or environmental protection requirements;~~

- ~~— other minor design changes to a TC or minor repairs requiring no further demonstration of compliance.~~
- the items (consisting of areas, systems, parts, or appliances) to be affected by the change or repair as per definitions provided in paragraph 4 of GM 21.A.101. These include the parts, appliances, systems or areas affected, and also other TC constituents (see definitions in GM 21.A.90A — for instance, operating limitations, OSD constituents, manuals, etc.);
- the existing type-certification basis of the affected items: the certification specifications, special conditions, deviations from the applicable certification specifications and the equivalent level of safety findings incorporated by reference in the TC of the product to be changed;
- the existing OSD certification basis;
- the definition of the change or repair to the affected items in accordance with the provisions of point 21.A.31;
- the certification basis of the change or repair determined in accordance with point 21.A.101 with the support of GM 21.A.101 (point 21.A.433 for repairs); this might lead to pre-classification of the change as major significant as per associated definitions (see paragraph 3 below).

### 3. Classification

The procedure should show how the effects on airworthiness, operational suitability and environmental protection are analysed, from the very beginning, by reference to the specific applicable requirements of the affected items.

If no specific CS or environmental protection requirements are applicable to the ~~change or the repair~~ affected items, the above review should be ~~done~~ carried out at the level of the part or system where the ~~change or repair~~ affected items are ~~is~~ integrated and where specific CS or environmental protection requirements are applicable.

For repairs, the criteria used for the classification should be in compliance with point 21.A.435 and follow the guidelines provided in ~~see also~~ GM 21.A.435.

The procedure should define provisions to contact EASA in case of doubts regarding the classification.

### 4. Justification of the classification

All decisions on the classification of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs as 'minor', should be recorded, and, for those which are not straightforward, also ~~documented~~ justified according to the procedure and the criteria defined in paragraph 3 above.

These records should be easily accessible to EASA for sample checking.

The justification ~~it~~ may be in the format of meeting notes or a register.

### 5. Acceptance of the classification by the ~~a~~ Authorised signatories



All classifications of changes to a TC, APU ETSO or to that part of the product covered by an STC, and repair designs should be accepted by an appropriately authorised signatory.

The procedure should indicate the authorised signatories for the various products listed in the terms of approval.

The final classification may be:

- minor changes to a TC or minor repairs where additional work is necessary to demonstrate compliance with the certification basis, the operational suitability data certification basis, where applicable, and the environmental protection requirements; and
- minor changes to a TC or minor repairs requiring no further demonstration of compliance.

## ~~AMC No 1 to 21.A.263(c)(2) Procedure for the approval of minor changes to a type certificate (TC), APU ETSO or a supplemental type certificate (STC), and minor repairs~~ Privileges

### PROCEDURE FOR THE APPROVAL OF MINOR CHANGES AND MINOR REPAIRS TO A TYPE CERTIFICATE (TC), APU ETSO OR A SUPPLEMENTAL TYPE CERTIFICATE (STC)

[...]

## 2. PROCEDURE FOR THE APPROVAL OF MINOR CHANGES TO A TC, APU ETSO OR TO THAT PART OF THE PRODUCT COVERED BY AN STC, AND MINOR REPAIRS

### 2.1 Content

The procedure should address the following points:

- compliance documentation;
- approval under the DOA privilege;
- authorised signatories; and
- supervision of minor changes to a TC, APU ETSO or to that part of the product covered by an STC or minor repairs handled by sub-contractors.

### 2.2 Compliance documentation

For those minor changes to a TC, APU ETSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the applicable CS and environmental protection requirements is necessary, compliance documentation should be established and independently checked as required by point 21.A.239(b).

The procedure should describe how the compliance documentation is produced and checked. For compliance documentation, see also AMC 21.A.20(c).

### 2.3 Approval under the DOA privilege

2.3.1 For those minor changes to a TC, APU ETSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the





applicable CS and environmental protection requirements is necessary, the procedure should define a document to formalise the approval under the DOA privilege.

This document should include at least:

- ~~the a identification and~~ brief description of the change or repair and the reasons for the change or repair;
- identification of the initial configuration of the affected area and other items (which determines the eligibility for installation of the change or repair into an aircraft);
- identification of the final configuration of the affected area, and of supplements to manuals and to OSD constituents;
- the applicable CSs or environmental protection requirements and methods of compliance;
- references to the compliance documents;
- the effects, if any, on the limitations and on the approved documentation;
- evidence of the independent checking function of the demonstration of compliance;
- evidence of the approval under the privilege of point 21.A.263(c)(2) by an authorised signatory; and
- the date of the approval.

For repairs, see AMC 21.A.433(a) and 21.A.447.

[...]

## ~~AMC No 2 to 21.A.263(c)(2) Privileges — Organisations designing minor changes to a type certificate (TC), APU ETSO or a supplemental type certificate (STC) and minor repairs to products: procedure for the approval of minor changes to a TC, APU ETSO or minor repairs~~

### ORGANISATIONS DESIGNING MINOR CHANGES TO A TYPE CERTIFICATE (TC), APU ETSO OR A SUPPLEMENTAL TYPE CERTIFICATE (STC) AND MINOR REPAIRS TO PRODUCTS: PROCEDURE FOR THE APPROVAL OF MINOR CHANGES TO A TC, APU ETSO OR MINOR REPAIRS

#### 1. Content

The procedure should address the following points:

- compliance documentation;
- approval under the DOA privilege; and
- authorised signatories.

#### 2. Compliance documentation



For those minor changes to a TC, APU ETSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the applicable CS and environmental protection requirements is necessary, compliance documentation should be established and independently checked as required by point 21.A.239(b).

The procedure should describe how the compliance documentation is produced and checked.

For compliance documentation, see also AMC 21.A.20(c).

### 3. Approval under the DOA privilege

3.1. For those minor changes to a TC, APU ETSO or to that part of the product covered by an STC, and minor repairs where additional work to demonstrate compliance with the applicable CS or environmental protection requirements is necessary, the procedure should define a document to formalise the approval under the DOA privilege.

This document should include at least:

- (a) ~~the a identification and~~ brief description of the change or the repair and the reason for change or repair;
- (b) identification of the initial configuration of the affected area and other items (which determines the eligibility for installation of the change or repair into an aircraft);
- (c) identification of the final configuration of the affected area, and of supplements to manuals and to OSD constituents;
- (d) the applicable CSs or environmental protection requirements and methods of compliance;
- (e) references to the compliance documents;
- (f) the effects, if any, on the limitations and on the approved documentation;
- (g) evidence of the independent checking function of the demonstration of compliance;
- (h) evidence of the approval under the privilege of point 21.A.263(c)(2) by an authorised signatory; and
- (i) the date of the approval

For repairs, see also AMC 21.A.433(a) and 21.A.447.

[...]

## AMC1 21.A.263(c)(6) ~~Procedure for the approval of the conditions for issue of a permit to fly~~ Privileges

### PROCEDURE FOR THE APPROVAL OF THE CONDITIONS FOR ISSUE OF A PERMIT TO FLY

#### 1. INTENT



This AMC provides means to develop a procedure to determine that an aircraft can fly, under the appropriate restrictions compensating for non-compliance with the certification specifications applicable to the aircraft category.

Each DOA applicant or holder should develop its own internal procedure following this AMC, in order to obtain the privilege to make this determination and approve associated conditions without EASA's involvement, under **point** 21.A.263(c)(6). When the privilege does not apply, the DOA holder will prepare all the necessary data required for the determination in accordance with the same procedure required for the privilege, and will apply for EASA's approval.

The establishment of flight conditions may include conditions related to engines/propellers without a type certificate or with unapproved changes that are fitted on the aircraft, for which a permit to fly is requested. These conditions (i.e. **the** installation, operating, maintenance conditions or limitations) should be defined by the organisation responsible for the design of the engine/propeller and provided to the organisation responsible for the design of the aircraft.

These conditions should be established and substantiated under an arrangement between the organisation responsible for the design of the aircraft and the organisation responsible for the design of the engine/propeller. However, the establishment and substantiation of the flight conditions for the aircraft, including its engine(s), is **ultimately** the **ultimate** responsibility of the organisation responsible for the design of the aircraft.

## 2. PROCEDURE FOR THE APPROVAL OF THE CONDITIONS FOR ISSUE OF A PERMIT TO FLY

### 2.1 Content

The procedure **must** **should** address the following points:

- **the** decision to use the privilege;
- management of the aircraft configuration;
- determination of the conditions that **must** **should** be complied with to **safely** perform **safely** a flight;
- documentation of **substantiations of** flight conditions **substantiations**;
- approval under the DOA privilege, when applicable; **and**
- **the** authorised signatories.

### 2.2 Decision to use the privilege of **point** 21.A.263(c)(6)

The procedure **must** **should** include a decision to determine ~~the~~ **the** flights for which the privilege of **point** 21.A.263(c)(6) will be exercised.

### 2.3 Management of the aircraft configuration

The procedure **must** **should** indicate:

- how the aircraft, for which an application for **a** permit to fly is made, is identified; **and**
- how changes to the aircraft will be managed.



- 2.4 Determination of the conditions that ~~must~~ **should** be complied with to **safely** perform ~~safely~~ a flight-

The procedure ~~must~~ **should** describe the process used by the DOA holder to justify that ~~an~~ **the** aircraft can perform the intended flight(s) safely. This process should include:

- **with reference to point 21.A.701(a), identification of ~~deviations~~ the applicable airworthiness requirements which the aircraft does not meet, or has not been shown to meet, if applicable, and of the purpose of the flights; for flight conditions raised to cover unapproved changes, the identification of the applicable airworthiness requirements which the aircraft does not meet, or has not been shown to meet, can be fulfilled by referring to the certification programme of the unapproved changes** ~~“from applicable certification specifications or non-compliance with Part 21 conditions for the issue of a certificate of airworthiness;~~
- **the** analysis, calculations, tests or other means used to determine under which conditions or restrictions the aircraft can **safely** perform ~~safely~~ a flight;
- the establishment of specific maintenance instructions and conditions to perform these instructions;
- **an** independent technical verification of the analysis, calculations, tests or other means used to determine under which conditions or restrictions the aircraft can perform the intended flight(s) safely;
- **a** statement by the office of airworthiness (or equivalent), that the determination has been made in accordance with the procedure and that the aircraft has no features and characteristics making it unsafe for the intended operation operation(s) under the identified conditions and restrictions; and
- approval by an authorised signatory.

- 2.5 Documentation of flight conditions substantiations

1. The analysis, calculations, tests, or other means used to determine under which conditions or restrictions the aircraft can **safely** perform ~~safely~~ a, ~~must~~ **should** be compiled in compliance documents. These documents ~~must~~ **should** be signed by the author and by the person performing the independent technical verification.
2. Each compliance document ~~must~~ **should** have a number and **an** issue date. The various issues of a document ~~must~~ **should** be controlled.
3. The data submitted and approved by the ~~type-certificate~~ **TC** holder can be used as substantiations. In that case, the independent technical verification referred to in 2.4 is not required.

- 2.6 Approval under the DOA privilege

- 2.6.1 Initial approval

The procedure ~~must~~ **should** include the following EASA Form 18A **(as an alternative, the DOA holder should provide an equivalent template containing the same level of information)** to support the approval under the DOA privilege:



FLIGHT CONDITIONS FOR A PERMIT TO FLY – APPROVAL FORM	
<b>1. Applicant:</b> <b>Approval No:</b> <i>[Name and organisation approval number of the organisation providing the flight conditions and associated substantiations]</i>	<b>2. Approval form No:</b> <b>Issue:</b> <i>[number and issue, for traceability purposes]</i>
<b>3. Aircraft manufacturer/type</b>	<b>4. Serial number(s)</b>
<b>5. Purpose</b> <i>[Purpose in accordance with point 21.A.701(a)]</i>	
<b>6. Aircraft configuration</b> The above aircraft, for which a permit to fly is requested, is defined in <i>[add reference to the document(s) identifying the detailed configuration of the aircraft]</i> <i>[For change(s) affecting the initial approval form: a description of the change(s). This form must be re-issued]</i>	
<b>7. Substantiations</b> <i>[References to the document(s) justifying that the aircraft (as described in block 6-) can perform the intended flight(s) safely under the defined conditions or restrictions.]</i> <i>[For change(s) affecting the initial approval form: reference(s) to additional substantiation(s). This form must be re-issued]</i>	
<b>8. Conditions/Restrictions</b> The above aircraft must be used with the following conditions or restrictions: <i>[Details of these conditions/restrictions, or a reference to the relevant document, including specific maintenance instructions and conditions to perform these instructions]</i>	
<b>9. Statement</b> The determination of the flight conditions has been made in accordance with the relevant DOA procedure agreed by the Agency EASA. The aircraft, as defined in block 6 above, has no features and/or characteristics making it unsafe for the intended operation operation(s) under the identified conditions and restrictions. <i>[strike through what is not applicable]</i>	
<b>10a. Approved under the authority of DOA EASA.21J.xyz</b> <i>[when privilege of point 21.A.263(c)(6) applies]</i> <b>10b. Submitted under the authority of DOA EASA.21J. xyz</b> <i>[when privilege of point 21.A.263(c)(6) does not apply]</i>	
<b>11. Date of issue</b>	<b>12. Name and signature</b> <i>[Authorised signatory]</i>
<b>13. EASA approval and date</b> <i>[when privilege of point 21.A.263(c)(6) does not apply]</i>	

EASA Form 18A Issue 43

When the privilege of point 21.A.263(c)(6) is not applicable, the signed form should be presented by the office of airworthiness (or equivalent) to the Agency EASA.

### 2.6.2 Approval of changes

Except for changes that do not affect the conditions approved for the issue of the permit to fly, the procedure must should specify how changes will be approved by the DOA Hholder. The EASA Form 18A must should be updated.

### 2.7 Authorised signatories



The person(s) authorised to sign the approval form ~~must~~ **should** be identified (name, signature and scope of authority) in the procedure, or in an appropriate document linked to the DOA handbook.

## AMC1 21.A.265(a) Obligations of the holder

### HANDBOOK FORMAT AND PUBLICATION MEANS

The term 'handbook' is meant to describe a means to document the design organisation's processes and procedures. This may be in an electronic or paper format, as a stand-alone document or integrated in a management system. It may consist of:

- an online integrated management system with flowcharts and descriptions embedded in it;
- an online system referring to single documents;
- a classic handbook with references to online procedures; or
- any other combination.

In any case, as required by point (c) of point 21.A.243, independently of the system chosen by the design organisation, the relevant content and the means to update the system should be clearly identified.

## ~~GM 21.A.439 – Production of repair parts~~

~~A maintenance body, (organisation or person), may manufacture parts for repair purposes when in accordance with Subpart F or when approved under Subpart G of Part 21. In addition, a maintenance organisation may manufacture parts for its own repair purposes when expressly authorised by the competent authority of the Member State in accordance with the applicable implementing rules.~~

## ~~GM 21.A.441 – Repair embodiment~~

~~Repairs should be accomplished by an organisation or person in accordance with the relevant implementing rules.~~

~~The holder of a production organisation approval under Subpart G of Part 21 may accomplish repairs to new aircraft, within its terms of approval, under the privilege of 21.A.163(d).~~

## ~~GM 21.A.443 – Limitations~~

~~Instructions and limitations associated with repairs should be specified and controlled by those procedures required by the applicable operations rules.~~



## AMC1 21.A.709(b) ~~Submission of documentation supporting the establishment of flight conditions~~ Application for approval of flight conditions

### SUBMISSION OF DOCUMENTATION SUPPORTING THE ESTABLISHMENT OF FLIGHT CONDITIONS

The applicant should submit, together ~~Together~~ with the application, the documentation required by point 21.A.709(b) ~~must be submitted~~ with the approval form (EASA Form 18B) defined below, completed with all ~~the~~ relevant information. ~~The application should be submitted when the DOA holder does not have the privilege to approve flight conditions or when it has such a privilege but the respective flight conditions are outside the approved scope of work.~~ If the complete set of data is not available at the time of application, the missing elements can be provided later. In such cases, the approval form ~~must~~ ~~should~~ be provided only when all ~~the~~ data ~~is~~ ~~are~~ available, to allow the applicant to make the statement required in ~~block~~ ~~box~~ 9 of the form.

[...]

## GM1 21.A.804(a)(3) Identification of parts and appliances

### EPA MARKING FOR REPAIR PARTS

The EPA marking only applies to the parts, specifically designed for the repair, to be incorporated as part of the repair design. If the repair scheme does not require the addition of any new parts, there is no need for any parts to be marked with the letters EPA.

## AMC1 21.A.804(b) Identification of parts and appliances

### EASA AGREEMENT TO DEROGATE FROM POINT 21.A.804(a)

A DOA holder or a design organisation demonstrating its capabilities using alternative procedures, according to point 21.A.14(b), may apply point 21.A.804(a) or make use of the derogation defined in point 21.A.804(b) by clarifying, in the relevant procedures, the conditions (e.g. the minimum dimensions of a (flat) area on a part suitable for marking) in which the marking on the part may be completely or partially omitted. This can also be supported by examples of parts or cases when certain parts do not have to be marked.

In such cases, the relevant design data (e.g. drawings) should specify the contents and location of the information that could not be marked on the part (i.e. the information to be provided in the authorised release document or on the container).

## GM1 21.A.805 Identification of critical parts

### PARTS TO BE MARKED

For the purpose of point 21.A.805, a part that requires individual traceability for continued airworthiness management, as identified by the design holder, shall be permanently marked with a part number and serial number.

The need for the design approval holder to identify and mark parts may be related to specific requirements for critical parts included in a certification specification. For instance, according to point

(c) of CS-E 110 Drawings and Marking of Parts – Assembly of Parts, ‘Certain parts (including Engine Critical Parts; see CS-E 515) as may be required by the Agency must be marked and the constructor must maintain records related to this marking such that it is possible to establish the relevant manufacturing history of the parts’. Another example is in point AC 29.602 of FAA AC 29-2C, as referenced in Book 2 of CS-29 ...’(7) – ‘Critical parts are identified as required, and relevant records relating to the identification are maintained such that it is possible to establish the manufacturing history of the individual parts or batches of parts.’

Another typical case is for any part subject to an individually specified life limit or inspection requirement when it is also possible for that part to be removed from one serial number of the associated product during maintenance and installed on another serial number of the same product. In this case, the traceability of the part, which is necessary for continued airworthiness, is not assured through the serial number of the product alone, and it is necessary to maintain records for the part.

## GM1 21.B.75 Special conditions

### GENERAL

The term ‘novel or unusual design features’ should be judged in view of the applicable certification basis for the product. A design feature, in particular, should be judged to be a ‘novel or unusual design feature’ when the certification basis does not sufficiently cover this design.

The term ‘unsafe condition’ is used with the same meaning as described in GM1 21.A.3A(b)(1) and 21.A.3B(b).

The term ‘newly identified hazards’ is intended to address new risks that may be recognised in the design (e.g. questionable features) or its operational characteristics (e.g. volcanic ash) for which there is not yet enough in-service experience.





#### 4. Impact assessment (IA)

Considering the limited extent of the changes proposed in this NPA, no impact assessment has been conducted.



## 5. Proposed actions to support implementation

None



## 6. References

### 6.1. Related regulations

Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p. 1).

### 6.2. Affected decisions

Decision N° 2012/020/R of the Executive Director of the Agency of 30th October 2012 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') repealing Decision No 2003/01/RM of the Executive Director of the Agency of 17 October 2003

### 6.3. Other reference documents

None



## 7. Quality of the document

If you are not satisfied with the quality of this document, please indicate the areas which you believe could be improved, and provide a short justification/explanation:

- the technical **quality** of the draft proposed rules and/or regulations and/or the draft proposed amendments to them;
- the clarity and readability of the text;
- the quality of the impact assessment (IA);
- others (please specify).

Note: Your replies and/or comments in reply to this section will be considered for internal quality assurance and management purposes only and will not be published in the related CRD.

