

European Union Aviation Safety Agency

Comment-Response Document 2020-04

RELATED NPA: 2020-04 - RMT.0031 - 1.3.2021

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1. Summary of the outcome of the consultation

110 comments were received from 20 stakeholders (including 1 individual person).

Table 1 below shows the number of comments received from each commentator:

Table 1

Commentators	Number of Comments
CAA-Norway TFH	1
Swedish Transport Agency, Civil Aviation Department	1
DGAC France	1
LBA	1
CAA CZ	2
FOCA Switzerland	1
CAA-NL	1
Collins Aerospace	1
FAA	10
Airbus	22
LHT DO	2
Individual (Prof. Filippo Tomasello)	1
UK CAA	6
ASD	12
Airbus Helicopters	4
FNAM	19
Rolls-Royce plc	8
GE Aviation	3
Safran Aircraft Engines	11
Avio Aero - Airworthiness Office	3
Total	110

The number of comments related to the three chapters of NPA 2020-04 are indicated in Table 2:

Table 2

Chapter of the NPA	Number of comments
Chapter 1: About this NPA	7
Chapter 2: In summary — why and what	11
Chapter 3: Proposed amendments (draft EASA decision)	92
Total	110

The NPA subjects with the numbers of comments are listed in Table 3 below:

Table 3

NPA segment	Number of Comments
General Comments	7
In Summary - Why and What	11
AMC3 21.A.3A(a) Failures, malfunctions and defects	20
GM1 21.A.3A(a) Failures, malfunctions and defects	9
AMC1 21.A.3A(b)(1) and 21.A.3B(b) Failures, malfunctions and defects	1
GM1 21.A.3A(b)(1) and 21.A.3B(b) Failures, malfunctions and defects	1
AMC1 21.A.14(b) Demonstration of capability	2
GM 21.A.15(d) Application	5
GM 21.A.149 and 21.A.249 Transferability	2
AMC1 21.A.163(d) Privileges	1
AMC 1 21.A.243(a) Data	2
AMC-ELA 1 21.A.263 Privileges and AMC-ELA 1 21.A.265(h) Obligations of the holder	1
AMC 1 21.A.263(c)(1) Privileges	18
AMC 2 21.A.263(c)(1) Privileges	4
AMC 1 to 21.A.263(c)(2) Privileges	1
AMC1 21.A.263(c)(6) Privileges	3
AMC1 21.A.265(a) Obligations of the holder	5
GM 21.A.265(b)	1
GM 21.A.439 Production of repair parts - Deletion	1

NPA segment	Number of Comments
AMC1 21.A.709(b) Application for approval of flight conditions	1
GM1 21.A.804(a)(3) Identification of parts and appliances	1
AMC1 21.A.804(b) Identification of parts and appliances	2
GM1 21.A.805 Identification of critical parts	6
GM1 21.B.75 Special conditions	1
Comments to points 21.A174, 21.A.204, 21.A.181, 21.A.210	4
Total	110

The commentators were in general supportive of the proposed amendments to the AMC and GM to Part 21.

The nature of the comments received ranged from specific technical comments to observations aimed at improving the wording. EASA analysed the comments, and provided answers.

Several comments were statements, without providing a proposal for amendment. This increased the number of comments classified as 'Noted'.

Some organisations misinterpreted the relationship between minor change organisations and the system for continued airworthiness and reporting clarified in NPA 2020-04 (i.e. Section 2.3.3.1, and the associated AMC and GM to point 21.A.3.A(a)). EASA provided additional clarifications in the answers to those comments (i.e. when the minor design holder is aware of a potential unsafe condition related to their design, they must report it. The minor change classification remains the responsibility of the organisation). This increased the number of 'Not accepted' EASA responses.

EASA analysed, adapted and completed some information, in particular as regards the following:

- AMC3 21.A.3A(a),
- GM1 21.A.3B(b) (previously GM1 21.A.3A(b)(1) and 21.A.3B(b) in the NPA),
- GM 21.A.3A(a),
- GM 21.A.3A(b),
- AMC1 & AMC2 to 21.A.263(c)(1),
- GM 21.A.265(b), and
- changed the references of 'AMC1 21.A.265(a)' to 'AMC2 21.A.265(a)' and of 'AMC 21.A.265(a)'
 to 'AMC1 21.A.265(a)'.

The types of answer, with the numbers of occurrences and percentages, are shown in Table 4:

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Types of answers	Number of Occurrences	%
Noted	45	40.9 %
Accepted	9	8.2 %
Partially accepted	23	20.9 %
Not accepted	33	30.0 %
Total	110	100 %

The individual comments and the responses to them are contained in Chapter 2 of this Comment-Response Document (CRD).

The information associated with this CRD can be found in the related Explanatory Note to the Decision and the Annex to the Decision ('AMC and GM to Part 21 — Issue 2, Amendment 11').

2. Individual comments and responses

In responding to the comments, the following terminology has been applied to attest EASA's position:

- (a) **Accepted** EASA agrees with the comment and any proposed amendment is wholly transferred to the revised text.
- (b) **Partially accepted** EASA either partially agrees with the comment, or agrees with it but the proposed amendment is only partially transferred to the revised text.
- (c) **Noted** EASA acknowledges the comment, but no change to the existing text is considered to be necessary.
- (d) **Not accepted** The comment or proposed amendment is not agreed by EASA.

comment

comment by: CAA-Norway TFH

CAA Norway has reviewed NPA 2020-04 and are pleased to note that the Safety Recommendation issued by AIBN of Norway has been taken into account resulting in a new AMC.

Otherwise we do not have any comments regarding the NPA and its contents.

response

Noted

2

comment

comment by: Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)

Thank you for the opportunity to comment on NPA 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. Please be advised that there are no comments from the Swedish Transport Agency.

response

Noted

3

comment

comment by: DGAC France

Please note that DGAC France has no specific comments on this NPA.

response Noted

comment 36 comment by: LBA

The LBA has no comments

response Noted

comment | 39

comment by: CAA CZ

Some "relaxation or softening" of former duties – change from "must" to "should", e.g. AMC1 21.A.263 (c)(6), para 2, etc. It is a question whether involved responsible subjects, in the light of their financial aspects, will really apply this newly adopted text of regulation from the point of safety.

response

Noted

AMC are acceptable means of compliance, and they can be those indicated in the AMC or other means accepted by EASA. The mandatory aspects are contained in Annex I (Part 21) to Regulation (EU) No 748/2012, and are indicated as being mandatory by the use of 'must'.

comment | 66

comment by: FOCA Switzerland

FOCA thanks EASA for the opportunity to comment on this NPA. We do not have any specific comments at this stage.

response

Noted

comment

85 comment by: CAA-NL

Please be advised that we have no specific comments on this NPA

response

Noted

2. In summary — why and what

p. 4-10

comment 6

comment by: FAA

Page Number	Paragraph Number	Referenced Text	Comment/Rationale or Question	Proposed Resolution
5	2.3.1	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.	This a continual reevaluation of when parts do not meet their intended life limits (pulled earlier than expected). This could have a significant unintended consequence of repaired and overhauled parts. This could have implications on what would be acceptable via the bilateral agreement.	There needs to be an acknowledgment that some parts may not meet their limits of service based the assumed usage spectrum required by regulations. Also for critical PMA parts or repairs that are not supported by the OEM, the requirement as written could produce an undue burden.

	_		
6 2.3.3.1	or of a minor repair has no obligations related to the continued airworthiness of the part affected by the change or	associating the criteria in 21.A.3A(a) to minor changes/minor repairs which may not be the case. Also, there are changes made under minor change processes that are relevaent and should be reported. It would also be very difficult to deliniate events which were prompted by changes done via the major change process and those being done under the	Any events/defects, etc that meet the cirteria should be reported.

6 2.3.2	Certain recurrent Part 21 implementation issues 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.	potentially be ineligible for export since these aspects may or may not have	
6 2.3.3.1	Clarifications on the ways to implement certain Part 21 requirements According to the criteria for the classification of design changes (defined in point 21.A.91), and of repairs (defined in point	A fair point, however, there could be some areas in that this section defines a minor change as something that NOTHING should be affected within the ICA. A minor change could have a unique ICA due to a specific part overhaul procedure that differs from the	

21	1.A.435), minor	OEM. Especially on	
ch	nanges and	alternative PMA	
m	inor repairs	parts.	
ha	ave no		
ar	preciable effect		
	n the		
ch	naracteristics		
	fecting the		
	rworthiness of		
	e product.		
	onsequently,		
	ie design		
	oproval holder		
	a minor change		
	of a minor		
	pair has no		
	oligations		
	lated to the		
	ontinued		
	rworthiness of		
	e part affected		
	the change or		
	pair. In order to		
	ake this		
	oncept clearer, it		
	proposed to		
	odify GM		
	1.A.3A(a) to		
	arify that		
	rganizations		
	at only design		
	inor changes		
	nd minor repairs		
	o not have to		
	omply with the		
	equirements		
	efined in point		
21	1.A.3A(a).		
Dr	oint (a)(3) of	Point (a)(3) essentially	
	oint (4)(5) 61	states that a marking	
	andates	to parts or appliances	
	anufacturers to	produced in	
/ 2.3.3.4	oply a European	accordance with the	
	art approval	approved TC holder	
	PA) marking to	(3rd party PMA parts	
	arts or	would be a concern	
Po	ai (3 Oi	would be a collectif	

		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.	here that likely do not make this marking in the US system). Somewhat of a general comment. They are very intent of insure a documentation of PMA parts being accounted for whether it is supported by the OEM TDH. There has been issues in the past on 3rd party PMA parts and repairs that did not conform to this standard. It likely will create and SEI within the bilateral that is NOT aircraft certification.	
8	2.3.3.5 GMA 21.A.149	Transferability If the transfer is the result of a change in ownership, then the transfer is considered a significant change	The consequence is that all transfers of approvals unless thru bankruptcy will require a reapplication as EASA will require define the transfer it as a	

	requiring the POA or DOA holder to apply for an approval according to point 21.A.147 or 21.A.247.	change. The impact of transfers of approvals to other TDH could be affected	
10 GM1 21.A.3A(a)	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.	Similar comment on page 20 Section 2.2	These two should be kept separate and not mixed.

response

#1 Page 5, paragraph 2.3.1

Noted

The rule and the intention are related to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on continuing airworthiness.

Regarding critical components* and PMA from the US, the information stated in the TIP will apply.

* This means a part identified as critical by the design approval holder (DAH) during the product certification process or otherwise by the Authority for the State of Design (SoD). Typically, such components include parts for which a replacement time, inspection interval,

or related procedure is specified in the Airworthiness Limitations section or certification maintenance requirements of the manufacturer's maintenance manual or Instructions for Continued Airworthiness.

Please also refer to the answer to comment #73.

The final version of the AMC reflects the EASA position (please also refer to the answer to comment #70).

#2 Page 6, paragraph 2.3.3.1

Noted

Please refer to the answer to comment #86, which is also related to this comment.

#3 Page 6, paragraph 2.3.2

Noted

The clarification on point 21.A.263(c)(1) does not apply to FAA-approved repairs accepted under the BASA/TIP.

#4 Page 6, paragraph 2.3.3.1

Noted

Please refer to the answer to comment #86, which is related to this comment.

The proposed change does not affect what is accepted under the BASA/TIP (for example, refer to Section 2.3.4 of TIP rev 6, with the associated considerations).

#5 Page 7, paragraph 2.3.3.4

Noted

The clarification on point 21.A.804(a)(3) does not apply to FAA parts accepted under the BASA/TIP.

Regarding PMA, the information stated in the TIP will apply.

#6 Page 8, paragraph 2.3.3.5 GMA 21.A.149

Noted

EASA emphasises the transferability aspects for POA/DOA in the EU under Part 21. With bilateral partners, bilateral considerations apply (for example, bilateral agreements and the TIP with the US/FAA).

#7 Page 10, paragraph GM1 21.A.3A(a)

Not accepted

For a minor change or minor repair, the airworthiness is not affected by those kinds of changes (no impact on airworthiness, ICAs not affected).

The general principle for minor classification considerations (repairs, changes) has not changed, and the associated general wording can be applied accordingly.

Please also refer to the answer to comment #86, which is also related to this comment.

comment

21

comment by: Collins Aerospace

§2.3.1 (4) clarifications related to the marking of parts and the definition of critical parts with reference to AMC3 21.A.3A(a)

EASA publication draft text:

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.

Comments/discussion:

This directly suggests that wear beyond the serviceable limit is "not consistent with expected level of wear". But in fact when we have a fuel nozzle design where we expect wear of an air cap and set limits, we expect that wear and have a maximum allowed when it can no longer be used or repaired and must be replaced. Thus the level of wear is expected and consistent with that expectation. Thus simply having wear beyond a service limit does not imply lack of diligence in the design and understanding of its capability. Thus I do believe we should consider making a recommendation for this statement to be revised.

Proposed text:

In instances which critical component conditions beyond serviceable limits is anticipated and expected, further investigation is not necessary as long as the condition is consistent with expected levels.

response

Not accepted

The proposed text could lead to confusion, knowing that the intention is to ensure that the associated actions, investigations and analyses are performed. Furthermore, EASA has reworded the associated section.

Please refer to the answer to comment #73.

comment

34

comment by: *UK CAA*

Page No: 6

Paragraph No: 2.3.3.1 Clarifications related to point 21.A.3A

Comment: The first paragraph reads:

"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)."

This interpretation seems to be the subject of a difference of opinion for the following reasons:-

1. The GM is in direct conflict with the requirement of 21.A.3A(a) itself:

"The holder of a type-certificate, restricted type-certificate, supplemental type-certificate, European Technical Standard Order (ETSO) authorisation, major repair design approval or any other relevant approval deemed to have been issued under this Regulation shall have a system for collecting, investigating and analysing reports of and information related to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the continuing airworthiness of the product, part or appliance"

The design approval holder of a minor change or minor repair has 'an approval issued under this Regulation', therefore the need for a system applies. This cannot be contradicted by GM.

- 2. The logic a minor change or minor repair not having an appreciable effect on airworthiness and therefore no need for the DOA system to monitor only holds true while the classification itself is correct. As explained in point 3. below, this level of DOA cannot be expected to have the competency of the larger organisations undertaking TC and STC and therefore the underlying assumption that the classification will always be correct is not justified.
- 3. Exempting an entire class of DOA Holder (which by virtue of only having approval limited to minor changes and minor repairs cannot be expected to have the level of expertise of a larger organisation) from the need to have an occurrence reporting and monitoring system in the interests of safety is contrary to the aim of maintaining a high and uniform level of safety. If the obligation related to the continued airworthiness of a part affected by such a change does not rest with the DOA (a point to note is that these changes by their nature will not have been reviewed by the TC/STC Holder or by EASA as they will have been classified and approved under the privilege) it means that this legal responsibility and burden in case of actual airworthiness impairment will rest with the Agency itself.

Therefore we recommend the GM should be clarified that all organisations with the privilege to introduce design changes via privilege without reference to the TC/STC

holder or the Agency itself will have a system under 21.A.3A(a) in line with the regulation, not the other way around.

Justification: The GM as written contradicts the Regulation

response

Not accepted

Please refer to the answer to comment #86, which is related to this comment.

comment

73

comment by: GE Aviation

GE Aviation would have expected the safety recommendation to read

2.3.1. Safety recommendation

... When during the overall inspection of a critical part, its condition is found to be beyond the serviceable limit and could cause a hazardous effect, an 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.

response

Partially agreed

Original text: 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.

The text mentioned in the comment is adapted as follows:

According to this methodology, when during the overhaul inspection of a part, especially one whose failure could lead to an unsafe condition or could impact the continued airworthiness or which is considered critical, or if it is found to be beyond the serviceable limit, an 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.

The complete EASA position related to 2.3.1 is reflected in the Explanatory Note to the ED Decision associated with NPA 2020-04.

The final version of the AMC reflects the EASA position (please also refer to the answer to comment #70).

comment

83

comment by: Avio Aero - Airworthiness Office

Avio Aero would have expected the safety recommendation to read

2.3.1. Safety recommendation

... When during the overall inspection of a critical part, its condition is found to be beyond the serviceable limit and could cause a hazardous effect, an 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.

response

Partially accepted

This is the same as comment #73.

Please refer to the answer to comment #73.

3. Proposed amendments — Draft acceptable means of compliance and guidance material (draft EASA decision)

p. 11-34

comment 5

comment by: FAA

Page Number	Paragraph Number	Referenced Text	Comment/Rationale or Question	Proposed Resolution
19	AMC 1 21.A.263(c)(1)	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	It appears that the process for evaluating repairs is being intermixed with part 21 type design changes and classifications.	These two should be kept separate and not mixed.
20	Section 2.2	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;	It appears that the process for evaluating repairs is being intermixed with part 21 type design changes and classifications; however, section 2.3 seems to direct to criteria in 21.A.435 and GM 21.A.435.	These two should be kept separate and not mixed.

PROCEDURE FOR THE CLASSIFICATION OF CHANGES TO A TYPE CERTIFICATE (TC) OR TO A **SUPPLEMENTAL** TYPE CERTIFICATE (STC), AND OF The scope does not **REPAIR DESIGNS AS** define where the 'MINOR' OR changes to the type 'MAJOR' design may substantial to not be acceptable as The final a change to the classification may approved type be: - major design. In addition, changes significant the major changes to to a TC; — major the significant to the changes not TC/STC may require a 21 2.5 significant to a TC or revision to the type major repairs; certificate. minor changes to a TC or minor repairs This is more a scope where additional question of its to all work is necessary to classification of demonstrate changes or only those compliance with the required to repairs and certification basis, alterations. The reader the operational is considering this as all suitability data changes. certification basis, where applicable, and the environmental protection requirements; and minor changes

response

#1 (Page #19): Not accepted

Please refer to the answer to comment #6 (Item #7)

#2 (Page #20): Not accepted

In addition to answer #1 here, Section 2.3 is also applicable to changes, as indicated in the text (NPA 2020-04 Section 2.3.2). The general intention is the same.

Please also refer to the answer to comment #6 (Item #7)

#3 (Page #21): Noted

The misunderstanding for which the comment requests clarification occurs infrequently, so it was not considered necessary to clarify these aspects.

comment

7

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

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

PROPOSED TEXT / COMMENT: Suggested change

The first sentence in the first paragraph should read: 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 any necessary corrective action(s)."

RATIONALE / REASON for comment: Justification

Requirement 21.A.3A(a) asks for a system for collecting, **investigating and analysing** reports of failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the continuing airworthiness of the product, part or appliance.

"required" actions are those relevant to the requirement 21.A.3A(c)2 where "the Agency finds that an action is required to correct the deficiency,..."

Therefore "required" actions cannot be associated to 21.A.3A(a).

response

Accepted

The wording ('the required', 'any necessary') is equivalent (require = make necessary). The final version of the AMC reflects the official EASA position.

comment

8

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

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

PROPOSED TEXT / COMMENT: Suggested change

The first sentence in the second paragraph should read: "In particular, the system should allow that critical parts found to be beyond serviceable limits which are made available to the holder of a type- certificate, restricted type-certificate, supplemental type-certificate, European Technical Standard Or- der (ETSO) authorization, or major repair design approval can be thoroughly investigated so that ...'

RATIONALE / REASON for comment: Justification

Only parts and associated data made available to the holder of a type-certificate, restricted type-certificate, supplemental type-certificate, European Technical Standard Order (ETSO) authorization, or major repair design approval can be investigated.

response

Partially accepted

Please refer to the answer to comment #70.

comment

9

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 12 of 36, item 4.4 "Statement"

AMC1 21.A.14(b) "Demonstration of capability"

PROPOSED TEXT / COMMENT: Suggested change

The statement: "The data and information should include a statement: confirming that the documenta- tion has been produced in accordance with an accepted alternative procedure to **that used by the DOA holder**" needs to be further clarified.

It is proposed to change the statement as follows: "The data and information should include a state- ment: confirming that the documentation has been produced in accordance with an accepted alternative procedure accepted by the EASA to that used by the DOA holder"

RATIONALE / REASON for comment: Justification

To which organization the wording "the DOA holder" is referring to? What is the purpose of this statement?

response

Partially accepted

Point 21.A.14(b) is related to alternative procedures.

This point now includes 'accepted by EASA', as suggested, and states:

'The data and information should include a statement: confirming that the documentation has been produced by the design approval holder in accordance with the associated procedures accepted by EASA.'

comment

10

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 18 of 36

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

PROPOSED TEXT / COMMENT: Suggested change

Within the last paragraph, the wording should be changed as follows:

"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 should be implemented 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."

RATIONALE / REASON for comment: Justification

Clarify that **"no change**" to the production or design organization, is a condition to allow the transfer of ownership.

response

Not accepted

The transferability by itself (or definition/fact) considers no change to the production or design organisation, with the exception indicated in the draft AMC wording. For this reason, 'there is no change' is considered to be better than the suggested text 'no change should be implemented'.

comment

11

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 18 of 36

AMC1 21.A.243(a) Data

PROPOSED TEXT / COMMENT: Suggested change

The following statement should be removed: "The reports should include both mandatory and volun- tary occurrence reports from organisations and natural persons involved in the operation and mainte- nance of the product, part or appliance"

RATIONALE / REASON for comment: Justification

This statement is not applicable to approved design organizations but to the organizations involved in the operations and maintenance of the product, part or appliance. Part 21 and associated AMC/GMs are not applicable to these organizations.

response

Partially accepted

The text states that the reports are from organisations and persons involved in operation and maintenance, which is consistent with this comment. The word 'collected' has been added so that it now reads 'collected reports'.

comment

12

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 19 of 36

AMC1 21.A.263(c)1 Privileges

PROPOSED TEXT / COMMENT: Suggested change The following statement should be changed as follows: "2.1 Content

The procedure should address the following points:

...

acceptance determination of the classification by authorised signatories; "

RATIONALE / REASON for comment: Justification

Usually the word "acceptance" means that at first a proposal is made and then the proposal is re-viewed and "accepted". There is no request for a two-step approach in the implementation of this DOA privilege. Thus, to avoid any misinterpretation by DOA holders and/or competent Authority in charge of the DOA holder oversight, it is proposed to replace "acceptance" by "determination"

response

Not accepted

The step before the acceptance of the classification is the justification of the classification.

In other words, the sentence 'acceptance of the classification by authorised signatories' is appropriate in that sense, and can remain after the justification.

On the other hand, EASA harmonised that wording in the NPA document (for example, on pages 20, 21, 22, 23), referring to both 'justification of the classification' and 'acceptance of the classification by authorised signatories'.

The meaning of the 'first proposal' as indicated in the comment, is in the 'justification of the classification'.

comment

13

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 20 of 36

AMC1 21.A.263(c)(1) "Privileges", item 2.2.

PROPOSED TEXT / COMMENT: Suggested change

The statement:

"The procedure should request the applicant to record a justification that the information, on which those identifications is based, is adequate"

needs to be further clarified.

RATIONALE / REASON for comment: Justification

What "a justification that the information is adequate" means for changes made by TC, APU ETSO, STC to their own designs?

response

Not accepted

The originally proposed sentence is followed by the sentence: 'This may be done by either using the DOA holder's own resources, or through an arrangement with the TC holder [...].'

Please note that EASA further considered AMC1 21.A.263(c)(1) — paragraph 2.2, which is also related to appropriate information, and also included AD considerations. This is reflected in the final AMC1 & AMC2 21.A.263(c)(1).

comment

14

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 20 of 36

AMC1 21.A.263(c)(1) "Privileges", item 2.2.

PROPOSED TEXT / COMMENT: Suggested change

The statement:

"The procedure should request the applicant to record a justification that the information, on which those identifications is based, is adequate"

needs to be further clarified.

RATIONALE / REASON for comment: Justification

What "a justification that the information is adequate" means for changes made by TC, APU ETSO, STC to their own designs?

response

Not accepted

Please refer to the answer to comment #13 (same context).

comment

15

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

AMC2 21.A.263(c)1 Privileges, item 5

PROPOSED TEXT / COMMENT: Suggested change

The following statement should be changed as follows:

"5. acceptance determination of the classification by authorised signatories; "

RATIONALE / REASON for comment: Justification

Usually the word "acceptance" means that at first a proposal is made and then the proposal is re-viewed and "accepted". There is no request for a two-step approach in the implementation of this DOA privilege. Thus, to avoid any misinterpretation by DOA holders and/or competent Authority in charge of the DOA holder oversight, it is proposed to replace "acceptance" by "determination"

response

Not accepted

Please refer to the answer to comment #12 (similar comment).

comment

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THECOMMENT IS RELATED TO:

Page 30 of 36

16

PROPOSED TEXT / COMMENT: Suggested change

Removal of GM 21.A.439 "Production of repair parts", GM 21.A.441 "Repair embodiment" and GM

21.A.443 "Limitations" as requested by the ASD DOA Task Force 3, is acknowledged and appreciated.

RATIONALE / REASON for comment: Justification

GM 21A439 is not needed as redundant with the wording in the requirement itself. GM 21A441 is not needed as redundant with the wording in the requirement itself. GM 21A443 is not needed as redundant with the wording in the requirement itself.

Furthermore compliance with operations rules is not relevant to Part 21 Subpart M repair design approval holders.

response

Noted

comment

17 comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 30 of 36

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

PROPOSED TEXT / COMMENT: Suggested change

Update current AMC 21.A.265(a) "Administration of the Handbook" to avoid misinterpretation of the word "document" and align to the new proposed text in AMC1 21.A.265(a) in order to consider changing the wording "document" by "document, data or online/electronic documentary units".

Update current GM 21.A.265(b) "Use of the Handbook" to clarify the acceptable means for signature of online/electronic handbooks.

RATIONALE / REASON for comment: Justification

This new proposed AMC1 21.A.265(a) clarifies that a handbook might be an online/electronic system. Then, to avoid any misinterpretation of the word "document", current AMC 21.A.265(a) "Administration of the Handbook" should be updated.

Current GM 21.A.265(b) "Use of the Handbook" should be updated as well regarding signature means for online/electronic handbook system.

response

#1 Update current AMC 21.A.265(a): Partially accepted

AMC 21.A.265(a) Administration of the Handbook becomes AMC1 21.A.265(a) Obligations of the holder, with the following subtitle added: Administration of the Handbook

AMC1 21.A.265(a) Obligations of the holder from the NPA becomes AMC2 21.A.265(a) Obligations of the holder

AMC2 21.A.265(a) Obligations of the holder indicates the meaning of the HANDBOOK FORMAT AND PUBLICATION MEANS, so no additional indication in AMC1 21.A.265(a) is required.

#2 Update current GM 21.A.265(b): Partially accepted

Please refer to the answer to comment #65, Item #4.

comment

18

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 31 of 36

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

PROPOSED TEXT / COMMENT: Suggested change

The 1st sentence should be changed as follows:

"A DOA—design approval 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."

RATIONALE / REASON for comment: Justification

21.A.804 "Identification of parts and appliances" is not only applicable to DOA or alternative procedure holders but to any design approval holder, including minor changes/repairs design approval holders eligible respectively under 21.A.92(b) and 21.A.432A(b).

response

Accepted

The subject is the identification of parts and appliances.

The change proposal better aligns with GM 21.A.804(a)(1) 'Identification of parts and appliances'.

Please consider in addition the applicability of 21.A.305 'Approval of parts and appliances', and 21.A.611 'Design Changes (ETSO)', accordingly.

comment

19

comment by: LHT DO

EASA NPA text:

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:

-...

- 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

-..

LHT DO Comments:

1. OSD constituents are not easily identified in all cases due to the variety of the TCDS data as well as of the TCH documentation systems, the OSD data of pre existing changes by non TC holders are also very individual.

LHT DO recommends to harmonise the documentation systematic for OSD constituents to ease its identification for the operators, the DOs well as for the EASA specialist.

2. Please omit the phrase *for instance, operating limitations, OSD constituents, manuals, etc* and refer only to GM to 21.A.90A which should indicate all items and constituents.

The phrase *manuals*, *etc*. is neither included in this GM nor defined. If AFM and ICAs are to be included, please amend GM to 21.A.90A accordingly.

response

#1: Noted

(It is for the applicant to propose the associated OSD information and data related to the change, with the associated knowledge required for the modification and pre-modification.)

#2: Partially accepted

The following item, referring to changes to TC:

'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;'

is changed to:

'other constituents of the TC and of the pre-existing change(s) to the TC as applicable to the affected items (for instance, operating limitations, OSD constituents, manuals — see also point 21.A.90A and associated GM) to be affected by the change or repair;'

The intention is to give examples in the sentence, so the phrase has been reworded.

comment

20

comment by: AIRBUS

PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

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

PROPOSED TEXT / COMMENT: Suggested change

The first sentence should be changed as follows:

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

The last paragraph should be changed as follows:

"Another typical case is for any part or appliance 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 or appliance, 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 or appliance.

Furthermore, definition of critical part/appliance/component should be included in Article 1 "Scope and definitions" and aligned with definitions already stated in other IRs and Certification Specifications

Definition of "critical component" within chapter 1.13 of FAA-EASA Technical Implementation Procedures for airworthiness and environmental certification should be as well considered.

RATIONALE / REASON for comment: Justification

Critical parts are not defined in small and large aeroplane Certification Specifications. Not only parts but also appliances are subject to inspection and/or maintenance requirements.

response

#1 The red words to be included: Partially accepted

The word 'approval' is included as part of the term 'design approval holder'.

 Regarding the inclusion of 'appliance' in addition to the word 'part' in GM1 21.A.805, point 21.A.805 is related to the identification of critical parts, so EASA did not include the word 'appliance', as suggested.

#2 The definition of 'critical part/appliance/component': Not accepted

Critical part: please refer to the answer to comment #41.

— Appliance:

We can consider 'REGULATION (EU) 2018/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2018', and the associated Article 140, item 2(c):

(c) 'appliances' shall be understood as a reference to point (29) of Article 3 of this Regulation;

(29 'non-installed equipment' means any instrument, equipment, mechanism, apparatus, appurtenance, software or accessory carried on board of an aircraft by the aircraft operator, which is not a part, and which is used or intended to be used in operating or controlling an aircraft, supports the occupants' survivability, or which could impact the safe operation of the aircraft;)

It is therefore not necessary to repeat the EU Regulation in the text.

— Component:

We can consider the definition of component, as it can be found in some dictionaries as 'a part or element of a larger whole'.

comment

22

comment by: AIRBUS

1. PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 31 of 36

GM1 21.A.805 Identification of critical parts

2. PROPOSED TEXT / COMMENT:

It is recommended to take into account point M.A.305(d) and (e) of Part-M.

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

An amendment to point M.A.305 was introduced in Sep-2019. The corresponding AMC/GM issued on 13-Mar-2020 provide details on aircraft continuing airworthiness records.

This material explains a way to ensure that maintenance requirements controlled at component level, as established at the time of design, are met even when the component is occasionally transferred from an aircraft to another. Reference is made for example to a mandatory replacement of a landing gear sliding rod (i.e. a life-limited part, LLP) or the mandatory overhaul of a trimmable horizontal stabilizer (i.e.

a time-controlled component, TCC). Such components need to be marked with both a part number and a serial number, from the standpoint of continuing airworthiness management, in order to ensure the proper recording of the mandatory maintenance requirement accomplishment history. Without both a part number and a serial number, the link between the aircraft continuing airworthiness record, the mandatory maintenance requirement accomplishment, and the component cannot be formally confirmed.

response

Noted

It is appreciated some of the references are to Part-M:

- (d) The 'current status' when referring to components of life-limited parts should indicate, for each affected part, the life limitation, the total life accumulated in any applicable parameter (as appropriate) and the remaining life in any applicable parameter before the life limitation is reached.
- (e) The term 'time-controlled components' embraces any component for which the maintenance schedule of the aircraft maintenance programme requires periodically the removal for maintenance to be performed in an appropriate approved organisation for maintenance in components (workshop) to return the component to a specified standard, the replacement of sub-components of the assembly by new ones, or the inspection or test of component's performance, after a service period controlled at component level in accordance with the specified airworthiness limitation defined in accordance with Commission Regulation (EU) No 784/2012, in any of the applicable parameters.

However, EASA does not consider it necessary to include that information again here.

comment

23

comment by: AIRBUS

1. PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Point 21.A.174 and point 21.A.204

2. PROPOSED TEXT / COMMENT:

It is recommended to develop AMC/GM to define the competent authority expectations (e.g. in terms of contents) for:

- a weight and balance report with a loading schedule, ref. point 21.A.174
- a statement by the competent authority of the State where the aircraft is, or was, registered, reflecting the airworthiness status of the aircraft on its register at the time of transfer, ref. point 21.A.174

historical records to establish the production, modification, and maintenance standard of the aircraft, ref. points 21.A.174 & 21.A.204

Points M.A.301, M.A.708, and M.A.901 refer to the 'mass and Note: balance statement', point M.A.305 refers to the 'mass and balance report', but not the 'weight and balance report'. Harmonization of terms and definitions is recommended.

One may have the impression there is no doubt on the applicant's responsibility. However, it may also be useful to indicate who/which organization has competencies for establishing these documents (at least for some of them) amongst the aircraft owner, the aircraft operator, the person or organization responsible for the aircraft airworthiness, the approved maintenance organization, etc...

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

The absence of AMC/GM makes possible some interpretations and practices that were not intended.

For example, the term 'historical records' (and who can confirm the accuracy of such records) is not defined enough in the context of an application for a (R)CofA or Noise Certificate and therefore prone to be misconstrued.

To help provide some clarity the expectations of competent authorities should be detailed.

response

Noted

Point 21.A.174 indicates that an 'application for an airworthiness certificate shall be made in a form and manner established by the competent authority of the Member State of registry', with additional elements such as a statement of conformity, weight and balance report with a loading schedule, and so on.

The difficulties for which the comment requests clarification seem to occur infrequently, so it was not considered necessary to clarify those aspects, or to collect a consensus, via a GM, with the competent authority of the Member State of registry, for the time being.

EASA has recorded the topic and if there is additional feedback regarding the same difficulties, EASA may launch the associated rulemaking activity.

comment 24

comment by: AIRBUS

1. PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Point 21.A.174 and point 21.A.204

2. PROPOSED TEXT / COMMENT:

It is recommended to develop GM to explain:

- how to address difficulties in establishing the date on which the first certificate of airworthiness was issued (in particular for older aircraft), ref. 21.A.174
- 2. how to determine if the standards of Annex 16 Volume III apply, ref. 21.A.174
- 3. how to determine the CO2 metric value data, when the standards of Annex 16 Volume III apply, ref. 21.A.174
- 4. how to determine the noise information, ref. 21.A.204
- 5. how to determine the applicable noise requirements, ref. 21.A.204
- 3. RATIONALE / REASON / JUSTIFICATION for the Comment:

An applicant for a CofA and a Noise Certificate is frequently neither the (R)TC holder nor the holder of an STC embodied on the aircraft. With no AMC and no GM, some applicants may face difficulties with these bullet points.

response

Noted

The difficulties for which the comment requests clarification seem to occur infrequently, so it was not considered necessary to clarify those aspects for the time being.

EASA has recorded the topic and if there is additional feedback regarding the same difficulties, EASA may launch the associated rulemaking activity.

comment

25

comment by: AIRBUS

1. PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Point 21.A.181

2. PROPOSED TEXT / COMMENT:

This point establishes that a (R)CofA remains valid subject to, inter alia, "compliance with the applicable type-design and continuing airworthiness requirements".

It is recommended to develop GM (for this point and point 21.A.211) to explain the meaning of 'compliance with applicable type-design requirements'. One may find the reference to 'type design' misleading.

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

An applicant for a CofA is frequently a person or organization other than a design approval holder. This person or organization may not be familiar with the applicable

design requirements and may find the wording 'type design' misleading. In the context of this point, the (R)CofA remains valid because the aircraft remains airworthy.

An aircraft is airworthy because it conforms to its approved design and is in a condition for safe operation. But what does that mean?

- The approved design of an individual aircraft is defined by the means of a complete description (for the complete aircraft including its engine(s) and propeller(s), if any) of:
- 1. the type design (ref. point 21.A.31),
- 2. all changes to the type design that are embodied (including those approved under Supplemental Type Certificates or Standard Changes, ref. point 21.A.90B),
- 3. all (approved) unintentional deviations to the approved design, sometimes referred to as concessions, divergences, or non-conformances (ref. point 21.A.165(c) for example),
- 4. all repair designs that are embodied (including Standard Repairs, ref. point 21.A.431B), and
- 5. all directives issued or adopted by the Agency to mitigate an unacceptable risk related to the items (i) to (iv), when evidence show that the individual aircraft may be affected by such a risk.
- The aircraft is in condition for safe operation because it has been determined (under Regulation (EU) No 748/2012) and it is continuously established (under Regulation (EU) No 1321/2014) that the condition of an individual aircraft, relative to its deterioration with respect to the features defined in the approved description previously referred to, is conducive to the operation of the individual aircraft without generating a risk that exceeds the qualitative and/or quantitative objectives set under the Regulation (EU) No 748/2012. The deterioration must not exceed the allowable limits (also) specified in the approved description previously referred to.

It is worth noting that Part-M requirements and their AMC/GM do not detail the good practices for an appropriate aircraft configuration management. Guidance is definitely needed.

response

Noted

The misunderstanding for which the comment requests clarification seems to occur infrequently, so it was not considered necessary to clarify that aspect for the time being.

Please note that as per point 21.A.31, 'The type design shall consist of [...] the drawings and specifications, and a listing of those drawings and specifications, necessary to define the configuration and the design features of the product shown to comply with the applicable type-certification basis and environmental protection requirements [...]'.

This means that the items highlighted in the comment (changes, approved deviation, approved repairs, etc.) are also considered part of the approved type design configuration related to that aircraft.

comment

26

comment by: AIRBUS

1. PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Point 21.A.210

2. PROPOSED TEXT / COMMENT:

It is recommended to develop GM to explain the role of the Agency in the aircraft inspection (in the context of noise certificates).

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

Self-explanatory.

response

Noted

Point 21.A.210 is addressed to 'the holder of the noise certificate' to 'provide access to the aircraft for which that noise certificate has been issued upon request by the competent authority of the Member State of registry or by the Agency for inspection'.

The role of EASA is addressed in REGULATION (EU) 2018/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2018.

EASA prefers to not duplicate information that is already stated in the related regulations.

comment

27

comment by: AIRBUS

1. PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 20 of 36

AMC1 21.A.263(c)(1) "Privileges", item 2.2, last paragraph.

2. PROPOSED TEXT / COMMENT:

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

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

The pre-existing configuration may be the result of multiple changes or repairs to "type design". The pre-existing configuration might not be necessarily type design configurations as identified in the TC.

response

Accepted

At the end of the sentence, 'or any other design approval holder as relevant' has been included.

comment

28

comment by: *Prof. Filippo Tomasello*

on page p20-22 (section9 OSO), changes made to the level of assurance, will also affect all other assessments based on SORA's which goes much beyond the scope of this NPA. BVLOS modifications would in fact have an impact on VLOS over populated area in ARC-C or ARC-D conditions. Agency should avoid introducing this indavertent effects

response

Noted

This comment is more related to NPA 2020-07 'Unmanned aircraft system beyond visual line operations over populated areas or assemblies of people in the 'specific' category' (RMT.0730), rather than NPA 2020-04.

comment

31

comment by: UK CAA

Page No: 11

Paragraph No: AMC3 21.A.3A(a) Failures, malfunctions and defects

Comment: The paragraph reads:

"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."

A serviceable limit is usually a dimension or a state of condition of a component that beyond which, it should not be returned to service. However, it can be quite normal that once a component has been run, it will exhibit evidence of operation that, though perfectly typical in behaviour, would result in the part not being returned to service after a repair or overhaul. Consequently, for gearbox components that cannot easily be inspected while within the assembled gearbox, the fact that a part is beyond serviceable limits simply means that the TC Holder has decided that the component should not be returned to service for another complete overhaul period, and is not a determination of 'real-time' serviceability. Accordingly, operation whilst beyond serviceable limits does not constitute a "failure, malfunction or defect". If the intention is that <u>all</u> Critical Parts that are examined and rejected will then need to be "thoroughly investigated so that the full nature of <u>any</u> damage, malfunction, or defect and its effect on continuing airworthiness is understood"? this may result in a huge amount of inspection work.

In the cases of G-REDL and LN-OJF, on which the associated AIB Safety Recommendation is based, to achieve the goal of "thoroughly investigated so that the full nature of any damage........ is understood" would not only require assessment of tolerances, surface condition and NDT inspection but would need each rejected planet gear to be sectioned and inspected using a method like 'C' Scan to look for sub-surface crack behaviour. In addition, material checks like hardness testing might be necessary. It would have been impractical to perform all this work on 1000s of planet gears.

It may be possible to achieve a similar objective by ensuring that TCHs have suitable DOA procedures for continued airworthiness actions and investigations. This would avoid the need to be prescriptive about the investigation of each individual affected part (in 21.A.3.) and would allow the TCH some flexibility to be more proportionate in the inspections and investigations which they choose to carry out.

- 2) The objective of this AMC is to investigate Critical Parts which exhibit wear or damage that may affect the operation of that part. To achieve this goal, actions should be triggered when Critical Parts are found to exceed 'excessive wear limits' and not 'serviceable limits' which is something different.
- 3) We believe this AMC should address the need to inspect time expired Critical Parts on completion of their life, to check for unusual or excessive damage.
- 4) For sealed Critical bearings, it is questioned whether this AMC means that each bearing found to exhibit rough running, excessive axial or radial play or high temp, should be sent back to the bearing OEM for examination. Though this would provide useful information, this too could result in an excessive amount of investigation. On the basis that we must assume that degradation of a bearing can occur, we should first ensure that certification requirements are clear that a reliable means of monitoring is provided (and substantiated) to ensure removal of any Critical bearing before functional failure can occur.

Justification: Practical and proportionate AMC/GM

response

#1: Noted

Please refer to the answer to comment #70.

#2: Noted

Please refer to the answer to comment #70.

#3: Partially accepted

Please refer to the answer to comment #70, where additional information is included in the guidance material.

#4: Noted

Please refer to the answer to comment #70.

comment

35

comment by: UK CAA

Page No: 31

Paragraph No: AMC1 21.A.263(c)(6) EASA Form 18A, Issue 4

Comment: The template for the Form 18A at issue 4 still has a provision in field 10b for use by a DOA when privilege 21.A.263(c)(6) does not apply. We recommend that it is removed from the template.

Justification: This provision is now redundant due to the clarification added to AMC 1 21.A.709(b).

response

Not accepted

The template indicates '[strike through what is not applicable]', referring to 'when the privilege' 'applies' or 'not'.

When first introduced in Part 21, the privilege for approving flight conditions (21.A.263(c)(6)) was subject to predefined limitations.

(i.e. '[...] except for initial flights of:

- a new type of aircraft, or
- an aircraft modified by a change that is or would be classified as a significant major change or significant STC, or
- an aircraft whose flight and/or piloting characteristics may have been significantly modified')

Consequently, the approval template related to this privilege covers both situations: approval under the privilege and submission to EASA for approval when the specific case falls under the limitations.

Even if current point 21.A.263(c)(6) no longer contains the 'predefined' limitations, when granting such privileges, EASA may still specify certain limitations. Consequently, the two options should be maintained in the template.

The clarification added in AMC1 to 21.A.709(b) explains the case of a DOA not having the 21.A.263(c)(6) privilege at all, or applying for the approval of flight conditions which are outside their scope of work (e.g. a DOA authorised for designing small aeroplanes applying for approval for flight conditions for a development flight for a change to a small rotorcraft).

comment

37

comment by: ASD

AMC 3 21.A.3A(a) Page 10

Comment: DOA Holder can't ensure a physical part in service (used/owned by operators or MROs across the world) are thoroughly investigated. Only parts and data given to the DOA Holder can be investigated and only to limits defined/accepted by the owner of the physical part (like NTD methods only).

Proposal: Revise text to read: '...the system should ensure that critical parts found ...and available to the DOA Holder are thoroughly investigated so that ...'

Comment: This format "AMC3 21.A.3A(a)" is not alligned with the other titles

Proposal: It should be with this format "AMC No. 3 to..." to be consistent with all the rest of title.

Comment: It is not clear the meaning of "identification" in the context of this sentence "It should also allow the identification of reportable occurrences as required under point 21.A.3A(b)."

Proposal: it should be better to give an example criteria: e.g. the failure rate is well below the one considered within the failure analysis, the crack came well in advance of the fhs considered in the Maintenance Plan / ALS

Comment: It is not clear the meaning of "thoroughly investigated" in the context of this sentence "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."

Proposal: it should be better to reccomend that a critical parts should be send to the TCH or delegated function responsible for the investigation.

Comment: Minor change DOAs should have an obligation to comply with the requirements in point 21.A.3A(a) in the same way as TC/STC DOA Holders.

Proposal: The obligation should be kept to verify (for occurrences) correct compliance demonstration and appropriateness of the used certification basis as well as to properly assess identified 'cert non-compliances'. Alternatively, clarify that EASA is taking that responsibility instead of these DOA Holders not being a TC/STC DOA Holder!

Please note also that although, according to 21.A.91, the minor changes have no appreciable effect on the airworthiness of a product, they may lead to unsafe conditions as defined by AMC 21.A.3B(b). As an example, when the design change only introduces or affects functions where the failure effect is classified as major or minor (in the safety analysis, i.e. not catastrophic or hazardous), the design change is classified minor according to GM 21.A.91 §3.4 (g). But according to CS-E, § AMC CS-E 510 §(3) (e), Major Engine Effects are likely to significantly increase crew workload, or reduce the safety margins, which may correspond to an unsafe condition as defined by AMC 21.A.3B(b) §(c) Note 4 if the failures happen too frequently.

Comment: The sequential index to the title GM1 21.A.3A(a) could makes misunderstanding because there is no other GM 21.A.3A(a)

Response: Remove the sequential index

response

#1: Partially accepted

Text related to the availability to the design approval holder is included.

Please refer to the answer to comment #70.

#2: Not accepted

The intention is to change the format progressively to 'AMC # Area', instead of having 'AMC No # to Area'

#3: Partially accepted

After further analysis, EASA changed the word 'identification' to 'determination', and provided additional information in GM1 21.A.3B(b).

Please also refer to the answer to comment #70.

#4: Partially accepted

Please refer to the answer to comment #70.

#5: Not accepted

Please refer to the answer to comment #86.

#6: Accepted

'GM 21.A.3A(a)' has been replaced by 'GM1 21.A.3A(a)' (only one GM).

comment

38

comment by: ASD

GM 21.A.15(d) Page 13

Comment: The GM states that each OSD constituent can have a part that is <u>mandatory</u> for the end-user. This doesn't reflect the principle that each State of Registry is responsible to define 'mandatory' instructions for aircraft on their register.

Proposal: Revise text to read: ' ... is proposed to become mandatory...'.

AMC1 21.A.263(c)(1) Page 18

Comment: The content of this AMC is focussed and procedures and may fit better under 21.A.239 Design Assurance System.

Proposal: Re-assess place of procedural AMC material under 21.A.239 and scope of privileges under 21.A.263.

AMC1 21.A.263(c)(1) Page 20

Comment: Two listed items are addressing 'type certification/certification basis'. Could be most likely addressed in only one item to reduce text...

Proposal: Merged both items into one.

AMC1 21.A.263(c)(1) Page 22

Comment: the reference to the 21.A.31 is not clear compared to the four classes

Proposal: the correct reference should be 21.A.91

AMC1 21.A.263(c)(6) Page 28

Comment: The wording is not equivalent to the one to be replaced. Are "airworthiness requirements" referring to the CS only or they consider the airworthiness requirements also the "Part 21 conditions for the issue of a certificate of airworthiness"?

Proposal: It should be included the definition of airworthiness requirements in this context

AMC1 21.A.265(a) Page 30

Comment:The AMC clarifies that a handbook might be in an electronic format as in integrated part in a wider management system. GM 21.A.265(b) should be changed in the current wording 'the handbook should be signed by...' to allow other approvals for such electronic handbook types!

Proposal: Update of GM 21.A.265(b) to better align with electronic handbook types.

response

#1: Not accepted (page 13)

This is the same as comment #65 (#1). Please refer to the answer to comment #65 (#1).

#2: Not accepted (page 18)

This is the same as comment #65 (#2). Please refer to the answer to comment #65 (#2).

#3: Not accepted (page 20)

This is the same as comment #65 (#3). Please refer to the answer to comment #65 (#3).

#4: Partially accepted (page 22)

AMC1 21.A.263(c)(1), Section 2.2 Item 6, states 'definition of the change or repair' and TC. In addition to the reference to 21.A.31 (Type design and its definition with associated information/provisions), the reference to 21.A.91 (Classification of changes) is now added at the end of the sentence. The two items are related.

#5: Noted (page 28)

Item 2.4 refers to point 21.A.701 (permit to fly), and point 21.A.701 mentions 'applicable airworthiness requirements', with the associated meaning. The intention is not changed: the process used by the DOA holder to justify that the aircraft can perform the intended flight(s) safely (refer also to point 21.A.701).

Note that the additional information provided in the AMC, with the mention 'applicable airworthiness requirements', replaces the previous AMC text 'applicable certification specifications or non-compliance with Part 21 conditions for the issue of a certificate of airworthiness'.

#6: Noted (page 30)

This is the same as comment #65 (#4). Please refer to the answer to comment '65 (#4).

comment

40

comment by: Airbus Helicopters

The NPA proposes to delete the GM1 to 21.A.15(d) (6) based on the fact that the corresponding paragraph of 21.A.15 does not exist any longer (deleted in the previous updates of Part-21). Indeed previous Part 21.A.15 used to refer to "other type-related operational suitability elements" in addition to the five OSD constituents.

Article 1 of Regulation (EU) 748/2012 (Part-21) has also removed reference to "other type-related operational suitability elements" since (EU) 2019/897 without prior consultation with the stakeholders during the NPA process.

However Article 19 of (2)(k) of (EU) 2018/1139 new basic regulation clearly indicates "additional specifications to ensure compliance with Section III" (i.e. Air-Ops

regulation) are part of the OSD and should be subject to EASA approval, based on certification basis issued in a form of specifications by EASA.

Therefore, as foreseen by the Basic Regulation, we request the Agency to maintain the possibility for the TCH to obtain approval of OSD, pertaining to compliance with Air-Ops, that are not already addressed by the five existing OSD constituents.

response

Not accepted

This is the same as comment #63 from AIRBUS.

Please refer to the answer to comment #63.

comment

41

comment by: CAA CZ

GM1 21.A.805 Identification of critical parts

Still missing definition what exactly is the "Critical part" in Part 21, AMC and GM.

"Critical Part" is defined only in CS-APU, CS-E, CS -27 and CS-29. However, other CSs related to aeroplanes (i.e. CS-23, CS-25 etc.) do not include such a definition. Without proper definition it will be confusing and opportunity to disputes between DOA, POA holders and Agency or National Authorities.

response

Not accepted

The proposed GM is indirectly a definition of a critical part.

2.1.3 (item 4) and 2.3.3.4 (in the Explanatory Note and from NPA 2020-04): the phrase 'the definition of' is removed from 'clarifications related to the marking of parts and the definition of critical parts'.

comment

42

comment by: Airbus Helicopters

Comment on AMC proposed AMC 3 21.A.3A(a)

As it is written in the second paragraph of the AMC, for each critical part found to be beyond serviceable limit an occurrence report is required and an investigation launched, even if the part has been found during dedicated inspection to find these parts being subject to wear, corrosion, erosion, etc.

It is however expected that for cases when the finding takes place as anticipated in the approved instructions for continued airworthiness (or maintenance programme), there might not be a need for a systematic full investigation.

We therefore request the AMC text is allowing such findings beyond serviceable limits as part of the inspections prescribed by the approved maintenance programme

not to be subject to a full analysis, except for significant the departure from the prescribed limits to be inspected for.

Furthermore, the AMC as written goes beyond the requirement of 21.A.3A as the system requested to be established at TCH level is starting from the collection of event and cannot guarantee that all critical parts found beyond serviceble limits (for example by the operator) are reported to them. Therfore the system can only ensure that critical parts *reported* to be found beyond serviceable limits are investigated.

According to the above comments we propose the following alternative text for the second paragraph of the AMC:

"In particular, the system should ensure that, **when relevant**, critical parts **reported to be** found 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 occurrencesin the future, as necessary. "

response

Partially accepted

Please refer to the answer to comment #70.

comment

43

comment by: Airbus Helicopters

Comment on paragraph 2.2 of AMC 1 to 21.A.263(c)(1):

The providing of the following list of elements; "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;" seems to be quite extensive for repairs. We suggest to indicate "as applicable" in the text of the AMC as not all elements are always required for each change to TC or repair.

response

Accepted

The text has been amended as follows:

'[...]

— the existing type-certification basis of the affected items *containing, as applicable,* the certification specifications, special conditions, deviations from the applicable

44

certification specifications and the equivalent level of safety findings incorporated by reference in the TC of the product to be changed;'

comment

comment by: FNAM

AMC3 21.A.3A(a):

"This point has been added, it is proposed to set up a system for identifying adverse technical events within the analysis and investigation systems for Part-21 organisaztions.

Position: Neutral impact: Trend systems enabling the identification of unfavorable technical events are already in place within production organizations. "

response

Noted

Thank you for the feedback.

comment

45

comment by: FNAM

GM1 21.A.3A(a):

"Terminological change. Regulatory relief for holders of minor change approvals and minor repairs.

Position: Positive impact: This regulatory simplification provides flexibility for Part-21 organizations. "

response

Noted

Thank you for the feedback.

comment

46

comment by: FNAM

AMC1 21.A.3A(b)(1) and 21.A.3B(b) and GM1 21.A.3A(b)(1) and 21.A.3B(b):

"Terminological change.

Position: Neutral impact. "

response

Noted

Thank you for the feedback.

comment

47

comment by: FNAM

AMC1 21.A.14(b):

"Terminological modification and addition of recommended information within the declaration to demonstrate the design capacity (§4.4).

Position: Positive Impact: Standardization of the documentation of the designed parts."

response

Noted

Thank you for the feedback.

comment

48

comment by: FNAM

GM.21.A.15 (d) and GM1.21.A.112B:

"Terminological change.

Position: Neutral impact. "

response

Noted

Thank you for the feedback.

comment

49

comment by: FNAM

GM1.21.A.149 and 21.A.249:

"Amendment of this point concerning transfers of approval between production or design organizations.

Position: Positive Impact: Clarification of the exceptions allowed for transfer of approval between organizations. "

response

Noted

Thank you for the feedback.

comment

50

comment by: FNAM

AMC1 21.A.163(d)

"Terminological change.

Position: Neutral impact. "

response

Noted

51

Thank you for the feedback.

comment

comment by: *FNAM*

AMC1 21.A.243(a):

"Terminological modification and addition of a sentence linked to the postponement of safety events (compulsory or not compulsory) to the authority by the production or design organizations.

Position: Positive impact: Improves flight safety. "

response

Noted

Thank you for the feedback.

comment

52 comment by: FNAM

AMC-ELA1 21.A.263 and AMC-ELA1 21.A.265(h):

"Documentary modification

Position: Neutral impact. "

response

Noted

Thank you for the feedback.

comment

53

comment by: FNAM

AMC1 21.A.263 (c) (1):

"Terminological change. Amendment to paragraphs 2.2, 2.3, 2.4, 2.5 and 2.6 related to the classification procedures for changes to a type certificate (TC) or type certificate (STC), and repair models as minor or major.

Position: Positive impact: Content of more specific paragraphs. "

response

Noted

Thank you for the feedback.

comment

54

comment by: FNAM

AMC2 21.A.263(c)(1):

"Terminology change. Amendment to paragraphs 2, 3, 4 and 5 related to organizations designing minor changes to a type certificate (TC) or (STC) and minor product repairs.

Position: Positive impact: Content of more specific paragraphs. "

response

Noted

Thank you for the feedback.

comment

55

comment by: FNAM

AMC1 21.A.263(c)(2) and AMC2 21.A.263(c)(2):

"Terminological change. Amendment of paragraphs.

Position: Positive impact: Content of more specific paragraphs. "

response

Noted

Thank you for the feedback.

comment

56

comment by: FNAM

AMC1 21.A.263(c)(6):

"Change in wording and streamlined procedures for approving the conditions for issuing a flight permit.

Position: Positive Impact: More precise paragraph content and simplification of approval procedures. "

response

Noted

Thank you for the feedback.

comment

57

comment by: FNAM

AMC1 21.A.265(a):

"Definition of an electronic manual and what it should contain.

Position: Neutral impact "

response

Noted

Thank you for the feedback.

comment | 5

58

comment by: FNAM

AMC1 21.A.709(b):

"Amendment of this point concerning the documents to be provided when approving flight conditions.

Position: Positive impact: Easing of regulations. "

response

Noted

Thank you for the feedback.

comment

59

comment by: FNAM

GM1 21.A.804(a)(3):

"This point has been added, it provides details on the EPA marking for the parts to be repaired.

Position: Positive impact: Clarification on the criteria for which the EPA marking must be registered. "

response

Noted

Thank you for the feedback.

comment

60

comment by: FNAM

AMC1 21.A.804(b):

"Addition of this point in order to give indications in case the organization wishes to derogate from point 21.A.804 (a).

Position: Positive impact: Means to deviate from the point mentioned above. "

response

Noted

This is indeed the intent of this new AMC material.

Thank you for the feedback.

comment

61

comment by: FNAM

GM1 21.A.805:

"This point provides guidance on identifying critical parts.

Position: Neutral impact: Critical parts are already subject to rigorous identification by approved organizations. "

response

Noted

Thank you for the feedback.

comment

62

comment by: FNAM

GM1 21.B.75:

"Terminological change.

Position: Neutral impact. "

response

Not accepted

The cross reference has been updated to reflect the new numbering used for the respective GM.

comment

63

comment by: AIRBUS

1. PAGE / PARAGRAPH / SECTION THE COMMENT IS RELATED TO:

Page 13 of 36

GM1 21.A.15(d) (6)

2. PROPOSED TEXT / COMMENT:

The NPA proposes to delete the GM1 to 21.A.15(d) (6) based on the fact that the corresponding paragraph of 21.A.15 does not exist any longer (deleted in the previous updates of Part-21). Indeed previous Part 21.A.15 used to refer to "other type-related operational suitability elements" in addition to the five OSD constituents.

Article 1 of Regulation (EU) 748/2012 (Part-21) has also removed reference to "other type-related operational suitability elements" since (EU) 2019/897 without prior consultation with the stakeholders during the NPA process.

However Article 19 of (2)(k) of (EU) 2018/1139 new basic regulation clearly indicates "additional specifications to ensure compliance with Section III" (i.e. Air-Ops regulation) are part of the OSD and should be subject to EASA approval, based on certification basis issued in a form of specifications by EASA.

Therefore, as foreseen by the Basic Regulation, Airbus requests the Agency to maintain the possibility for the TCH to obtain approval of OSD pertaining to compliance with Air-Ops that is not already addressed by the five existing OSD constituents.

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

Compliance with provisions of (EU) 2018/1139 basic regulation.

response

Not accepted

The reasons why 'other type-related operational suitability elements' is deleted from Part 21 is to ensure consistency with common practices. In fact, this provision was originally included to host other elements, in addition to the 5 OSD constituents, which, however, have never been generated, or required to be generated, in the 6 years since the implementation of the OSD, and for which there are no CSs or requirements to support the approval.

EASA notes that the comment about the provision is in the Basic Regulation and therefore remains valid. Nothing prevents EASA from approving 'additional elements' based on compliance with the essential requirements, or generating means of compliance when appropriate, if an applicant should come forward with such a request. However, for clarity and consistency with the current approach and the existing CSs, EASA preferred to remove it.

comment

64

comment by: Rolls-Royce plc

Section AMC3 21.A.3A(a) page 10

Comment Summary

DOA Holder can't ensure a physical part in service (used/owned by operators or MROs across the world) are thoroughly investigated. Only parts and data given to the DOA Holder can be investigated and only to limits defined/accepted by the owner of the physical part (like NTD methods only).

Suggested resolution

Revise text to read: '...the system should allow that critical parts available to the DOA Holder can be thoroughly investigated so that ...'

Section AMC3 21.A.3A(a) page 10

Comment Summary

"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." This should be softened as the non-compliance may be due to not following the ICA thus no change to the design or ICA would be needed.

Suggested resolution

Revise text to read: '.. This may then result in changes.....'

Section GM1 21.A.3A(a) page 10

Comment Summary

Minor change DOAs should have an obligation to comply with the requirements in point 21.A.3A(a) in the same way as TC/STC DOA Holders.

Suggested resolution

The obligation should be kept to verify (for occurrences) correct compliance demonstration and appropriateness of the used certification basis as well as to properly assess identified 'cert non-compliances'. Alternatively, clarify that EASA is taking that responsibility instead of these DOA Holders not being a TC/STC DOA Holder!

Section GM1 21.A.3A(a) page 10

Comment Summary

The concept of exempting organisations designing only minor changes and repairs from any obligations to have a system to collect failures, malfunctions and defects related to their designs should be re-examined. The exemption is justified by the presumption that the classification of a change or repair as minor guarantees that there can be no airworthiness issue as a consequence of its introduction. This is rather optimistic. The classification is based on an understanding by the design organisation (confirmed by analysis and test as appropriate) that the result of implementing the change/repair is that there is no appreciable effect on the airworthines characteristices of the aircraft, engine or propeller. This case, once proven to the satisfaction of the DO permits the design to be offered for embodiment, and reflects the best understanding at the time. Airworthiness issues resulting from design shortcomings, by their nature, are surprises, where the

understanding of the designer in many cases is found to be lacking in some way. It therefore seems illogical to exempt the designer of a minor change/repair (albeit approved in good faith) from having a system for managing issues related to his designs, when they may behave in a way that proves that the effect of the design change (or repair), and the consequent effect on airworthiness, has been misunderstood. If this line is pursued, then surely the same logic should exempt a type-certificate holder designing minor changes/repairs from taking an interest in the performance of the changed/repaired designs in the field? The previous clarification in this GM also notes that the requirement is to have a system that enables to reporting of the issues, when they occur (and does not therefore require active pursuit of issues in the field), and the ability to collect and process information related to the failure malfunction or defect associated with their work should be a requirement of any design organisation.

Suggested resolution

This clarification should be removed, and a more limited scope of the responsibilities related to the design of minor changes/repairs should be established.

response

#1: Partially accepted

The intention that <u>the system should ensure that reports and information sent to the design approval holder</u> is included.

Please refer to the answer to comment #70.

#2: Accepted

The amended wording 'This may then result in changes to the design [...]', replaces 'This should then result in changes to the design [...]'.

#3: Not accepted

Please refer to the answer to comment #86.

#4: Not accepted

Please refer to the answer to comment #86.

comment

65

comment by: Rolls-Royce plc

Section GM 21.A.15(d) page 13

Comment Summary

The GM states that each OSD constituent can have a part that is mandatory for the end-user. This doesn't reflect the principle that each State of Registry is responsible to define 'mandatory' instructions for aircraft on their register.

Suggested resolution

Revise text to read: ' ... is propossed to become mandatory...'.

Section AMC1 21.A.263(c)(1) page 18

Comment Summary

The content of this AMC is focussed and procedures and may fit better under 21.A.239 Design Assurance System.

Suggested resolution

Re-assess place of procedural AMC material under 21.A.239 and scope of privileges under 21.A.263.

Section AMC1 21.A.263(c)(1) page 20

Comment Summary

Two listed items are addressing 'type certification/certification basis'. Could be most likely addressed in only one item to reduce text...

Suggested resolution

Merged both items into one

Section AMC1 21.A.265(a) page 20

Comment Summary

The AMC clarifies that a handbook might be in an electronic format as in integrated part in a wider management system. GM 21.A.265(b) should be changed in the current wording 'the handbook should be signed by...' to allow other approvals for such electronic handbook types!

Suggested resolution

Update of GM 21.A.265(b) to better align with electronic handbook types.

response

#1 (comment on GM 21.A.15(d) page 13): Not accepted

The rationale behind mandatory and non-mandatory elements of the OSD is that their use is mandated for 'end users' (operators and organisations) via the provisions included at the IR level in the respective parts of the regulations (Air Operations, Aircrew, etc.). These IRs make specific references to the OSD elements, making them mandatory (IR) or non-mandatory (AMC) via the references.

#2 (comment on AMC1 21.A.263(c)(1) page 18): Not accepted

This AMC contains guidance for the acceptable contents of the procedure for change classification, which is related to the respective DOA privilege.

#3 (comment on AMC1 21.A.263(c)(1) page 20): Not accepted

Indeed, the two items address the certification basis. However, the first refers to the original certification basis (incorporated by reference in the product TC), whereas the second refers to the certification basis of the modified product (for the change determined according to the changed product requirements in point 21.A.101). It is considered better to keep them separate.

#4 (comment on AMC1 21.A.265(a) page 20): Partially accepted

Additional text is proposed for GM 21.A.265(b) to clarify that the binding statement should be made independently of the means chosen by the design organisation to document its processes and procedures.

'GM 21.A.265(b) Use of the handbook

1. The handbook [...] and type investigation of products. This binding statement should be provided independently of the means chosen by the design organisation to document its processes and procedures.

2. [...]

comment

68

comment by: GE Aviation

GM1 21.A.3A(a) Failures, malfunctions and defects

Minor change DOA holders should have an obligation to comply with the requirements in point 21.A.3A(a), as any owner of an approved design. It is proposed to delate the sentence.

EASA to define the responsible for FMD issuance of minor change design reported MROs.

Suggested resolution is to remove.

"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."

The wording of the NPA and the <u>draft AMC3</u> update in response to SR NORW-2018-007 wherein the Accident Investigation Board Norway made recommendations to EASA regarding helicopter manufacturers' *critical* components has inferences and implications that is considered to be unintended.

The overview states

"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."

The implication here is <u>all</u> parts not only critical parts. This is well beyond the safety recommendation and GE Aviation considers it to not be the intent.

<u>Current Part 21 (21.A.3A)</u> require that a system is in place "...for collecting, investigating and analyzing reports of and information related to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the continuing airworthiness of the product, [...]"

>> An identified unsafe condition is primarily a condition affecting the continuing airworthiness.

<u>Draft AMC3</u> Part 21: "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 [...]"

- >> Which means: "any" defect, regardless of whether it has or adverse effects or not.
- >> The words "thoroughly investigated" are vague as it depends on one's perspective It is best to not use such an adverb and propose to stick to "investigated".

Making a comparison to Part 145 requirements: Any defect "beyond serviceable limits" are supposed to be detected during an inspection at maintenance. The latest amendment of Part 145 Section 160 "occurrence reporting" still refer to the circumstances "that has or may have endangered the safe operation of the aircraft".

>> which does **not** mean "any defect".

Parts found beyond serviceable limits at shop visit is a normal situation in every MRO. It is typical for OEM's to publish ICA manual with "conservative" limits, which may be expanded as operational data and new/additional/specific analysis supports. Where findings go beyond service limits and progress to a potentially unsafe condition, the MRO has clear regulatory reporting requirements to the TC holder, Airline and National authority.

GE Aviation proposes to modify language to the following

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

INVESTIGATION AND ANALYSYS

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 where the condition could lead to an adverse effect on continuing airworthiness 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.

response

#1: First part of the comment: Not accepted

Please refer to the answer to comment #86.

#2: Second part of the comment: Partially accepted

Please refer to the answer to comment #70.

comment

69

comment by: Safran Aircraft Engines

AMC3 21.A.3A(a) Failures, malfunctions and defects (Page 11)

Comment summary:

The system can only ensure investigation for critical parts and data available to the DOA holders. The investigation of a DOA holder is limited to its own design data. During the product's operation, the management of the product's configuration (possibly from different design owner) is under the responsibility of the owner/operator of the product.

Proposed Text:

"In particular, the system should allow that critical parts available to the DOA holder, and 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. ..."

response

Partially accepted

Indeed, this requirement is based on data and physical parts which are made available to the design approval holder by the owner/operator. However, the 'DOA' should be replaced by the 'design approval holder'. The resulting text is in the answer to comment #70.

Please refer to the answer to comment #70.

comment

70

comment by: Safran Aircraft Engines

AMC3 21.A.3A(a) Failures, malfunctions and defects (Page 11)

Comment summary:

The term "thoroughly investigated" could be defined in this AMC.

Proposed Text:

"In particular, the system should allow that critical parts available to the DOA holder, and 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. Investigation can be supported by analysis/demonstration/tests and can be applied to individual parts, to batches of parts or to generic part numbers, as appropriate and as determined by the DOA holder"

response

Partially accepted

EASA considers the amount of investigation should be proportional to the airworthiness risk. The AMC text has been amended to reflect this:

'In addition, for parts whose failure could lead to an unsafe condition, the 'analysis' function of the system should ensure that reports and information sent, or available, to the design approval holder are fully investigated so that the full nature of any damage, malfunction, or defect and its effect on continuing airworthiness is understood.'

EASA complemented the last sentence of the NPA, as follows:

This may then result in changes to the design, to the instructions for continued airworthiness (ICAs), and/or in establishing a mitigation plan to prevent or minimise such occurrences in the future, as necessary, and is not limited to those requiring the involvement of EASA under point 21.A.3A(c).'

Please also refer to GM1 21.A.3A(b)(1), where the following is stated, before the text referring to the AMC:

'To support the determination of an unsafe condition, the investigation may need to include examinations of worn, damaged and time-expired parts / analysis / certification demonstration / tests / statistical analysis, and comparison with the certification assumptions.'

Please note that EASA has further considered the text in AMC3 21.A.3A(a), GM 21.A.3A(a), GM1 21.A.3B(b) (GM1 21.A.3A(b)(1) and 21.A.3B(b) in the NPA), and GM 21.A.3A(b). The final AMC and GM reflect the official EASA position.

Comment

72

comment by: Safran Aircraft Engines

GM1 21.A.3A(a) Failures, malfunctions and defects (Page 11)

Comment summary:

Minor change and minor repair DOA holders should have an obligation to comply with the requirements in point 21.A.3A(a), as any owner of an approved design. The statement: "has no appreciable effect on the characteristics affecting the airworthiness" doesn't preclude strictly to have an "unsafe condition". It is proposed to delete the sentence.

EASA should define the responsible for the collection and analysis of the FMD (for those minor changes and minor repairs) reported by MR0s

Proposed Text:

"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."

response

Not accepted

Please refer to the answer to comment #86.

comment

74

comment by: Safran Aircraft Engines

GM1 21.A.3A(b)(1) and 21.A.3B(b) §1. Sixth bullet (Page 12)

Comment summary:

The expression 'instructions for continued airworthiness (or maintenance program)' is clear. Suggestion to remove the term 'etc'.

Proposed Text:

...

"the aircraft is assumed to be maintained in accordance with the prescribed instructions for continued airworthiness (or maintenance programme), etc."

response

Accepted

comment

75

comment by: Safran Aircraft Engines

AMC 1 21.A.263(c)(1) paragraph 2.2 4th bullet (Page 21)

Comment summary:

Reference to paragraph 4 in "- 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;" is not clear.

Suggested resolution:

Paragraph 4 of GM 21.A.101 to be reviewed and clarified to guide to the appropriate paragraph in GM 21.A.101

response

Accepted

The cross reference to GM 21.A.101 has been reviewed and corrected (in AMC1 21.A.263(c)(1) and AMC2 21.A.263(c)(1)):

'— items (consisting of areas, systems, parts, or appliances) to be affected by the change or repair following the definitions provided in paragraph 3.9 of GM 21.A.101;'

comment

77

comment by: Safran Aircraft Engines

AMC1 to 21.A.263(c)(1) Privileges Paragraph 2.2 6th and 9th bullets (Page 21)

Comment summary:

Two of the listed items are addressing the "Type Certification Bases & Certification Bases". Should be clarify, one addressing the Certification Bases of the Change and the other one the classification.

Proposed Text:

"- the certification basis of the change or repair based on the existing type-certification basis of the affected items (e.g.: 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) and determined in accordance with point 21.A.101 with the support of GM 21.A.101 (point 21.A.433 for repairs);"

...

"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 The pre-classification of the change as major significant as per associated definitions when relevant (see point 2.3 below)."

response

Not accepted

This is the same subject as in comment #65, item #3.

Please refer to the answer to comment #65, item #3.

comment

78

comment by: Safran Aircraft Engines

AMC1 to 21.A.263(c)(1) Privileges Paragraph 2.2 (Page 22)

Comment summary:

Last sentence, the word "adequate" to be clarified.

Proposed Text:

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

response

Not accepted

The meaning of the word 'adequate' is the dictionary meaning: 'enough or satisfactory for a particular purpose'.

No clarification is necessary.

comment

79

comment by: Safran Aircraft Engines

AMC1 to 21.A.263(c)(1) Privileges Paragraph 2.2 last sentence (Page 23)

Comment summary:

Correct typo: replace "21.A.31" by "21.A.91".

Proposed Text:

"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."

response

Not accepted

There is no typo. The requirement in 21.A.31(b) for the identification of a type design is equally applicable to changes and repairs. A design organisation should define how the changes and repairs are identified and, if applicable, what are the particularities for different categories of changes and repairs, e.g.:

- a major change might be identified in a different manner from a minor change;
- a minor change requiring no further demonstration of compliance might be identified differently from a minor change requiring a demonstration of compliance.

comment

80

comment by: Safran Aircraft Engines

AMC1 21.A.265(a) Obligations of the holder (Page 32)

Comment summary:

The proposed GM allows the use of online integrated management system. Complementary GM should be defined to clarify the Agency expectation with this format, in particular the update of the GM 21.A.265(b)

Suggested resolution:

" HANDBOOK FORMAT AND PUBLICATION MEANS

The term 'handbook' is ... 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;

....

In any case, ...

response

Partially accepted

EASA's expectations are already defined in the applicable Part 21 requirements: points 21.A.243(c), 21.A.265(a) and 21.A.265(b).

Please refer to the answer to comment #65 item #4, where additional information is provided.

comment

81

comment by: Safran Aircraft Engines

GM1 21.A.804(a)(3) Identification of parts and appliances (Page 33)

Comment summary:

GM proposes to identify repairs parts (EPA marking) only for parts specifically design for a Repair.

The objective of a Repair is to restore the airworthiness functions of the initial design of the part, performing design change even without addition of a new part. However the repair design may have defined significant design changes (e.g. from geometrical, system or configuration standpoints).

EPA marking should apply for any repair design of non-OEM parts or appliances.

Proposed Text:

"The EPA marking only applies to all repair designs, that includes modified and new 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."

response

Partially accepted

Indeed, the intention is to clarify that the EPA marking is needed when new or modified parts are incorporated into a repair design. However, this should not extend to any part that is the subject of a repair instruction. Consequently, the following revised text is retained:

The EPA marking only applies to the parts, specifically designed *or modified* 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 *or the use of modified parts*, there is no *need to mark the repaired part* with the letters 'EPA'.'

comment

82

comment by: Safran Aircraft Engines

GM1 21.A.805 Identification of critical parts (Page 34)

Comment summary:

To emphasise in the last paragraph that the records must be done through a serial number of the part.

Proposed Text:

...

"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 through part's serial number."

response

Accepted

84

The revised text has been accepted, to include the indication to the serial number.

comment

comment by: Avio Aero - Airworthiness Office

Avio Aero Comments on EASA NPA 2020-04 (Part 21 AMC and GM)

GM1 21.A.3A(a) Failures, malfunctions and defects

Minor change DOA holders should have an obligation to comply with the requirements in point 21.A.3A(a), as any owner of an approved design. It is proposed to delate the sentence.

EASA to define the responsible for FMD issuance of minor change design reported MROs.

Suggested resolution is to remove.

"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."

The wording of the NPA and the <u>draft AMC3</u> update in response to SR NORW-2018-007 wherein the Accident Investigation Board Norway made recommendations to EASA regarding helicopter manufacturers' *critical* components has inferences and implications that is considered to be unintended.

The overview states

"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."

The implication here is <u>all</u> parts not only critical parts. This is well beyond the safety recommendation and Avio Aero considers it to not be the intent.

<u>Current Part 21 (21.A.3A)</u> require that a system is in place "...for collecting, investigating and analyzing reports of and information related to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the continuing airworthiness of the product, [...]"

>> An identified unsafe condition is primarily a condition affecting the continuing airworthiness.

<u>Draft AMC3 Part 21</u>: "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 [...]"

- >> Which means: "any" defect, regardless of whether it has or adverse effects or not.
- >> The words "thoroughly investigated" are vague as it depends on one's perspective It is best to not use such an adverb and propose to stick to "investigated".

Making a comparison to Part 145 requirements: Any defect "beyond serviceable limits" are supposed to be detected during an inspection at maintenance. The latest amendment of Part 145 Section 160 "occurrence reporting" still refer to the circumstances "that has or may have endangered the safe operation of the aircraft".

>> which does **not** mean "any defect".

Parts found beyond serviceable limits at shop visit is a normal situation in every MRO. It is typical for OEM's to publish ICA manual with "conservative" limits, which may be expanded as operational data and new/additional/specific analysis supports. Where findings go beyond service limits and progress to a potentially unsafe condition, the MRO has clear regulatory reporting requirements to the TC holder, Airline and National authority.

Avio Aero proposes to modify language to the following

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

INVESTIGATION AND ANALYSYS

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 where the condition could lead to an adverse effect on continuing airworthiness 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.

response

#1: First part of the comment: Not accepted

Please refer to the answer to comment #86.

#2: Second part of the comment: Partially accepted

Please refer to the answer to comment #70.

comment

86

comment by: Airbus Helicopters

Comment on GM1 21.A.3A(a):

Minor change and minor repair approval holders should be required to report malfunction, failures and defects should they have an impact on safety. The assumptions used to classify the change or repair may be invalidated by in-service experience and may need to be reconsidered. The holder of the approval should retain some responsibilities in such cases as per the intent of 21.A.3A.

Furthermore the AMC3 21.A.3A(a) indicated that some functions of the system required under 21.A.3A(a) are participating in the compliance to 21.A.3A(b). The proposed GM being limited to 21.A.3A(a), it is understood that minor change or repair approval holder are still required to comply with 21.A.3A(b) and (c) as the proposed GM does not extent to these paragraphs, leaving the interpretation of the text" any other relevant approval deemed to have been issued under this Regulation ..." not clarified.

It is therfore proposed to clarify the applicability of the rule for minor change and repair design approval holder at rule level as it should be, according to the appropriate rulemaking procedure.

response

Not accepted

Point 21.A.3A was originally drafted without mentioning minor changes or repairs, intentionally, as it was in JAR-21. It was not felt that minor change and repair approval holders have to comply with point 21.A.3A, because of the minor nature of the design change. The part of the text 'deemed' is related to 'grandfathered' design approvals. The proposed GM clarifies this meaning.

EASA does not consider that a revision of the rule is necessary.

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 that minor change or minor repair, as basically that kind of change does not affect the airworthiness (the condition for safe operation is unchanged).

Please note that indeed the change to the text clarifies that design holders of minor changes do not need to have a system for collection (as in the past) regarding the implementation of a system to ensure the continued airworthiness of the product, as the minor changes have no impact on the safety of the product. However, the reporting requirements remain the same (point 21.A.3.A(b)). If the minor change design holder is aware of a potential unsafe condition related to their design, they must report it. The minor change classification remains the responsibility of the organisation.