

CRD table of comments, responses and resulting text

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

- (a) **Accepted** — EASA agrees with the comment and any proposed change is incorporated into the text.
- (b) **Partially accepted** — EASA either partially agrees with the comment or agrees with it but the proposed change is partially incorporated into the text.
- (c) **Noted** — EASA acknowledges the comment, but no change to the text is considered necessary.
- (d) **Not accepted** — EASA does not agree with the comment or proposed change.

(General Comments)	-
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comment	1	comment by: <i>LBA</i>
	LBA has no comments	
response	Noted. Thank you for your comment. EASA acknowledges the comment.	

comment	3	comment by: <i>FOCA (Switzerland)</i>
	Dear Sir or Madam, FOCA supports the proposed document and has no comments. Thank you for taking note.	
response	Noted. Thank you for your comment. EASA acknowledges the comment.	

comment	4	comment by: <i>Airbus-Regulations-SRg</i>
	AIRBUS Commercial Aircraft is pleased to participate in this commentary. Our experts and matter specialists have checked this proposed Certification Memorandum carefully. The here below provided comments comply with the AIRBUS document classification "AIRBUS AMBER" and comply with the Export Control classification "Not technical".	

In case of any resulting question please contact
AIRBUS Regulations & Standards (stephan.runge@airbus.com)
for AIRBUS internal coordination.
THANK YOU

response

Noted.
Thank you for your comment.
EASA acknowledges the comment.

comment

5

comment by: *Airbus-Regulations-SRg*

[PDF page 1, Title "Eligibility for type certificate application"](#)

COMMENT :

It is understood that the CM is only applicable for a new TC application and not for significant or not significant major changes to an existing TC.
What about these changes?

RATIONALE:

For clarification of the CM scope.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. The scope of this CM is limited to TC applications. For a major change approval (under Part 21 / Subpart D) only the respective TC holder may apply. Consequently, the eligibility challenges (e.g. in terms of design capability demonstration) are not the same.

comment

25

comment by: *Rolls-Royce plc*

Page ALL

Comment summary

STC applicants face exactly the same challenges with respect to timing of applications for design and organisation approvals, yet these are not discussed.

Suggested resolution

Include STC applicants under 21.A.113 as the same principles apply.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. Even if some of the challenges faced by a potential STC applicant might be similar to those faced by a TC applicant there are also differences. This is confirmed by the concrete experience EASA has with these STC applicants, leading to different problems which need to be addressed. As a consequence, EASA is not intending to capture in a single CM both cases. A dedicated CM (or other equivalent means of communication) might be drafted in the future for potential STC applicants.

comment

35

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

General

Thank you for the opportunity to comment on Proposed Certification Memorandum CM-21.A-B-002, Issue 01 on Eligibility for type certificate application. Please be advised that there are no comments from the Swedish Transport Agency.

response

Noted.
Thank you for your comment.
EASA acknowledges the comment.

comment

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comment by: *Airbus Defense and Space*

Airbus Defense and Space thanks EASA for the opportunity given to comment this certification Memorandum and the associated objective to clarify the readiness for an Application.

response

Noted.
Thank you for your comment.
EASA acknowledges the comment.

comment

40

comment by: *European Sailplane Manufacturers*

1. Background information No. 1– the history beyond the proposed CM
Rather early in existence, in 2006 EASA acknowledged that several regulations including that for Part-21 should be amended to include alleviations for small aircraft.
One main observation was the difficulty for the typically small organisations to apply for a new TC, especially when still being a young and non-experienced company – exactly the case addressed by this draft CM.
This resulted into forming of the MDM.032 rulemaking task which went on for several years and later became part of the “General Roadmap Initiative” of EASA. The proposed solution took really long to ripe and is now offered as Part-21 light which would offer the applicant something of a (hopefully) easier way toward a DOA or even would allow coming to the market without any organisation approval requirement when opting for the light declared option.

response

Noted.

Thank you for your comment.

EASA acknowledges the comment, no change to the CM text is considered necessary.

comment

41

comment by: *European Sailplane Manufacturers*

2. Background information No.2 – the challenges to apply from the small manufacturers perspective

It has to be understood, that in many cases new small aircraft projects are started by rather small groups of people which in most cases are very much focused on the technical (and perhaps already the financial) challenges for such a project.

It is rather seldom the case, that such a forming new team will already have the maturity of creating organisational structures, to create and define processes or to have specialists work through legal obligations surpassing the airworthiness requirements for the new aircraft project.

For this very reason it might be not surprising that EASA is faced with non-mature applicants (in the sense of the draft CM) and it is clear that this could easily lead to higher effort and costs on both sides – applicant and EASA.

Therefore, the proposed CM is very much appreciated regarding description of the challenges ahead, but falls very short in regard of the proposed means of how to solve this issue.

Admittedly, addressing this should not be the function of a CM but of rulemaking processes, but this has unfortunately been not successful done up to the current day.

response

Noted.

Thank you for your comment.

EASA acknowledges the comment, but no change to the text is considered necessary.

The CM is only explaining the EASA expectations in terms of proper timing for applying for a type certificate.

This CM is not intended to provide guidance on how to fulfill those expectations. There are other EASA guidance materials which a potential applicant may use for preparing to meet the expected maturity when applying for a type certificate - e.g. 'DOA Initial Investigation Information Package' cross referred in section 3.1.3 of this CM.

comment

42

comment by: *European Sailplane Manufacturers*

3. Nevertheless we, the European sailplane manufacturers, would therefore propose to add more information aimed toward possible applicants: the link to the "Documents Guidance and Examples" page in the GA-Toolbox domain on the EASA homepage is already a very good first step.

The missing next step could/should be a template for an ADOA organisation manual which could be more like a list of obligations to this organisation and a description of typical steps

toward a TC (or approval of a change, STC or similar) which could be signed by the applicant and should lead to a fast ADOA.
Based on such a ADOA it would be much easier for an applicant to then develop the DOA procedures.

response

Noted.

Thank you for your comment.

EASA acknowledges the comment, but no change to the text is considered necessary.

EASA is using several ways to support potential applicants for being ready to apply for type certificate. In the first place, this is done through the regulatory framework. This has been recently complemented by introduction of Part 21 Light (Regulations (EU) 2022/1358 and 2022/1361).

Part 21 and Part 21 Light have their specific set of acceptable means of compliance and guidance materials (AMC & GM).

In addition, we are publishing on EASA website other guidance - e.g. templates, guides, presentations, frequent asked questions - which may be used as well by potential applicants.

On the particular suggestion made by the commentor, it is to be mentioned that such ADOA Manual templates have been already published for specific cases of ETSOA and STC applicants. The suggestion made to develop such template for a TC applicant has been forwarded to our colleagues responsible for the respective domain.

Nevertheless, acknowledging the potential value of such 'templates', it is to be mentioned that still effort is needed by the applicant in understanding and adapting such template to its own needs and specificities of its own organisation.

comment

43

comment by: *European Sailplane Manufacturers*

4. Regarding the approval of such alternative procedures to DOA we would propose additionally to delegate this work on the side of EASA to either the PCM and/or to have the PCM at least in direct participation of this task. Feedback from many ADOA holders has shown that this has been done in some cases with good success, but that having a DOA team leader alone in responsibility often leads to the need of explanation about the aircraft project or the company structure and a total disconnect between the main applicant goal (= the development of a new product) from the ADOA approval effort. The solution proposed in the CM (= "just start earlier with the ADOA process") is totally unrealistic as no investor will first channel effort and budget to such a completely bureaucratic exercise like getting the ADOA or DOA before even the technical development has progressed toward some presentable milestones.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. It is the usual practice to involve the EASA product certification staff in the review and acceptance of the alternative procedures to the DOA (so called ADOA).

In addition, the potential applicant should not consider the capability demonstration exercise as a 'bureaucratic' burden! In the specific case of the ADOA the effort invested in setting up clear procedures for working with EASA will for sure payoff later when the actual certification work starts and the applicant will know what data are needed and how to present such data for EASA review and acceptance.

comment

44

comment by: *European Sailplane Manufacturers*

5. The proposed Part-21 light processes will in our opinion not help in many cases as often the new, emerging new projects are based on new and perhaps unconventional ideas regarding the aircraft and its systems which will inherently be non-compatible with the Part-21 light options as offered today.

response

Noted.

Thank you for your comment.

EASA acknowledges the comment, but no change to the text is considered necessary.

First it is to be mentioned that this CM is not addressing the Part 21 Light eligibility options.

Indeed, the applicability of Part 21 Light is limited to certain categories of products and as such not appropriate for the cases described by the commentor. However, EASA considers introduction of Part 21 Light as a necessary step in completing the regulatory framework available for products certification and compliance declaration in Europe.

comment

45

comment by: *European Sailplane Manufacturers*

6. On the other hand, the existing options (CertProgram / ADOA / DOA) also have their challenges and additionally there is also the financial aspect as ADOA and DOA also create financial burden via the associated EASA fees beside the effort which needs to be invested from the applicant.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. Indeed, EASA is levying fees for certification tasks (including design capability demonstrations). These fees are proportionate with the work performed by the EASA staff in these projects.
Financial aspects are not subject for this CM.

1.1. Purpose and scope

p. 3

comment

6

comment by: *Airbus-Regulations-SRg*

[PDF page 3, section 1.1. Purpose and scope & 1.3. Abbreviations](#)

GENERAL COMMENT:

[PAC or IPC is attractive but it should not be the only way/path to start initiate discussions with EASA before the TC application.](#)

RATIONALE:

[For clarification of the CM content.](#)

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. The PAC or the IPC are not presented in the CM as the only ways but rather as options available to discuss with EASA in the pre-application phase. These are indicated because are offering the potential applicant certain assurance on the expected outcomes.

1.3. Abbreviations

p. 3

comment

26

comment by: *Rolls-Royce plc*

Page 3 Section 1.3

Comment summary

This is the first time CONOPS is used in rulemaking documents yet accurate definition of this term is not provided.

Suggested resolution

Define clearly what EASA means by CONOP with respect to licensing, air space and operations.

response

Accepted.

Thank you for your comment.

First, it has to be noted that the CM, as explained in its cover page, should not be considered a rulemaking output.

Second, following the contents of this comment, besides the abbreviation in section 1.3 a new note is introduced in section 2.1 to explain what CONOPS is.

EASA has revised the text as follows:

'NOTE

The CONcept of OPerationS (CONOPS) is a document answering the following question: "What do you want to operate, how, and in which airspace?". It is widely used to describe for instance how drones are/will be operated (see Commission Implementing Regulation (EU) 2019/947 on the rules and procedures for the operation of unmanned aircraft) or for future commercial air transport (CAT) with extended minimum crew operation. It is typically providing the description of the new product design and operations, and their impact on flight crew licensing and air traffic management characteristics. The establishment of the CONOPS will help in confirming the applicable safety objectives and identifying the needed regulatory actions.'

2.1. Problem statement

p. 4

comment

7

comment by: *Airbus-Regulations-SRg*

[PDF page 3, section 1.3 Abbreviations &](#)
[PDF page 4, section 2.1. Problem Statement](#)

COMMENT :

CONOPS is identified as part of the Certification cluster.

It should be identified as a multi-disciplinary topic (Type Certification, Flight Standards, including flight-ground-airport Operations and ATM), so going far beyond the product certification cluster.

CONOPS should be standardized: scope, rubrics, stakeholders, endorsement...

RATIONALE:

To ease the perception and right application of the new CM.

response

Partially accepted.

Thank you for your comment.

Indeed, CONOPS is a multidisciplinary topic. Besides the abbreviation in section 1.3 a new note is introduced in section 2.1 to explain what CONOPS is. However, is not the purpose of this CM to standardise the format and contents of the CONOPS.

EASA has revised the text as explained in the response to comment No. 26.

2. Background

p. 4

comment

27

comment by: *Rolls-Royce plc*

Page 4 Section 2

Comment summary

What are the benefits of IPC/PAC and how are these framed by fees and changes regulation?

Suggested resolution

Economic assessment similar to proper NPA should explain what if any benefits scheme shown in figure that is part of 3.4. brings and how is implemented.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. Section 2 of the CM has no reference to IPC/PAC. These are presented as voluntary 'pre-application services' in section 1.1. Being a non-mandatory activity, EASA does not consider an economic assessment is needed. Regarding the benefits, please refer to the presentations made by EASA and industry on this subject (i.e. 'pre-application services') during the latest Certification Conference, 7 Dec. 2022.

Additional information on pre-application services can be found on EASA website: <https://www.easa.europa.eu/en/document-library/application-services/pre-application-services>

A cross reference to this webpage has been included in CM, section 1.1.

3.1. Organisational maturity and capability demonstration

p. 5

comment

24

comment by: *Rolls-Royce plc*

Page 5 Section 3.1

Comment summary

EASA's remit covers a large numbers of product categories, while OEMs generally address a smaller number of categories. Maturity and capability assessments should consider whether OEMs are moving outside their existing specialism.

Suggested resolution

"A TC applicant shall have demonstrated its MATURITY AND capability IN THE PRODUCT CATEGORY BEING APPLIED FOR or, at least"

response

Accepted.

Thank you for your comment.

EASA has revised the text as proposed.

'A TC applicant shall have demonstrated its maturity and capability in the product category being applied for or, at least, [...]'

comment

28

comment by: *Rolls-Royce plc*

Page 5 Section 3.1

Comment summary

Second para: Another location where financial aspects which are most critical should be discussed.

Suggested resolution

Clarify how this policy affects financial aspects.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. In general, the CM is not including or addressing financial aspects. In addition, and more specific to the comment, it is not clear which 'financial aspects' the commentor is referring in para. 2.

3.1.1. Demonstration of capability through the Certification Programme (21.A.14(c))

p. 5

comment

30

comment by: *Rolls-Royce plc*

Page 5 Section 3.1.1

Comment summary

3rd para: Content of certification programme is defined in GM and AMC to Part 21, for instance AMC ELA No2 to 21.A.239(a) section 1, 2nd bullet, if AMC 21.A.15(b) is too constraining. Rulemaking document shouldn't refer to web based EASA template that could change.

Suggested resolution

Refer to GM and AMCs that provide definition of Certification programme content and are already generally applied.

response

Partially accepted.

Thank you for your comment.

Indeed, a first reference regarding the contents of the certification programme should be the Part 21 AMC/GMs. However, EASA consider useful to refer additional guidance as well, when this is available and relevant for the category of products / organisations. This approach has been positively commented by the General Aviation community.

EASA has revised the text as follows:

'Acceptable means of compliance and Guidance on the contents of the Certification Programme can be found in AMC 21.A.15(b) and on the EASA website (here).'

3.1.2. Demonstration of capability through the agreement of Alternative Procedures (21.A.14(b))

p. 5

comment

31

comment by: *Rolls-Royce plc*

Page 5 Section 3.1.2

Comment summary

1st para: typo AMC1 21.A.14(b)

Suggested resolution

Correct typo

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. There is no typo in the cross reference to the AMC1 21.A.14(b).

comment

32

comment by: *Rolls-Royce plc*

Page 5 Section 3.1.2 Appendix

Comment summary

Pre-TC and pre-TC activities is term that is not used in GM and AMC to Part 21.

Suggested resolution

Use term management of type-certification process as used in AMC 21.A.14(b) 2 and refer to this point for description of these processes.

response

Partially accepted.

Thank you for your comment.

Indeed, this terminology is not used in Part 21 AMC/GMs. However, the reference only to the management of the type-certification process (AMC1 21.A.14(b), para. 2) might be incomplete as other processes may need to be defined as well (e.g. control of design subcontractors, ref. AMC1 21.A.14(b), para. 6).

EASA has revised the text as follows:

'[...] These procedures should describe the pre-TC activities (e.g. management of the type-certification process, control of design subcontractors) and the post-TC activities (e.g. management of changes to the type certificate, repair design, production deviations).'

comment

33

comment by: *Rolls-Royce plc*

Page 5 Section 3.1.2

Comment summary

last para: 'to provide its agreement' Does it mean agreement of alternative procedures or something else?

Suggested resolution

Clarify that at this point application for (S)TC can be accepted

response

Accepted.

Thank you for your comment.

Indeed, it is the agreement on ADOA.

EASA has revised the text as follows:

'[...] the Agency should be able to find compliance with the applicable requirements in Part 21 ~~in order to provide its agreement~~ and issue the finding of compliance for the ADOA.'

comment 8

comment by: Airbus-Regulations-SRg

[PDF page 6, section 3.2. Product maturity](#)

PROPOSED TEXT:

"An applicant should consider the novel or unusual design features of the product or its unusual intended use"

should be replaced by:

"An applicant should consider the new technologies, architecture and operations."

RATIONALE:

For clarification of the meaning of the word "novel".

response

Partially accepted.

Thank you for your comment.

The text is using in general the same terminology as in 21.B.75. GM1 21.B.75 is explaining the meaning of 'novel or unusual'.

The text is maintained and only slightly modified for a full consistency with 21.B.75.

EASA has revised the text as follows:

'An applicant should consider the novel or unusual design features of the product or its ~~unusual~~ **unconventional** intended use [...].'

comment 34

comment by: Rolls-Royce plc

Page 6 Section 3.1.2

Comment summary

Penultimate paragraph goes against the spirit of AMC 21.A.14(b) 'The setting up of those procedures may be seen as a starting phase for a design organization to develop into a Subpart J DOA by the addition of the missing elements.'

Suggested resolution

For acceptance of (S)TC application it is documentation of processes that is important. Staff competence is irrelevant at this point, but must be demonstrated prior EASA LOI is established for certification programme, as it is the LOI that depends on staff competence.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment. The referred paragraph is not part of 3.1.2 (capability demonstration through agreement of alternative procedures to DOA) but of 3.1.3 (capability demonstration through DOA). As such, we consider that the applicant should not only

document its processes but also being able to demonstrate a certain level of competence for the key personnel.

3.1.3. Demonstration of capability through the Design Organisation Approval (21.A.14(a))

p. 6

comment

21

comment by: *Rolls-Royce plc*

Page 6 Section 3.1.3 appendix

Comment summary

Last para: flight test organisation is not defined in EU regulatory documents.

Suggested resolution

Use term flight test operations as used in GM and AMC to Part 21.

response

Accepted.

Thank you for your comment.

EASA has revised the text as proposed.

'[...] establishment of interfaces with production organisations (manufacture of test specimens and prototypes), **and** design subcontractors (including suppliers of testing services **and/or flight test activities**) **and flight test organisations (flight testing activities).**'

3.4. Example of parallel processes for an aircraft development and certification

p. 7

comment

9

comment by: *Airbus-Regulations-SRg*

PDF page 7, section 3.4. Example of parallel processes for an aircraft development and certification

COMMENT:

Beyond CONOPS , global safety objectives of the operation should be defined.

Milestone for TC application readiness should consider also the readiness of EASA for launching the rulemaking activities on other domains (Ops, ATM; Licensing...)

RATIONALE:

For clarification on the whole scope of parallel processes.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment.

The picture in 3.4 is capturing the principle in this comment. The TC application readiness is considering the output of the pre-application phases. An innovative product should typically be subject to an "Innovation Partnership Contract" (IPC) established between the Agency and the organisation requesting the service. The expected outcomes are the confirmation of the feasibility of the concept, as well as a first set of cross-directorate draft policies, guidelines, and regulatory action plans that will define the early path according to which existing regulations may be modified, or new regulations be developed to accommodate the innovative concept or disruptive technology.

comment

20

comment by: *Rolls-Royce plc*

Page 7 Section 3.4

Comment summary

The picture presented has a number of flaws that will inevitably lead to problems during type-certification process. Primarily how activity carried out in development phase can be claimed to support certification phase.

Suggested resolution

Document: (1) How NAA issuing PtF will be involved in FC approval? (2) How FC with novelty requiring SC is approved prior SC and without public consultations? (3) Product with FC will inevitably be used to generate compliance data, how EASA cert team will be involved in conformity inspections if TC application is expected later? (4) What limited scope for DOA and 'staged approach' means, when only privileges related to FC and PtF can be exercised during type-certification process?

response

Partially agreed.

Thank you for your comment.

The is just intended to illustrate the complexity of the different activities which have to be performed. It is quite difficult to present an accurate succession of different events knowing that in practice the various processes / activities are actually, in a certain extent, overlapping.

(1) NAA activities are not represented in the picture. In issuing the Permit to Fly the NAA has to check the aircraft conformity with the defined configuration indicated in the approved Flight Conditions (FC). Part 21 is not contemplating an involvement of the NAA in the approval of the FC.

(2) The FC approval process is not requiring a public consultation. It is just confirming the conditions and limitations in which a certain aircraft configuration may perform certain flight

testing safely. Later on, when the SC will be established, the FC may need to be revised to consider such SC (e.g. specific compliance demonstration flight testing).

(3) The conformity determination is an obligation of the Applicant. As such, for the applicant should be clear that results of flight testing cannot be considered for the purpose of compliance demonstration without proper conformity determination. However, this is just one of the conditions. Additional ones may include prototype representativeness and relevance / acceptability of the test programme.

(4) A DOA granted with limited scope is supposed to cover only pre-TC activities.

In conclusion and to avoid possible misunderstandings, EASA has revised figure in section 3.4 deleting the flight conditions related milestones.

comment

36

comment by: *Airbus Defense and Space*

§3.4- picture "Parallel processes for aircraft development and certification"

comment:

"design mature" is proposed to be replaced by " design sufficiently mature" as per wording used in §3.1. It could be interesting in example to map the TC application with the ARP4754 development process steps.

rationale: The wording is confusing, a design is not mature at the time of TC application. This needs to be clarified.

response

Partially accepted.

Thank you for your comment.

EASA has revised the text as proposed.

Mapping TC application steps with ARP4754 development process steps is beyond the scope of this CM

comment

10

comment by: *Airbus-Regulations-SRg*

[PDF page 9, Appendix - Readiness Checklist, item "1. Resources are secured"](#)

COMMENT :

[It is understood that "Resources" refer to TC applicant's resources.](#)

What about EASA resources that also need to be secured?

RATIONALE:

For clarifications on the imperious need to secure both applicant's and EASA's resources

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment.

EASA acknowledge that the 'EASA resources' and 'EASA staff competences' are equally important. However, it is not the scope of this CM to address these aspects. EASA has defined and is implementing action plans to address such elements.

comment

11

comment by: Airbus-Regulations-SRg

PDF page 9, Appendix - Readiness Checklist, item
"2. Staff competences are sufficient"

PROPOSED TEXT / COMMENT :

It is understood that "staff competencies" refer to TC applicant's staff.

What about EASA staff competences to be secured, in particular where novelties are introduced by the new TC project?

Within the "Note" the example given should be replaced by:
"(e.g. new technologies, architecture and operations.)"

RATIONALE:

For clarification on the imperious need to secure both applicant's and EASA's staff competences.

For clarification of the meaning of the word "novelties".

response

Partially accepted.

Thank you for your comment.

EASA does not agree to the first part of the comment.

EASA acknowledge that the 'EASA resources' and 'EASA staff competences' are equally important. However, it is not the scope of this CM to address these aspects. EASA has defined and is implementing action plans to address such elements.

Regarding the second part of this comment, EASA accepts the suggestion, and the text is modified accordingly

comment

12

comment by: Airbus-Regulations-SRg

PDF page 9, Appendix - Readiness Checklist, item
"4. Working practices are up to date for the new TC application"

PROPOSED TEXT / COMMENT :

This request comes too early versus the Type Certification project timeframe.

This is not realistic.

Working practice could be defined and drafted at time of TC application but it can only be tested

through the certification exercise itself.

RATIONALE / REASON / JUSTIFICATION for the Comment:

For clarification of what can be done before the TC application

response

Partially accepted.

Thank you for your comment.

The referred text is not fully relevant for the concern expressed as it is only highlighting that the working practices should be reviewed and update as needed. This text (in the right-hand column of the checklist) is not referring any 'tested' of the working practices.

However, it is understood that the concern may refer to the full text of item 4, in particular the left-hand column where 'tested' is mentioned.

It is acknowledged that a full verification of the working practices may only be possible through the certification exercise itself.

Consequently, the text is modified to indicate this by introducing 'as far as possible'.

The resulted text is:

'Working practices are established, ~~tested, and~~ documented, and verified (when relevant and as far as possible, e.g. through internal audits).'

comment

13

comment by: Airbus-Regulations-SRg

PDF page 9, Appendix - Readiness Checklist, item
"5. Subcontractors and their workshare are identified."

COMMENT :

This request comes too early versus the Type Certification project timeframe.

Subcontractors are not yet selected at time of TC application, at least part of them.

Only potential subcontractors could be identified.

RATIONALE:

For clarification of what can be done before the TC application

response

Accepted.

Thank you for your comment.

EASA has revised the text as proposed.

'Potential subcontractors and their workshare are identified.'

comment

14

comment by: Airbus-Regulations-SRg

PDF page 9, Appendix - Readiness Checklist, item
"6a. (when capability is demonstrated according to 21.A.14(c))"

COMMENT:

This request is understood as not applicable to Approved Design Organizations.
Please confirm - or further explain.

RATIONALE:

For clarification of the scope of item 6a.

response

Accepted.

Thank you for your comment.

It is confirmed that item 6a is not applicable to DOAs. The following clarification is already present at the beginning of the item 6a

'(when capability is demonstrated according to 21.A.14(c))'

No change of the text is deemed necessary.

comment

15

comment by: Airbus-Regulations-SRg

PDF page 10, Appendix - Readiness Checklist, item
"6c. (when capability is demonstrated according to 21.A.14(a)) "

COMMENT :

Within the "Note" the example given "new DO-PO arrangements" is not relevant as too early to be known and established before TC application .

RATIONALE:

For clarification of what can be done before the TC application

response

Partially accepted.

Thank you for your comment.

The list provided contains only examples of aspects which need to be considered in such DOA Significant Change. It is not expected that actual DO-PO arrangements are signed before TC application. The TC applicant should rather consider potential novelties introduced in the area of interface with the manufacture. e.g. full production in-house vs. decision to subcontract the manufacture of major subassemblies (e.g. wing).

The text is modified to highlight the interface.

'new ~~manufacture DO-PO arrangements~~ interfaces'

comment

16

comment by: Airbus-Regulations-SRg

PDF page 10, Appendix - Readiness Checklist, item
"7. The interfaces with the production organizations are defined [...]"

COMMENT :

NOTE "[...]...but necessary interfaces should be already in place "

The content of the "Note" related to "interfaces" is not valid at time of TC application

RATIONALE:

For clarification of what can be done before the TC application

response

Partially accepted.

Thank you for your comment.

See the response provided to comment No. 15.

The Note is modified to capture the example of possible novelties in the manufacture area.

'[...] The respective POA may need to be extended to cover the new product, ~~but necessary interfaces should be already in place.~~ If relevant, novelties introduced in the area of interface with the manufacture - e.g. full production in-house vs. decision to subcontract the manufacture of major subassemblies - should be considered.'

comment

17

comment by: Airbus-Regulations-SRg

PDF page 10, Appendix - Readiness Checklist, item
"10. The product configuration is sufficiently mature "

COMMENT:

To clarify and to agree on the meaning of the word "sufficiently"

The product configuration calls for detailed design which is not available at time of TC application.

RATIONALE:

For clarification of the meaning of the word "sufficiently"

response

Not accepted.

Thank you for your comment.

See the response provided to comment No. 29.

comment

18

comment by: Airbus-Regulations-SRg

PDF page 10, Appendix - Readiness Checklist, item

"11. The product novelties [...]"

COMMENT :

The example given should be replaced by "(e.g. new technologies, architecture and operations.)"

RATIONALE:

For clarification of the meaning of the word "novelties".

response

Partially accepted.

Thank you for your comment.

This checklist item is linked with the need to establish / consider Special Conditions. The terminology should be aligned with the one used in 21.B.75 (consistent also with last paragraph in CM, section 3.2.

The text is changed as follows:

'The product ~~novelties (e.g. design features, technologies, intended use)~~ novel or unusual design features or its unconventional use have been addressed.'

comment

19

comment by: Airbus-Regulations-SRg

PDF page 10, Appendix - Readiness Checklist, item

"12. The relevant maturity milestones are achieved [...]"

COMMENT:

The wording "relevant maturity milestones" should be understood as:

> Milestones to be achieved before TC application as per Product Development Plan (PDP) <

The Wording in #12 should be revised accordingly.

RATIONALE:

For clarification of the meaning of the word "relevant".

response

Accepted.

Thank you for your comment.

The text is changed as suggested.

'~~The relevant maturity milestones~~. The milestones to be achieved before TC application as per Product Development Plan (PDP) are achieved and the respective criteria successfully satisfied.'

comment

22

comment by: Rolls-Royce plc

Page 9 Appendix

Comment summary

Item 2. staff competences are not required under capability 3.1.1. and 3.1.2. and are covered under 6 by DOA; Item 4. What does EASA mean by tested?

Suggested resolution

Clarify better what these point represent.

response

Partially accepted.

Thank you for your comment.

Regarding item 2, 'staff competences' is an element which the potential applicant should consider no matter what capability demonstration route is followed. This is independent of an EASA verification during capability demonstration (which, indeed, will be performed only in the frame of a DOA investigation, ref. to section 3.1.3). EASA will not modify the text.

Regarding item 4, the term 'tested' is changed. New text:

'Working practices are established, ~~tested, and~~ documented, and verified (when relevant and as far as possible, e.g. through internal audits).'

comment

23

comment by: *Rolls-Royce plc*

Page 10 Appendix

Comment summary

Items 7. & 8. are part of item six, why are they separately listed?

Suggested resolution

Clarify better what these point represent.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment.

Even if those items may be considered as part of capability demonstration (i.e. as part of item 6) we decided to list them separately (both in section 3.1 and in Appendix / Checklist) to draw the attention of the potential applicant on those interface aspects.

comment

29

comment by: *Rolls-Royce plc*

Pages 5-6, 9-10 Section 3 Appendix

Comment summary

Phrases a mature certification programme and maturity as used are vague.

Suggested resolution

Clarify EASA maturity criteria for certification programme and aeronautical products in development.

response

Partially accepted.

Thank you for your comment.

In case of the certification programme, mature means that only a relative reduced number of topics needs clarification before EASA may accept the programme. This clarification has been introduced in section 3.1.1 (it is not considered necessary to repeat the same clarification in the Appendix / Checklist, item 6a).

However, regarding product / configuration maturity, precise criteria cannot be provided as these may depend on the complexity of the respective product / category of products. The CM is just attempting to provide some general considerations on possible consequences (refer to para. 3 in section 3.2) of applying too 'soon' or too 'late'. Each potential applicant should consider this when setting up their own product development plan.

comment

37

comment by: *Airbus Defense and Space*

Appendix- Readiness Checklist
C. Product maturity - Item 12

comment: Airbus DS proposes to delete the item 12 from the checklist.

Rationale: the achievement of the relevant maturity milestones, is the accomplishment of the plan mainly during the TC process. The maturity milestones cannot be achieved before the TC application.

response

Not accepted.

Thank you for your comment.

EASA does not agree to the comment.

The development plan should cover both activities to be performed before the TC application is submitted and activities after the application (during the TC process).

comment

39

comment by: *Heart Aerospace AB*

Page 9

A. Organisational Maturity and Capability Demonstration

Item 4. Working practices are established, tested, and documented

- Suggestion: Replace "*Working practices are established, tested, and documented*" with "*Working practices expected to be executed by the time of the TC application are established and documented*"

- Justification: at the time of TC application, the applicant may not yet have established, tested and documented practices not related to this stage of the project, with no negative impact (e.g., at the time of application for a TC, there is no impact if the company has not yet established the processes for Design Changes)

Item 5. Subcontractors and their workshare are identified.

- Suggestion: Replace "Subcontractors and their workshare are identified." with "*The outsourcing strategy (make, buy, partnership) has been defined for the main packages.*"
- Justification: by the time of the application for the TC, some subcontractors and their responsibilities / worksharing may not have yet been defined.

Page 10

Item 6c.

- Replace "*Compliance Verification Engineers*" for "*personnel of the Office of Airworthiness responsible for the Certification Programme and for the discussion of the Certification Basis;*"
- Justification: In the TC application phase, it is more important to have nominated the personnel belonging to the Office of Airworthiness responsible for the issuance of the Certification Programme(s) and the initial certification activities. The CVE role does not have deliverables in the initial phases since their role (as per 21.A.239(d)(2)) is performed within a Type Investigation conducted under existing Certification Programme(s).

Item 6c.

- Replace "*the relevant processes are defined and documented (e.g. configuration control, TC process / procedures, compliance demonstration);*" with "*At least the following relevant processes are defined and documented: Safety Reports Assessment within the Safety Management Element; TC process / procedures; the management of design tasks planned to be performed by its partners or subcontractors; the Independent System Monitoring procedures*"
- Justification: It is more relevant for the TC application phase that the organisation has at least a system to manage safety reports that may emerge during the initial phases of the Certification Project. The configuration control is very important, but it must be presented in the DOA framework throughout the Type Design perspective, not undefined and in a next stage of the Certification Project.

Item 6c. Note:

- Replace "*has confirmed the satisfactory completion of Check Point 3.*" with "*has initiated the DOA Phase 2.*"
- Justification: This justification applies for the items 7 and 8 too. Per DOA Initial Investigation Information Paper the Checkpoint 3 is the end of phase 3 in which the applicant has finalised the validation of the proposed process(es). In the same chapter of that document, the concept of validation is described as process that should consist of reviewing, testing and audit considering the adequacy (to the Part 21 and to the Organisation) and the adherence (DOA staff able to operate not prone to deviations).
It is not reasonable to state that a process is valid if it has not produced any deliverable; since no sample for a proper audit is possible in this scenario; so the synchronisation between the DOA implementation and the Certification project must be in a way that the produced

deliverables of the Certification project can be used in the DOA implementation to assess the procedures that produced them.

Item 7.

- Replace "established" with "*planned in alignment with the milestones of the Certification Programme.*"
- Justification: same for item 6c. Note (see above)

Item 8.

- Replace "established" with "*planned in alignment with the milestones of the Certification Programme.*"
- Justification: same for item 6c. Note (see above)

response

Partially accepted.

Thank you for your comment.

Item 4 - it is acknowledged that only the so called 'pre-TC' processes have to be established and documented (see also sections 3.1.2 and 3.1.3 in the CM). The text of the item 4 is modified as follows: '**Relevant** working practices [...]'

Item 5 - it is acknowledged that some of the subcontractors may not been yet identified. The text is modified as follows:

'**Potential** subcontractors [...]'

Item 6c - it is acknowledged that used of term 'compliance verification engineers' is not appropriate. The text has been modified to read 'airworthiness personnel' (i.e. personnel performing the airworthiness function as defined in 21.A.239(d)(1)(i))

Item 6c - the proposal to modify the examples of 'relevant processes' is not accepted. Those are just examples and not intended to provide a 'minimum' mandatory list.

Item 6c - Note -> Replace of the CP3 by the CP2 has been accepted. However, this is set as a minimum standard. At the same time, the reader should note that EASA has raised the expectations also for DOA applicants. The confirmation by EASA of the CP2 requires now a higher level of readiness on the applicant side.

Items 7 & 8 -> proposal accepted: 'established' replaced by 'planned in alignment with the milestones of the Certification Programme'.