European Union Aviation Safety Agency

Notice of Proposed Amendment 2019-03

Embodiment of the level of involvement acceptable means of compliance and guidance material in Part 21

RMT.0262 (MDM.060)

EXECUTIVE SUMMARY

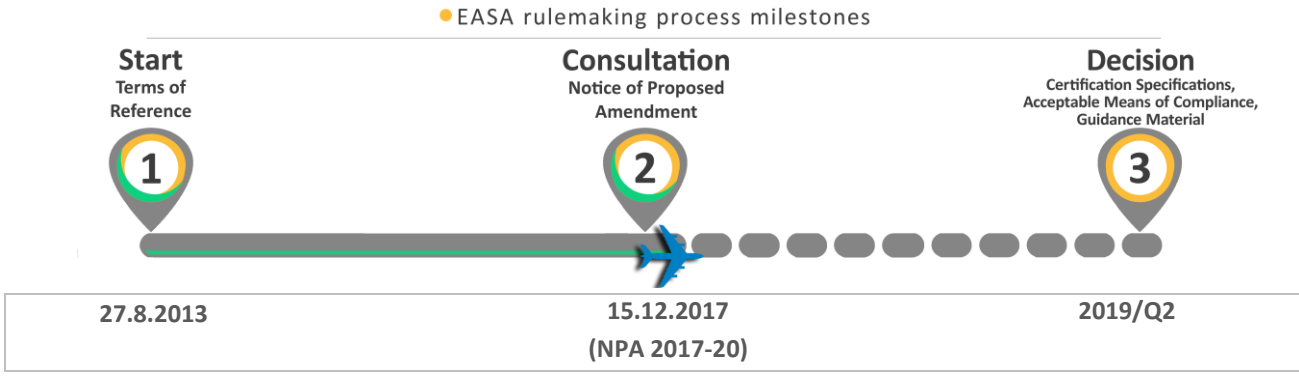
The objective of this Notice of Proposed Amendment (NPA) is to complement NPA 2017-20 'Embodiment of level of involvement acceptable means of compliance and guidance material to Part-21' of 15 December 2017 in supporting the embodiment of level of involvement (LoI) and other amendments to Part 21 that were proposed by the European Union Aviation Safety Agency (EASA) in its Opinion No 07/2016 'Embodiment of level of involvement requirements into Part-21' of 23 May 2016.

At the time of publication of NPA 2017-20, the proposals for the amendment of Part 21 that were made in the Opinion were still under review by the European Commission. In the meantime, the European Commission has developed a draft regulation, based on the EASA Opinion.

As a number of the changes that have been introduced alter the text that was proposed by EASA in Opinion No 07/2016, some of the acceptable means of compliance (AMC) and guidance material (GM) that were proposed in NPA 2017-20 are no longer aligned with the amendment of Part 21 and need to be amended. Other points in Part 21 now require new AMC/GM that were not proposed in the previous NPA.

The specific objective of this NPA is therefore to enable consultation to take place on those amended or new AMC/GM to Part 21.

Action area:	Safety management		
Affected rules:	AMC/GM to Part 21		
Affected stakeholders:	Design approval holders (DAHs); EASA		
Driver:	Safety	**Rulemaking group:**	No
Impact assessment:	Light (ref.: NPA 2015-03)	**Rulemaking Procedure:**	Standard



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1. About this NPA

1.1. How this NPA was developed

The European Union Aviation Safety Agency (EASA) developed this NPA in line with Regulation (EU) 2018/1139[1] (the 'Basic Regulation') and the Rulemaking Procedure[2]. This rulemaking activity is included in the latest European Plan for Aviation Safety (EPAS)[3] under rulemaking task RMT.0262 (MDM.060) (Phase II). The text of this NPA has been developed by EASA. It is hereby submitted to all interested parties[4] for consultation.

1.1.1. The structure of this NPA and related documents

Chapter 1 of this NPA contains the procedural information related to this task.

Chapter 2 (In summary — why and what) explains the core technical contents.

Chapter 3 contains the proposed text for the amendment of the AMC/GM to Part 21.

Appendix 1 contains the updated correlation table between the current Part 21 and the Part 21 after it has been amended by the European Commission, based on EASA Opinion No 07/2016.

Comment-Response Document (CRD) 2017-20 is published in conjunction with this NPA. It contains the resulting text of the AMC/GM, which has undergone public consultation through NPA 2017-20[5]. Some of these AMC/GM are also affected by this NPA.

1.2. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at **http://hub.easa.europa.eu/crt/**[6].

The deadline for submission of comments is **15 May 2019**.

1.3. The next steps

Following the closing of the public commenting period, EASA will review all the comments that have been received.

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

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

3 https://www.easa.europa.eu/document-library/general-publications?publication_type%5B%5D=2467

4 In accordance with Article 115 of Regulation (EU) 2018/1139, and Articles 6(3) and 7 of the Rulemaking Procedure

5 https://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2017-20

6 In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

In consideration of these comments, EASA will develop a decision that amends the AMC/GM to Annex I (Part 21) to Regulation (EU) No 748/2012[7]. The adoption and publication of this decision is subject to the adoption and publication of the regulation that amends Regulation (EU) No 748/2012.

That decision will also contain the AMC/GM that have undergone public consultation through NPA 2017-20 and that have not been affected by this NPA.

The comments that have been received and the EASA responses to them will be reflected in a second CRD. The CRD will be published together with the decision.

[7] Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p. 1) (http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1511176429493&uri=CELEX:02012R0748-20160126).

2. In summary — why and what

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

On 23 May 2016, EASA published Opinion No 07/2016 'Embodiment of level of involvement requirements into Part-21' under RMT.0262 (MDM.060); see also the related NPA/CRD 2015-03[8].

This Opinion entails the introduction of:

— systematic risk management (hazard identification, risk assessment and mitigation);

— performance-based oversight that focuses on the areas of greater risk;

— safety awareness and promotion among all the staff involved; and

— improvements in the effectiveness and efficiency of the Part 21 implementing rules (IRs), achieved by their streamlining and improved consistency.

On 15 December 2017, EASA published NPA 2017-20, which proposed amendments to the AMC/GM to Part 21 that are affected by Opinion No 07/2016.

At the time of publication of NPA 2017-20, the text of Opinion No 07/2016 was still under review by the European Commission. In the meantime, the European Commission has developed a draft regulation, based on the EASA Opinion.

As a number of the changes that have been introduced alter the text that was proposed by EASA in Opinion No 07/2016, some of the AMC/GM proposed in NPA 2017-20 are no longer aligned with the amendment of Part 21, and need to be amended. Other points in Part 21 now require new AMC/GM that were not proposed in the previous NPA.

This NPA provides the proposed amendments to the affected AMC/GM.

2.2. What we want to achieve — objectives

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

The specific objective of this proposal is to facilitate the implementation of the new EASA concept of level of involvement (LoI), and of the other amendments to Part 21 that were proposed by Opinion No 07/2016.

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

EASA compared the text of Opinion No 07/2016 with the final draft regulation that amends Part 21, as developed by the European Commission, and identified all the differences between these two texts.

For each difference, EASA evaluated the impact on the existing AMC/GM to Part 21, and on the AMC/GM that were proposed through NPA 2017-20. In addition, EASA identified where new AMC/GM were considered to be useful to support the implementation of the amendments to Part 21.

8 https://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2015-03

Additionally, some of the AMC/GM that were proposed through NPA 2017-20 have been amended or drafted on the basis of the comments that were received from stakeholders during the public consultation of the NPA.

The most significant amendments that are proposed by this NPA are listed hereafter:

— **AMC 21.A.14(b) Alternative procedures to demonstrate design capability (amended); GM 21.A.91 Classification of changes to a type certificate (TC) (amended)**

The following sentence has been deleted from points 21.B.107(c) and 21.B.110(c):

> […]
>
> *'However the Agency shall use a separate classification and approval process for administering changes to operational suitability data.'*
>
> […]

As a consequence, this AMC and this GM have been amended to delete the reference to the separate classification of OSD.

— **GM 21.A.15(c) Updates to the certification programme (amended)**

This GM has been amended to clarify that an update of the DOA dashboard after the first issuance of the certification programme does not automatically require the applicant to adapt the proposed risk assessment. This clarification has been triggered by some comments submitted by stakeholders during the public consultation of NPA 2017-20.

— **GM No 1 to 21.A.15(d) Contents of operational suitability data (amended)**

Point 21.A.15(d) has been amended as follows:

> […]
>
> *(d) 'An application for a type certificate or restricted type certificate for an aircraft shall include, or be supplemented after the initial application, an application supplement for approval of the operational suitability data.';*
>
> […]

The new wording no longer contains the list of OSD constituents, therefore this GM has been amended in order to clarify the contents of OSD. The already existing text of this GM clarifies the applicability criteria of each OSD constituent. As such information is currently provided by the certification specifications related to OSD, which are regularly updated, EASA proposes to delete the existing text to prevent any misalignments regarding applicability.

Regarding maintenance certifying staff data (MCSD), it is to be noted that EASA has already carried out a public consultation on the NPA that contains CS-MCSD[9]. The publication of CS-MCDS is expected in Q4/2019.

— **GM 21.A.15(e) and (f) Period of validity for the application for a type certificate (TC) or restricted type certificate (RTC) (amended)**

Point 21.A.15(f) has been amended as follows:

> […]
>
> (f) 'In the case where a type certificate or restricted type certificate has not been issued, or it is evident that it will not be issued, within the time limit provided for in point (e), the applicant may:
>
> 1. submit a new application and comply with the type-certification basis, operational suitability data certification basis and environmental protection requirements, as established and notified by the Agency in accordance with points 21.B.80, 21.B.82 and 21.B.85 for the date of the new application; or
> 2. apply for an extension of the time period provided for in point (e) and propose a new date for the issuance of the type certificate or restricted type certificate. In that case, the applicant shall comply with the type-certification basis, operational suitability data certification basis and environmental protection requirements, as established and notified by the Agency in accordance with points 21.B.80, 21.B.82 and 21.B.85 for a date to be selected by the applicant. However, that date shall not precede the new date proposed by the applicant for the issuance of the type-certificate or restricted type-certificate by more than five years for an application for a type-certificate or restricted type-certificate for a large aeroplane or a large rotorcraft, and by more than three years for an application for any other type-certificate or restricted type certificate.';
>
> […]

According to the new wording, the reference to 'effectivity dates' is replaced by 'period of validity'. GM 21.A.15(e) and (f) has been amended accordingly.

— **GM 21.A.93(c) Period of validity for the application (new)**
This new GM has been inserted to clarify that applicants for a change to a TC should refer to GM 21.A.15(e) and (f) in order to determine the period of validity of the application.

— **GM 21.A.101 Establishing the certification basis of changed aeronautical products (amended)**
This GM has been amended to keep the correct references to Part 21. Additionally, all the guidance related to the validity of applications for a change to a TC has been deleted because this issue has been moved from point 21.A.101(e) to point 21.A.15(e) and (f).
Note: GM 21.A.15(e) and (f) provide the guidance on the validity of applications.

[9] Refer to NPA 2018-11 'Certification Specifications and Guidance Material for maintenance certifying staff type rating training', which is available at https://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2018-11.

— **AMC 21.A.115 Requirements for approval of major changes under supplementary type-certificate procedures (amended)**

The title of point 21.A.115 has been amended, therefore the title of this AMC needs to be reworded to remain consistent.

— **GM 21.A.247 Significant changes in the design assurance system (amended)**

This GM has been amended to reflect the changes introduced in point 21.A.263(c).

— **GM 21.A.265(h) Designation of data and information issued under the authority of a design organisation approval (DOA) holder (amended)**

This GM has been amended for clarification purposes. Publications referred to in this GM could also include items which are part of the type certificate as defined in point 21.A.41, but are not part of the type design as defined in point 21.A.31.

— **GM 21.A.605(b) Reporting from the compliance demonstration process and updates to the certification programme (amended);**

This GM has been amended because the requirement for the applicant to perform a safety risk assessment as per point 21.B.100(a) has been deleted from Part 21, and this needs to be reflected in the guidance material.

— **AMC 21.A.605(a)(1) Certification programme (amended)**

This AMC has been amended to improve the wording and to clarify the scope of the safety assessment discussed in the point (b)(6).

— **AMC 21.A.606(d) Declaration (amended)**

This AMC has been amended for clarification purposes and to remove the reference to point 21.B.117, as it only contains requirements for EASA.

— **GM 21.B.80 Type-certification basis for a type certificate (TC) or restricted type certificate (RTC) (amended)**

This GM has been slightly reworded to reflect the new language used in point 21.A.15(e). Additionally, some clarifications have been introduced with respect to the 'alternative means of compliance'.

— **GM 21.B.82(a) Reference data for operational suitability certification basis (new)**

This new GM has been drafted to provide additional guidance on reference data for the OSD certification basis. The wording is partially derived from GM 21.A.17B(a)(1), which has been proposed for deletion by NPA 2017-20.

— **AMC 21.B.100(a) and 21.A.15(b)(6) Level of involvement (LoI) in a certification project for a type certificate (TC), a major change to a TC, a supplemental type certificate (STC), a major repair design or an ETSO authorisation for an APU (amended)**

Point 21.B.100(a) has been amended as follows:

[…]

> (a) The Agency shall determine its involvement in the verification of the compliance demonstration activities and data related to the application for a type-certificate, restricted type-certificate, major change approval, supplemental type certificate, major repair design approval or ETSO authorisation for APU. It shall do so on the basis of an assessment of meaningful groups of compliance demonstration activities and data of the certification programme. That assessment shall address:
>
> — the likelihood of an unidentified non-compliance with the type-certification basis, operational suitability data certification basis or environmental protection requirements; and
> — the potential impact of that non-compliance on product safety or environmental protection,
>
> and consider at least the following elements:
>
> 1. novel or unusual features of the certification project, including operational, organisational and knowledge management aspects;
> 2. complexity of the design and/or demonstration of compliance;
> 3. criticality of the design or technology and the related safety and environmental risks, including those identified on similar designs; and
> 4. performance and experience of the design organisation of the applicant in the domain concerned.
>
> […]

As a result, the reference to compliance demonstration items (CDI), which was included in Opinion No 07/2016, will not be contained in the implementing rule. Nevertheless, the concept remains valid because the meaningful groups of compliance demonstration data and activities can be complied with by using the CDI as explained in this AMC.

This AMC has been amended to reflect the new wording, and to include an ETSO authorisation for an APU in the title.

Additionally, the wording has been improved in paragraphs 3.4 and 3.5.

— **GM 21.B.107 and 21.B.111 Operational suitability data (OSD) considerations for approval of changes to type certificates (TCs) or supplemental type certificates (amended)**

This GM has been amended to reflect the deletion from Part 21 of the 'separate OSD classification' concept. Additionally, the wording has been improved.

— **Correction of superseded references**

Some of the new points proposed by Opinion No 07/2016 have been renumbered.

The cross-reference table that shows the differences between Opinion No 07/2016 and the next Part 21 amendment is shown here:

Opinion No 07/2016	Part 21 amendment
21.B.110	21.B.111
21.B.113	21.B.450
21.B.115	21.B.453
21.B.117	21.B.480

As a result, some AMC and GM that contain references to the superseded points had to be amended.

— **Correction of references to Part 21**
The structure of Part 21 has been significantly adjusted to improve its consistency, therefore several AMC/GM had to be amended in order to keep the correct references to Part 21.

Appendix 1 to this NPA contains a correlation table between the requirements of the current Part 21 and those that are included in the next amendment to it.

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

The overall expected benefits and drawbacks of the proposed amendment of the AMC/GM to Part 21 are summarised in NPA 2017-20.

For additional details on the impact assessment (IA) of this NPA, please refer to Chapter 4 below, NPA 2015-03, and Opinion No 07/2016.

3. Proposed amendments and rationale in detail

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

— deleted text is ~~struck through~~;

— new or amended text is highlighted in blue;

— an ellipsis '[…]' indicates that the rest of the text is unchanged.

Important note:

Some of the AMC/GM amended by this NPA were already included in NPA 2017-20. For these cases, in order to facilitate the identification of the new amendments, only the differences from the related resulting text (refer to Annex 1 to CRD 2017-20) are identified in this NPA.

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

3.1.1. Annex I (Part 21) to Regulation (EU) No 748/2012

1. AMC 21.A.14(b) is amended as follows:

AMC 21.A.14(b) Alternative procedures to demonstrate design capability

The availability of ~~Alternative~~ procedures that state the specific design practices, resources and sequence of activities ~~are~~ is an acceptable means to demonstrate design capability in the cases described in points 21.A.14(b), 21.A.112B(b) or 21.A.432B(b). This concept is that the implementation, in the context of specific projects, of the procedures required ~~in~~ for a Subpart J DOA, will ~~to~~ ensure that the applicant ~~will~~ performs the relevant activities ~~as expected by EASA~~, but without the requirements on the organisation itself ~~that can be found in Subpart J~~. The setting up of those ~~establishment of these alternative DOA~~ procedures may be seen as a starting phase for a design organisation to develop into a Subpart J DOA ~~, allowing the applicant at a later stage at their own discretion to move towards a full Subpart J DOA~~ by the addition of the missing elements.

1. Scope

1.1 ~~As an alternative to DOA, a~~ A manual of procedures should be provided that sets out the specific design practices, resources and the sequence of activities that are relevant for the specific projects, taking the Part-21 requirements into account.

1.2 These procedures should be concise and limited to the information that is needed for the quality and proper control of the activities undertaken by the applicant/holder, and by EASA.

2. Management of the (supplemental) type-certification process

2.1 Certification programme: See AMC 21.A.15(b) for type certification and AMC 21.A.93(b) for supplemental type certification.

2.2 Compliance demonstration: see GM 21.A.20.

2.3 Reporting: see AMC 21.A.20(b).

2.4 Compliance documentation: see AMC 21.A.20(c).

2.5 Declaration of compliance: see GM 21.A.20(d).

3. Management of changes to type certificates, repair designs and production deviations

3.1 Management of changes to a type certificate or supplemental type certificate (hereinafter referred to as 'changes'), repair designs and production deviations from the approved design data.

The applicant should provide procedures that are acceptable to EASA for the classification and approval of changes (see paragraphs 3.2 and 3.3), repair designs and production deviations from the approved design data.

3.2 Classification

3.2.1 Content

The procedure should address the following points:

— the identification of the product configuration(s) to which the change is to be made,
— the identification of the areas of the product that are changed or affected by the change,
— the identification of any reinvestigations that are necessary (see point 21.A.93(b)(2)), including the identification of the applicable certification specifications or environmental protection requirements and means of compliance,
— ~~classification of the whole change and its individual components (i.e. a Change to type design and OSD, see GM 21.A.91, Section 3.2),~~
— changes initiated by subcontractors,
— documents to justify the classification,
— authorised signatories,
— the criteria used for classification must be in compliance with 21.A.91 and the corresponding interpretations.

[…]

5. Obligations addressed in 21.A.44 (TC holder), 21.A.118A (STC holder) or 21.A.451 (major repair design approval holder)

The applicant for alternative procedures to ~~DOA~~ demonstrate their design capabilities should establish the necessary procedures to show to EASA how it will fulfil the obligations that are required under 21.A.44, 21.A.118A or 21.A.451, as appropriate.

6. Control of design subcontractors

The applicant for alternative procedures to ~~DOA~~ demonstrate their design capabilities should establish the necessary procedures to show to EASA how it will control design subcontractors ~~sub-contractors~~ and ensure the acceptability of the parts or appliances that are designed, or the design tasks that are performed.

2. AMC 21.A.15(b) is amended as follows:

AMC 21.A.15(b) Content of the certification programme

[…]

21.A.15(b)(5) 'a proposal for a breakdown of the certification programme into meaningful groups of compliance demonstration activities and data, hereinafter referred as compliance demonstration items (CDI), including references to their proposed means of compliance and related compliance documents'.

See AMC 21.A.15(b)(5) ~~and 21.B.100(a)~~ for the determination of the compliance demonstration items (CDIs) ~~determination~~.

[…]

3. GM 21.A.15(c) is amended as follows:

GM 21.A.15(c) Updates to the certification programme

Point 21.A.15(b) recognises that the initial submission of the certification programme may not be fully complete, e.g. due to schedule constraints of the design, analysis and testing activities.

Furthermore, even if the initial submission of the certification programme is complete, it may be necessary to amend it throughout the duration of the project.

The certification programme should be updated and resubmitted to EASA. In particular, updates to the following elements should be provided:

— any complementary information that was not included in the initial submission of the certification programme;

— any change in the intended use or kind of operations of the product itself, or of the aircraft on which the product is installed;

— any change in the key characteristics of the product such as~~,~~ but not limited to~~,~~ any declared limits that are ~~as~~ intended to be recorded in the type certificate data sheet (TCDS);

— any change in the product design or characteristics that may affect the criteria used to assess the likelihood of an unidentified non-compliance with the type-certification basis, operational suitability data (OSD) certification basis or the environmental protection requirements, including the potential impact of that non-compliance on product safety or environmental protection, as defined in 21.A.15(b)(6) and 21.B.100(a)(1)-to (4)~~;~~.

However, an update of the DOA dashboard after the first issuance of the certification programme does not automatically require the applicant to adapt the proposed risk assessment;

— any change to the initial type-certification basis, OSD certification basis or environmental protection requirements, as applicable to the product, whether that change is initiated by EASA or by the applicant;

— any change in the breakdown of the certification programme into compliance demonstration items (CDIs) or in the content of those CDIs;

— any change in the proposed means of compliance, including its/their methodology;

— any change in the structure of compliance documents that may affect the determination of EASA's level of involvement (LoI), as defined in 21.B.100;

— any relevant change to the design organisation approval (DOA) holder's personnel (and design organisation (DO) suppliers) who are involved in the project; and

— any changes to the schedule that impact the EASA involvement.

Following each update to the certification programme as submitted by the applicant, EASA may update the determination of its LoI in accordance with 21.B.100(c).

4. GM No 1 to21.A.15(d) is amended as follows:

GM No 1 to 21.A.15(d) ~~Clarification of the applicability~~ Contents of operational suitability data (OSD) ~~constituents~~

Operational suitability data consists of, as applicable:

— the minimum syllabus of the type rating training for the maintenance certifying staff;

— the minimum syllabus of the pilot type rating and the reference data for the objective qualification of associated simulators;

— the master minimum equipment list, as appropriate;

— aircraft type data that is relevant to cabin crew;

— other type-related operational suitability elements.

The applicability of the above OSD constituents is established in the relevant certification specifications.

~~The OSD constituents listed in 21.A.15(d)(1) through (5) are not always part of the OSD.~~
~~For example, when the operational rules do not require cabin crew for an aircraft with a certain number of passenger seats, the element of (d)(4) is not required for the OSD of this aircraft. Another example is that a minimum syllabus for pilot type rating training is not required if the aircraft is in a class rating.~~
~~If a new aircraft type is considered a variant for licensing purposes a full syllabus for type rating training is not required, but the applicant can suffice with the syllabus for differences training.~~
~~Most of the OSD elements are not applicable to aircraft in the category 'other than complex motor-powered'. In more detail:~~

~~— The requirement to produce minimum syllabi for type training of pilots is only applicable when the aircraft has a type rating.~~
~~By default, small aircraft will be in a class rating. However, the Agency can decide on an ad-hoc basis that a type rating is necessary due to performance, design or other features that require specific training. For most small aircraft this is not the case and they will be in a class rating. Whether a new aircraft type should have a type rating or can be in a class rating will be part of the OSD approval process and finally will be decided by the Agency. The assessment is based on objective criteria which are included in the Certification Specifications for the related OSD element. When no individual type rating is required for the aircraft, it means that the relevant OSD elements are not required. Nevertheless, on a voluntary basis, the applicant can always provide a minimum syllabus for type rating training to be approved under OSD.~~

~~— The requirement to produce minimum syllabi for type training of maintenance certifying staff is only applicable for the aircraft required to have a type rating training, which are the aircraft in Group~~

~~1 as per Annex III of (EC) Regulation 1321/2014 (point 66.A.5). When no individual type rating training is required for the aircraft, it means that the relevant OSD elements are not required. Nevertheless, on a voluntary basis, the applicant can always provide a minimum syllabus for type training to be approved under OSD.~~

~~— The OSD constituent 'simulator data' is only required when the syllabus for pilot type rating includes the use of full flight simulators or flight training devices (FTDs) Level 3for helicopters. This is typically not the case for most small aircraft.~~

~~— The type specific data for cabin crew training is only required when the operational rules require cabin crew for the maximum approved passenger seating capacity. Currently, cabin crew is required for aircraft with a maximum approved passenger seating configuration of more than 19. Small aircraft do not have this number of passenger seats.~~

~~— The requirement to establish an MEL is applicable to all complex motor-powered aircraft and to all aircraft that are used for commercial. This means that also for other-than-complex aircraft type certificate or restricted type certificate an MMEL will be required. However, in order to minimise the burden for the TC and STC applicants, the following applies:~~

~~For other-than-complex aeroplanes excluding very light aeroplanes (VLA), light sport aeroplanes (LSA) and powered sailplanes, generic MMELs by means of a dedicated CS are established by the Agency. The TC or STC applicant for an aircraft or change to an aircraft within that category can suffice with identifying the items of the generic MMEL that are appropriate for its design.~~

~~This does not preclude that the applicant may elect to develop a type-specific MMEL, using CS-MMEL~~

~~For ELA1 and ELA2 aircraft, the Agency considers that the list of required equipment as included in the TCDS and/or AFM/POH, in combination with equipment required for the flight by the associated implement rules, such as operational requirements, airspace requirements and any other applicable requirements to the intended operation, establishes the list of equipment that must be operative for all flights. Other equipment may be inoperative and this constitutes the MMEL. Design approval applicants for these aircraft are, therefore, not required to establish an MMEL.~~

~~The applicability of the different OSD constituents is further clarified below in the tables of Appendix 1 to this GM.~~

~~Appendix 1 to GM No 1 to 21.A.15(d)~~

~~OSD applicability tables~~

~~Note 1: These tables illustrate the applicability of OSD to new applications for TC.~~

~~Note 2: Unmanned aircraft have not been considered in these applicability tables.~~

~~Flight crew data (FCD)~~	
~~Aircraft categories~~	~~FCD required?~~
~~— Aeroplanes with:~~	~~YES~~

• above 5 700 kg maximum take-off mass (MTOM); or • more than 19 passengers; or • a minimum crew of two pilots; or • one turbojet engine; or • two or more turboprop engines; — helicopters except very light rotorcraft (VLR); — tilt rotors; and — gas airships.	
— Aeroplanes with: • 5 700 kg MTOM or less but above 2 000 kg; and • a minimum crew of one pilot; and • no turbojet engine; and • no more than one turboprop engine; and — VLR.	Generally: NO In some cases: YES. If based on operational experience, data, its handling characteristics, performance or level of flight deck technology, type rating training is required for its safe operation.[1]
— Aeroplanes with: • 2 000 kg MTOM or less; and • a minimum crew of one pilot; and • no turbojet engine; and • no more than one turboprop engine; — sailplanes, powered sailplanes; — balloons; and — hot-air airships.	NO

[1] This is generally the case when the requirements for pilot licensing and air operations do not adequately address training, checking, or currency for safely operating the aircraft, or when the aircraft is not part of a class rating.

Simulator data (SIMD)	
Aircraft categories	SIMD required?
Aircraft for which FCD is required and the minimum syllabus refers to the use of: — a full flight simulator (FFS) for aeroplanes; or — an FFS or FTD Level 3 for helicopters.	YES

— Aircraft for which FCD is required but the minimum syllabus does not refer to the use of an FFS or FTD Level 3 for helicopters; and — aircraft for which FCD is not required.	NO

Cabin crew data (CCD)	
Aircraft categories	CCD required?
Aircraft with maximum passenger seating configuration of more than 19.	YES
Aircraft with maximum passenger seating configuration of 19 or less.	NO[1]

[1] In exceptional cases, YES: cabin crew and, therefore, CCD may be required when it is needed to mitigate non-compliance with airworthiness requirements.

Maintenance certifying staff data (MCSD)	
Aircraft categories	MCSD required?
— Aeroplanes with: • above 5 700 kg MTOM; or • more than 19 passengers; or • a minimum crew of two pilots; or • turbojet; or • two or more turboprops; or • an operating altitude > FL290; or • fly-by-wire (FBW); — helicopters with: • above 3 175 kg MTOM; or • more than nine passengers; or • minimum crew of two pilots; or • FBW; or • more than one engine; and — tilt rotors.	YES

— Aeroplanes with: • MTOM of 5 700 kg or less; and • 19 passengers or less; and • minimum crew of one 1 pilot; and • one piston engine or one turboprop; and • an operating altitude < FL290; and • no FBW; — helicopters with: • MTOM of 3 175 kg or less; and • nine passengers or less; and • minimum crew of one pilot; and • no FBW; and • one engine; — sailplanes, powered sailplanes; — balloons; and — airships	NO[1]

[1] In exceptional cases, YES: to be determined by the Agency. This should be understood as the legal basis enabling the Agency to decide on OSD-MCSD applicability to any aircraft that due to some of its novel/unusual/special technical elements, would benefit from an evaluation of MCSD. Whilst the regulation leaves the decision to the Agency, an internal formal process is needed in order to make such a decision following a TC application. It should be expected that this process would be based on the OSD-MCSD expert proposal with the support of cross-expert panels and after Product Certification Manager consultation.

Master minimum equipment list (MMEL)	
Aircraft categories	MMEL required?
— Aeroplanes with: • 5 700 kg MTOM or more; or • more than 19 passengers; or • a minimum crew of two pilots; or • turbojet; or • two or more turboprops; — helicopters with: • 3 175 kg MTOM; or • more than 9 passengers; or • a minimum crew of two pilots; or — tilt rotors.	YES: CS-MMEL
— Helicopters with:	YES: special condition based on CS-MMEL

~~• less than 3 175 kg MTOM; and~~ ~~• 9 passengers or less; and~~ ~~• a minimum crew of one pilot; and~~ ~~• not being VLR; and~~ ~~— non-ELA2 airships.~~	
~~CS-23 aeroplanes with:~~ ~~— less than 5 700 kg MTOM; and~~ ~~— 19 passengers or less; and~~ ~~— a minimum crew of one pilot; and~~ ~~— one piston engine or one turboprop; and~~ ~~— not being ELA1 or ELA2~~	~~YES: CS-GEN-MMEL~~
~~ELA1 or ELA2 aircraft.~~	~~NO: concept of 'required equipment'~~

5. GM 21.A.15(e) and (f) is amended as follows:

GM 21.A.15(e) and (f) ~~Effectivity dates~~ Period of validity for the application for a type certificate (TC) or restricted type certificate (RTC)

Point 21.A.15(e) establishes a maximum ~~effectivity~~ period of validity for an application for a TC or an RTC. During this period, the type certification basis, operational suitability data (OSD) certification basis, and the environmental protection requirements (hereinafter referred to as the 'certification basis'), established and notified by EASA in accordance with points 21.B.80, 21.B.82, and 21.B.85, remain effective. However, the ~~effectivity~~ validity of the certification basis is limited so that the standards notified as part of the certification basis at the time of application do not become outdated.

For various reasons (e.g. development, business, commercial, etc.), the applicant may not be able to complete the certification within the established time limit. In this case, the applicant has the following two options (see 21.A.15(f)(1) and (2)):

1. Submit a new application

   In this case, EASA establishes and notifies a new certification basis in accordance with points 21.B.80, 21.B.82, and 21.B.85, considering the standards that are available at the date of the new application.

   In accordance with point 21.A.15(e), the new application has a maximum ~~effectivity~~ period of validity that is equal to the first one, corresponding to the product category. Beyond this ~~effectivity~~ period of validity, the applicant may need to choose again between the two options of either submitting a new application or applying for an extension of this application.

2. Apply for an extension of the original application

   In this case, the applicant proposes ~~to EASA~~ a 'new target date' to EASA for the issuance of the certificate, and selects a date that becomes the reference date for the establishment of the

certification basis by EASA. For the purposes of this GM, the selected reference date is referred to as the 'new effectivity date' of the initial application.

The 'new effectivity date' of the initial application may be any date in the past between the following limits:

— the 'new target date' for a TC proposed by the applicant minus the time limit used under 21.A.15(e) (e.g. 5 years for large aeroplanes and large rotorcraft, 3 years for the other products); and

— the date on ~~at~~ which the applicant applies for the extension of the application.

This calculation is visualised in Figure 1 below:

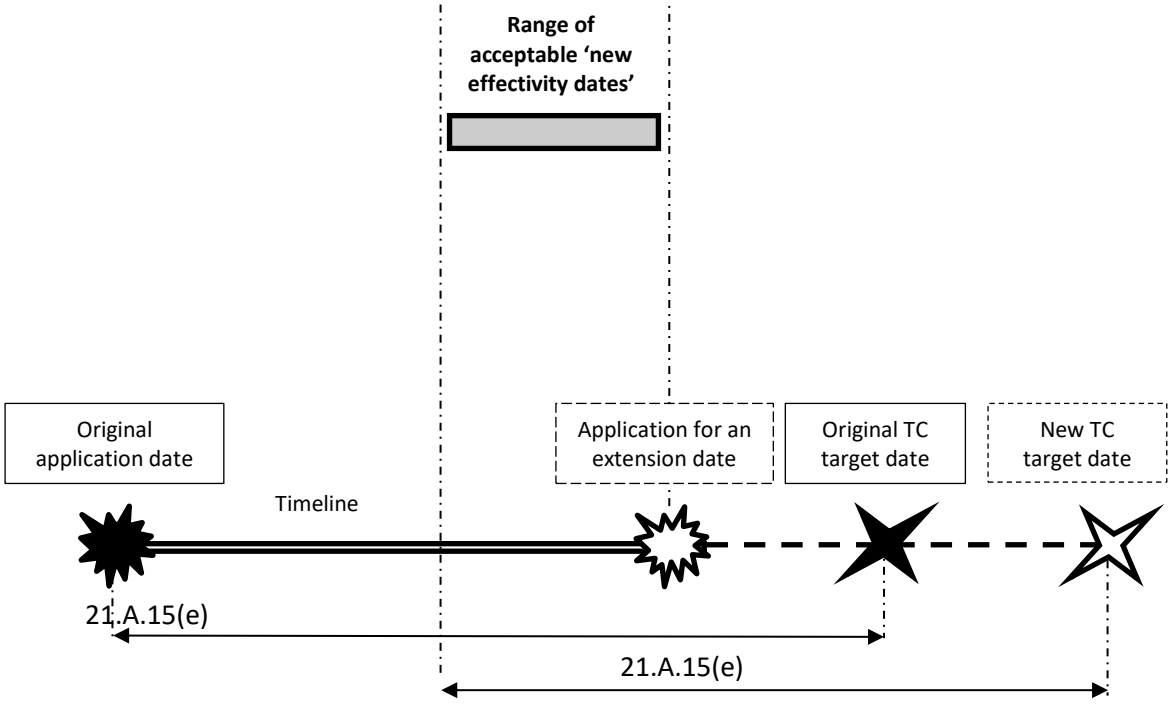

Figure 1

This ensures that the standards used to establish the certification basis are never older than the ones available at the start of the ~~effectivity~~ period of validity required by point 21.A.15(e).

If the applicant is not able to complete the product certification by the new target date, the applicant may choose again between the two options of either submitting a new application or applying for a new extension of this application.

6. GM 21.A.21(f)(b), 21.A.95(c), 21.A.97(c), 21.A.115(c), 21.B.103(b), 21.B.107(b) and 21.B.110(b) is amended as follows:

GM 21.A.21(f)(b), 21.A.95(c), 21.A.97(c), 21.A.115(c), 21.B.103(b), 21.B.107(b) and ~~21.B.110~~21.B.111(b) Approval of operational suitability data (OSD)

It is acknowledged that it may not always be possible to have the operational suitability data available on the date of the issue of the (restricted) type certificate (TC), change approval or supplemental type certificate (STC). The derogation provided by points 21.A.21(b), 21.A.95(c), 21.A.97(c), 21.A.115(c), 21.B.103(b), 21.B.107(b) and ~~21.B.110~~21.B.111(b) is intended for that case. The TC, change approval or STC can be issued before compliance with the OSD certification basis has been demonstrated.

However, the OSD needs to be approved before the data is used by a training organisation for the purpose of obtaining a European Union (EU) licence, rating or attestation, or by an EU operator. This is normally done before the entry into service of the first aircraft by an EU operator but it could also be done later for some of the OSD constituents, such as the definition of the scope of validation source data to support the objective qualification of a simulator, which should only be available when a simulator has to be qualified.

The derogation in points ~~(~~21.A.97(c), 21.A.115(c), 21.B.103(b), 21.B.107(b), and ~~21.B.110~~21.B.111(b) is applicable to all major changes to a TC, so it is also applicable to minor design changes when triggering a major master minimum equipment list (MMEL) change, as well as to changes ~~where~~ in which at least one of the OSD constituent changes is major.

7. GM 21.A.91 is amended as follows:

GM 21.A.91 Classification of changes to a type certificate (TC)

[…]

3 ASSESSMENT OF A CHANGE FOR CLASSIFICATION

3.1 Changes to the TC

21.A.91 addresses all changes to ~~all~~ any of the aspects of a TC. This includes changes to a type design, as defined in 21.A.31, as well as to the other constituents of a TC, as defined in 21.A.41.

3.2 ~~Separate classification for type design and OSD~~ Reserved

~~Although in the end, the change to the TC, which includes a change to a type design and a change to OSD, will have only one classification, it will be possible to classify the changes to OSD constituents independently. This may facilitate the approval of a major change. See also GM 21.B.107 and 21.B.110.~~

[…]

8. GM No 1 to 21.A.93(b)(1)(iii) is amended as follows:

GM No 1 to 21.A.93(b)(1)(iii) Interaction of changes to the type design and changes to operational suitability data (OSD)

In general, it has to be assumed that changes to the type design can have an effect on the OSD.

Due to the alleviating nature of the OSD constituent master minimum equipment list (MMEL), the impact of design changes on the MMEL can be treated differently from the impact on other OSD constituents. Therefore, a separate GM No 2 to ~~21.A.93(c)~~ 21.A.93(b)(1)(iii) is available to explain the interaction between design changes and the MMEL. The following guidance is, therefore, only applicable to the other OSD constituents: flight crew data (FCD), cabin crew data (CCD), simulator data (SIMD), and maintenance certifying staff data (MCSD).

[…]

9. GM No 2 to 21.A.93(c) is amended as follows:

GM No 2 to ~~21.A.93(c)~~ 21.A.93(b)(1)(iii) Interaction of changes to the type design and changes to MMEL

[…]

10. The following GM 21.A.93(c) is inserted:

GM 21.A.93(c) Period of validity for the application

For guidance on the determination of the period of validity for the application, refer to GM 21.A.15(e) and (f).

11. AMC 21.A.97 is amended as follows:

AMC 21.A.97 Requirements for the approval of a major change

1. For major changes approved by EASA, the applicant should use all the AMCs to 21.A.20, as well as the GM to 21.A.20.
2. For the application of point 21.A.97(c), see GM 21.A.21(f)(b), 21.A.95(c), 21.A.97(c), 21.A.115(c), 21.B.103(b), 21.B.107(b) and ~~21.B.110~~21.B.111(b).

[…]

12. GM 21.A.101 is amended as follows:

GM 21.A.101 Establishing the certification basis of changed aeronautical products

Foreword

This guidance material (GM) provides guidance for the application of the 'Changed Product Rule (CPR)', pursuant to point 21.A.101, *Designation of the applicable certification specifications and environmental protection requirements,* and 21.A.19, *Changes requiring a new type certificate*, for changes made to type-certified aeronautical products.

1. INTRODUCTION

1.1 Purpose.

This GM provides guidance for establishing the certification basis for changed aeronautical products pursuant to point 21.A.101, *Designation of the applicable certification specifications and environmental protection requirements*. The guidance is also intended to help ~~an~~ applicants and approved design

organisations to determine whether it will be necessary to apply for a new type certificate (TC) under point 21.A.19, *Changes requiring a new type certificate*. The guidance describes the process for establishing the certification basis for a change to a TC, for a supplemental type certificate (STC), or for a change to an STC, detailing the requirements (evaluations, classifications, and decisions) throughout the process.

1.2 Applicability.

1.2.1 This GM is for an applicant applying for changes to TCs under Subpart D, for STCs, or changes to STCs under Subpart E, or for changes to European Technical Standard Order Authorisations (ETSOAs) for auxiliary power units (APUs) under Subpart O. This GM is also for approved design organisations classifying changes and approving minor changes under their 21.A.263(c)(1) and (2) privileges.

1.2.2 This GM applies to major changes under point 21.A.101 for aeronautical products certified under Part 21, and the certification specifications (CSs) applicable to the changed product (CS-23, CS-25, CS-27, CS-29, CS-MMEL, CS-FCD, CS-CCD, etc.). References to 'change' include the change and areas affected by the change pursuant to point 21.A.101.

1.2.3 Minor changes are within the scope of 21.A.101 and this GM but are automatically considered to not be significant under the 'does not contribute materially to the level of safety' provision of point 21.A.101(b).

1.2.4 This GM also applies to changes to restricted type certificates.

1.2.5 The term 'aeronautical product', or 'product', means a type-certified aircraft, aircraft engine, or propeller and, for the purpose of this GM, an ETSOA'd APU.

1.2.6 This GM primarily provides guidance for the designation of applicable airworthiness certification specifications and other airworthiness standards for the type-certification basis for the changed product. However, portions of this GM, as specified in GM ~~No~~ 1 ~~to~~ 21.A.101(g), can be applied by analogy to establish the operational suitability data (OSD) certification basis for the changed product. This GM is not intended to be used to determine the applicable environmental protection requirements (aircraft noise, fuel venting, and exhaust emission requirements) for changed products, as they are designated through point 21.B.85.

1.2.7 This GM is not mandatory and is not an EU regulation. This GM describes an acceptable means, but not the only means, to comply with point 21.A.101. However, an applicant who uses the means described in this GM must follow it entirely.

1.3 Reserved.

1.4 GM Content

This GM contains 5 chapters and 10 appendices.

1.4.1 This chapter clarifies the purpose of this GM, describes its content, specifies the intended audience affected by this GM, clarifies which changes are within the scope of this GM, and references the definitions and terminology used in this GM.

1.4.2 Chapter 2 provides a general overview of points 21.A.101 and 21.A.19, clarifies the main principles and safety objectives, and directs an applicant to the applicable guidance contained in subsequent chapters of this GM.

1.4.3 Chapter 3 contains guidance for the implementation of point 21.A.101(b) to establish the certification basis for changed aeronautical products. It describes in detail the various steps for developing the certification basis, which is a process that applies to all changes to aeronautical products. Chapter 3 also addresses the point 21.A.19 considerations for identifying the conditions under which an applicant for a change is required to submit an application for a new TC, and it provides guidance regarding the stage of the process at which this assessment is performed.

1.4.4 Chapter 4 provides guidance about products excepted from the requirement of point 21.A.101(a).

1.4.5 Chapter 5 contains considerations for:

- Design-related operating requirements,
- Defining a baseline product,
- Predecessor standards,
- Using special conditions under point 21.A.101(d),
- ~~The effective period of application for a change to a TC under point 21.A.101(e),~~

— Documenting revisions to the TC basis,
— Incorporating STCs into the type design,
— Removing changes,
— Determining a certification basis after removing an approved change, and
— Sequential changes.

1.4.6 Appendix A contains examples of typical type design changes for small aeroplanes, large aeroplanes, rotorcraft, engines, and propellers. The European Union Aviation Safety Agency (EASA) has categorised these examples into individual tables according to the classifications of design changes: 'substantial', 'significant', and 'not significant.'

1.4.7 Appendix B contains application charts for applying the point 21.A.101 process, including the excepted process.

1.4.8 Appendix C contains one method for determining the changed and affected areas of a product.

1.4.9 Appendix D contains additional guidance on affected areas that is not discussed in other parts of this GM.

1.4.10 Appendix E provides detailed guidance with examples for evaluating the 'impracticality' exception in the rule.

1.4.11 Appendix F provides guidance with examples on the use of relevant service experience in the certification process as one way to demonstrate that a later amendment may not contribute materially to the level of safety, allowing the use of earlier certification specifications.

1.4.12 Appendix G provides an example CPR decision record.

1.4.13 Appendix H provides examples of documenting a proposed certification basis list.

1.4.14 Appendix I lists the Part 21 points related to this GM.

1.4.15 Appendix J lists the definitions and terminology applicable for application of the rule.

1.5 Terms Used in this GM.

1.5.1 The following terms are used interchangeably and have the same meaning: 'specifications', 'standards', 'certification specifications' and 'certification standards'. They refer to the elements of the type-certification basis for airworthiness or OSD certification basis.

1.5.2 The term 'certification basis' refers to the type-certification basis for airworthiness provided for in point ~~21.A.17A~~ 21.B.80 and the operational suitability data (OSD) certification basis provided for in point ~~21.A.17B~~ 21.B.82.

For more terms, consult Appendix J.

2. OVERVIEW OF POINTS 21.A.19 AND 21.A.101

2.1. Point 21.A.19.

2.1.1 Point 21.A.19 requires an applicant to apply for a new TC for a changed product if EASA finds that the change to the design, power, thrust, or weight is so extensive that a substantially complete investigation of compliance with the applicable type-certification basis is required.

2.1.2 Changes that require a substantial re-evaluation of the ~~product's~~ compliance findings of the product are referred to as 'substantial changes'.~~.~~ For guidance, see paragraph 3.3 in Chapter 3 of this GM. Appendix A of this GM provides examples of changes that will require a new TC.

2.1.3 If EASA determines through point 21.A.19 that a proposed change does not require a new TC, see point 21.A.101 for the applicable requirements to develop the certification basis for the proposed change. For guidance, see Chapter 3 and the examples in Appendix A of this GM.

2.2. Point 21.A.101.

2.2.1 **Point 21.A.101(a).**

Point 21.A.101(a) requires a change to a TC, and the areas affected by the change to comply with the certification specifications that are applicable to the changed product and that are in effect ~~at~~on the date of application for the change (i.e. the latest certification standards in effect at the time of application), unless the change meets the criteria for the exceptions identified in point 21.A.101(b) or (c), or unless an applicant chooses to comply with the certification specifications of later effective amendments* in

accordance with point 21.A.101(f). The intent of point 21.A.101 is to enhance safety by incorporating the latest requirements into the certification basis for the changed product to the greatest extent practicable.

* **NOTE:** Certification specifications that were amended after the date of application ~~and during the time period of the certification of the change~~.

2.2.2 **Point 21.A.101(b).**

Point 21.A.101(b) pertains to when an applicant may show that a changed product complies with an earlier amendment of a certification specification, provided that the earlier amendment is considered to be adequate and meets the criteria in point 21.A.101(b)(1), (2), or (3). When changes involve features or characteristics that are novel and unusual in comparison with ~~as compared to~~ the airworthiness standard at the proposed amendment, more recent airworthiness standards and/or special conditions will be applied for these features.

An applicant is considered to comply with the earlier amendment of the certification specifications consistent with point 21.A.101(b), when:

(a) a change is not significant (see point 21.A.101(b)(1));
(b) an area, system, part or appliance is not affected by the change (see point 21.A.101(b)(2));
(c) compliance with a later amendment for a significant change does not contribute materially to the level of safety (see point 21.A.101(b)(3)); or
(d) compliance with the latest amendment would be impractical (see point 21.A.101(b)(3)).

Earlier amendments may not precede the amendment level of the certification basis of the identified baseline product~~'s certification basis~~.

Points 21.A.101(b)(1)(i) and (ii) pertain to changes that meet the automatic criteria where the change is significant.

2.2.3 **Point 21.A.101(c).**

Point 21.A.101(c) provides an exception from the requirements of point 21.A.101(a) for a change to certain aircraft with less than the specified maximum weight. An applicant who applies for a change to an aircraft (other than rotorcraft) of 2 722 kg (6 000 lb) or less maximum weight, or to a non-turbine-powered rotorcraft of 1 361 kg (3 000 lb) or less maximum weight, can show that the changed product complies with the standards incorporated by reference in the type certificate. An applicant can also elect to comply or may be required to comply with the later standards. See paragraph 4.1 of this GM for specific guidance on this provision.

2.2.4 **Point 21.A.101(d).**

Point 21.A.101(d) provides for the use of special conditions, under ~~21.A.16B~~21.B.75, when the proposed certification basis and any later certification specifications do not provide adequate standards ~~to~~ for the proposed change because of a novel or unusual design feature.

2.2.5 **Point 21.A.101(e).**

Point 21.A.101(e) ~~prescribes the effective period that an application will remain valid for a change.~~ provides the legal basis under which an applicant may propose to certify a change and areas affected by the change against alternative requirements to the certification specifications established by EASA.

2.2.6 **Point 21.A.101(f).**

Point 21.A.101(f) requires that if an applicant chooses (elects) to comply with a certification specification ~~of~~ or an amendment to the certification specifications that is effective after the filing of the application for a change to a TC, the applicant shall also comply with any other certification specification that EASA finds is directly related. The certification specifications which are directly related must be, for the purpose of compliance demonstration, considered together at the same amendment level to be consistent.

2.2.7 **Point 21.A.101(g).**

Point 21.A.101(g) pertains to the designation of the applicable OSD certification basis when the application for a change to a type certificate for an aircraft includes, or is supplemented after the initial application to include, changes to the OSD. It implies that the same requirements of paragraphs (a)~~, (b), (c), (d)~~ and (f) that are applicable to the establishment of the airworthiness type-certification basis also apply to the establishment of the OSD certification basis. For specific guidance, see GM ~~No~~ 1 ~~to~~ 21.A.101(g).

[…]

3.3.3 If it is not initially clear that a new TC is required, Appendix A of this GM provides some examples of substantial changes to aid in this classification. A substantial change requires an application for a new TC. See points 21.B.80, 21.B.82, 21.B.85 ~~21.A.17~~ and 21.A.19. If the change is not substantial, proceed to step 3.

[…]

3.7.2.2 In a case where the change has not been approved, or it is clear that it will not be approved under the time limit established, the applicant will be required to comply with an upgraded certification basis established according to points ~~21.A.101(e)(1) or (2)~~ 21.B.80, 21.B.82 and 21.B.85 from the certification specifications that have become effective ~~after~~ since the date of the original application.

[…]

3.11.1 For a change that contains new design features that are novel and unusual for which there are no later applicable certification specifications at a later amendment level, EASA will designate special conditions pursuant to point 21.B.75~~21.A.16B~~. EASA will impose later certification specifications that contain adequate or appropriate safety standards for this feature, if they exist, in lieu of special conditions. An example is adding a flight-critical system, such as an electronic air data display on a CS-25 large aeroplane whose existing certification basis does not cover protection against lightning and high-intensity radiated fields (HIRF). In this case, EASA will require compliance with the certification specifications for lightning and HIRF protection, even though EASA determined that the change is not significant.

3.11.2 For new design features or characteristics that may pose a potential unsafe condition for which there are no later applicable certification specifications, new special conditions may be required to address points ~~21.A.21(c)(3).~~ 21.B.107(a)(3) or 21.B.111(a)(3).

[…]

5.6. ~~Effective Period for an Application to Change a Type Certificate, point 21.A.101(e).~~ Reserved

~~According to point 21.A.101(e), an application for a change to a TC for large aeroplanes and large rotorcraft is effective for 5 years from the date of application, and an application for a change to any other TC is effective for 3 years. EASA intended this to ensure that the certification basis for the changed product is as current as practicable.~~

~~5.6.1 If EASA has not approved a change, or if it is clear that EASA will not approve the change, within the time limit, the applicant may do either of the following: (1) file for a new application, or (2) file for an extension to the original application.~~

~~5.6.2 When filing for an extension, the applicant must choose a completion date, then apply the applicable effectivity from point 21.A.101(e) to determine an effective application date. The effective application date must not precede the new completion date for the proposed change by more than the time limit provided for in point 21.A.101(e) for the original application.~~

~~5.6.3 If an applicant requests an extension to the application date, and the product change is significant, a new certification basis is required. The new certification basis requires the additional latest certification specifications that became effective through the new effective date of application. However, the applicant may use earlier certification specifications by documenting their justification that the latest~~

~~certification specifications for the change would not contribute materially to the level of safety or would be impractical.~~

~~5.6.4 If the product change is not significant, the applicant may continue to use the existing certification basis for product certification. However, if the applicant makes additional changes to the product, and EASA finds the existing certification basis for the change inadequate, the new certification basis will require the later appropriate standards.~~

[…]

E.3.1 Example 1: FAR § 25.963, Fuel Tank Access Covers.

NOTE: This example is taken from the FAA's certification experience, so references to FAR sections and amendments are kept.

This example is part of a significant change to a transport aeroplane that increases the passenger payload and gross weight by extending the fuselage by 20 feet (6.1 metres). To accommodate the higher design weights and increased braking requirements and to reduce the runway loading, the applicant will change the landing gear from a two-wheel to four-wheel configuration; this changes the debris scatter on the wing from the landing gear. EASA will require the new model of the aeroplane to comply with the latest applicable certification specifications based on the date of application.

The wing will be strengthened locally at the side of the body and at the attachment points of the engines and the landing gear, but the applicant would not like to alter the wing access panels and the fuel tank access covers. Although the applicant recognises that the scatter pattern and impact loading on the wing from debris thrown from the landing gear will change, the applicant proposes that it would be impractical to redesign the fuel tank access covers.

Note: Point ~~21.A.21(c)(3)~~ 21.B.107(a)(3) or 21.B.111(a)(3) may be an additional reason why EASA would require compliance with CS 25.963(e), regardless of the 'significant' determination.

[…]

E.3.1.7 **Step 7: Document the conclusion.**

It is concluded that compliance with the latest certification specification increases the level of safety at a minimal cost to the applicant. Based on the arguments and information presented by the applicant through the certification review item (CRI) process, EASA determined that meeting the latest amendment would be practical. EASA has also found that fuel tank access covers that are not impact resistant and fire resistant, and which are located where a strike is likely, are ~~is an~~ unsafe features or characteristics which precludes the issue of a type certificate under ~~21.21(c)(3)~~21.B.107(a)(3).

[…]

E.3.2.1 **Step 1: Identify the regulatory change being evaluated.**

The existing certification basis of the aeroplane that is being changed includes § 25.365 at Amendment 25-00. The initial release of § 25.365 required ~~that~~ the interior structure of passenger compartments to be designed to withstand the effects of a sudden release of pressure through an opening resulting from the failure or penetration of an external door, window, or windshield panel, or from structural fatigue or penetration of the fuselage, unless shown to be extremely remote.

Amendment 25-54 revised § 25.365 to require ~~that~~ the interior structure to be designed for an opening resulting from penetration by a portion of an engine, an opening in any compartment of a size defined by § 25.365(e)(2), or the maximum opening caused by a failure that was not shown to be extremely improbable. The most significant change is the 'formula hole size' requirement introduced into § 25.365(e)(2) at Amendment 25-54.

Amendment 25-71/72 (Amendments 25-71 and 25-72 are identical) extended the regulation to all pressurised compartments, not just passenger compartments, and to the pressurisation of unpressurised areas. Pressurisation of unpressurised areas had previously been identified as an unsafe feature under § ~~21.21(b)(2)~~ 21.B.111(a)(3).

[…]

APPENDIX I. RELATED DOCUMENTS

I.1 Related Part 21 requirements.

- 21.A.15, *Application*
- ~~21.A.16A,~~21.B.70, *Certification specifications*
- ~~21.A.16B,~~21.B.75, *Special conditions*
- ~~21.A.17A,~~21.B.80, *Type-certification basis*
- ~~21.A.17B,~~21.B.82, *Operational suitability data certification basis*
- 21.A.19, *Changes requiring a new type certificate*
- ~~21.A.21,~~21.B.103, ~~*Issue*~~ *Issuance of type certificate*
- ~~21.A.23, *Issue of restricted type certificate*~~
- 21.A.31, *Type design*
- 21.A.41, *Type certificate*
- 21.A.91, *Classification of changes to a type certificate*
- 21.A.93, *Application*
- 21.A.97, *Requirements for approval of a major change*
- 21.A.101, ~~*Designation of applicable* certification specifications and environmental protection requirements~~ *Type-certification basis, operational suitability data certification basis and environmental protection requirements for a major change to a type certificate*
- ~~21.A.103,~~ 21.B.107, ~~*Issue*~~ *Issuance of an approval of a change to a type certificate*
- 21.A.113, *Application for a supplemental type certificate*
- 21.A.115, *Requirements for the approval of major changes in the form of a supplemental type certificate*
- ~~21.A.115,~~ 21.B.111, ~~*Issue*~~ *Issuance of a supplemental type certificate*

[…]

J.4 **Certification basis.**

The combination of the:

— airworthiness certification specifications as provided for in point 21.B.80;

— OSD certification specifications as provided for in point 21.B.82; and

— environmental protection requirements, as provided for in point 21.B.85,

and as established for the change according to point 21.A.101, as well as the:

— special conditions;

— equivalent safety findings;

— elects to comply; and

— deviations,

applicable to the product to be certified.

J.5 **Change**.

The term ‘change’ refers to a change to a product type certificate (as defined in point 21.A.41) approved or to be approved under Subpart D or Subpart E (as a supplemental type certificate) of Part 21, including a change to an STC or a change to the ETSOA for auxiliary power units (APUs) under Subpart O. A change may consist of a single stand-alone change to one TC component or several interrelated changes to different TC components (e.g. the type design, operating characteristics, OSD, environmental protection characteristics, etc. (see point 21.A.41 and GM to 21.A.90A)).

[…]

13. AMC 21.A.115 is amended as follows:

AMC 21.A.115 Requirements for the approval of major changes in the form ~~issuance~~ of a supplemental type certificate (STC)

[…]

14. GM No 2 to 21.A.243(d) is amended as follows:

GM No 2 to 21.A.243(d) Data requirements — Statement of the qualification and experience — Organisations designing minor changes to type designs or minor repairs to products

For organisations that design ~~designing~~ minor changes to type design or minor repairs to products, the statement of the qualifications and experience required by 21.A.243(d) should be addressed as follows:

1. The nominated managers should be identified and their credentials submitted to ~~the Agency~~ EASA on EASA Form 4 - DOA (see EASA website: http://easa.europa.eu/certification/application-forms.php) in order that they may be seen to be appropriate in terms of relevant knowledge and satisfactory experience related to the nature of the design activities as performed by the organisation.
2. The persons responsible for ~~to~~:
   - classifying changes to type designs or repairs
   - verifying compliance ~~[~~(21.A.239(b))~~]~~
   - approvinge ~~minor changes to type design and minor repairs [~~(21.A.263(c)(2))~~]~~
   - issuinge ~~information or instructions [21.A.263(c)(3)~~(21.A.265(h))~~]~~

   should be selected by the organisation in accordance with a procedure and criteria agreed with ~~the Agency~~EASA.

15. GM 21.A.247 is amended as follows:

GM 21.A.247 Significant changes in the design assurance system

In addition to a change in ownership (see 21.A.249), the following changes to the design assurance system should be considered ~~as~~ to be 'significant' to the demonstration of compliance or to the airworthiness, operational suitability or environmental protection of the products:

1. Organisation
   - Relocation to new premises (see also GM 21.A.249);
   - Change in the industrial organisation (partnership, suppliers, design work sharing) unless it can be shown that the independent checking function of the demonstration of compliance is not affected;
   - Change in the parts of the organisation that contribute directly to the airworthiness, operational suitability or environmental protection (independent checking function, office of airworthiness ~~[~~(or equivalent)~~]~~);
   - Change to the independent monitoring principles (see 21.A.239(a)(3)).
2. Responsibilities

— Change of the management staff;

- the Head of the design organisation [(GM No 1 to 21.A.239(a), para.3.1.2, GM No 1 to 21.A.245, para.4.1, GM 21.A.265(b))];
- the Chief of the Office of Airworthiness [(GM No 1 to 21.A.245, para. 4.2)];
- the Chief of the independent monitoring function of the design assurance system [(21.A.239(a)(3) and AMC No 1 to 21.A.243(a), para.2)].

— New distribution of responsibilities affecting airworthiness, operational suitability or environmental protection;

— For organisations that design ~~designing~~ minor changes to type design or minor repairs to products, change of the persons identified in GM No 2 to 21.A.243(d).

3. Procedures
Change to the principles of procedures related to:

— the type certification;

— the classification of changes and repairs as 'major' or 'minor' [(21.A.263(c)(1))];

— the treatment of major changes and major repairs;

— the approval of the design of minor changes and minor repairs [(21.A.263(c)(2))];

— the issue of information and instructions under the privilege of 21.A.263(c)(3);

~~— the approval of minor revisions to the Aircraft Flight Manual [21.A.263(c)(4)]~~

— the approval of the design of certain major repairs [~~21.A.437~~(21.A.435(b) or 21.A.263(c)(5))];

— the approval of the conditions under which a permit to fly can be issued (21.A.263(c)(6));

— the issue of a permit to fly (21.A.263(c)(7));

— the approval of certain major changes to a type certificate (21.A.263(c)(8));

— the approval of certain supplemental type certificates (21.A.263(c)(9));

— the approval of certain major changes to certain supplemental type certificates; (21.A.263(c)(9));

— continued airworthiness or continued operational suitability (see 21.A.3);

— the configuration control, when airworthiness, operational suitability or environmental protection is affected;

— the acceptability of design tasks undertaken by partners or subcontractors ~~sub-contractors~~ [(21.A.239(c));].

— the issue of information and instructions under the obligation of 21.A.265(h).

4. Resources
— A substantial reduction in the number and/or experience of staff (see 21.A.245(a)).

16. GM 21.A.265(h) is amended as follows:

GM 21.A.265(h) Designation of data and information issued under the authority of a design organisation approval (DOA) holder

1. INTENT

This GM provides guidance for complying with the obligation of 21.A.265(h), and addresses the various aspects that the DOA holder should cover in order to have a comprehensive procedure for the designation of data and information.

2. SCOPE

The term 'data and information' as used in point 21.A.265(h) also includes instructions.

Data and information referred to in point 21.A.265(h) are issued by a DOA holder and cover the following:

— embodiment instructions for design changes or repairs (usually in the form of a service bulletin, a modification bulletin, repair instructions or engineering order, etc.);

— manuals required by Part 21 or the applicable CSs (such as the aircraft flight manual (AFM), rotorcraft flight manual, instructions for continuing airworthiness (ICAs), etc.);

— operation suitability data (OSD);

— continued-airworthiness instructions (usually in the form of service bulletins) which may be covered by airworthiness directives (ADs);

— additional data to be defined by the DOA holder (e.g. alternative maintenance instructions that are not, per se, instructions for continuing airworthiness).

The obligation does not apply to, ~~—~~ and the statement provided with the data and information should not be used on, ~~—~~ the following documents:

— certification documents (e.g. the certification programme, compliance checklist, etc.);

— compliance documents;

— design data transferred to production organisations; and

— production deviations (also referred to as 'unintended deviations' or 'concessions').

3. RATIONALE

The purpose of this obligation is to give certainty to the end users about the approval status of the data and information issued by the DOA holder.

4. STATEMENT

The statement provided with the data and information should also cover those items prepared by subcontractors or vendors that the DOA holder has declared as applicable to their products. The technical content of the statement is related to the type certificate ~~design~~ data and information. The approval included in the statement means that:

— the type certificate ~~design~~ data has been appropriately approved; and

— the information contains practical and well-defined installation or inspection methods, and, when those methods are implemented, the product is in conformity with the approved type certificate ~~design~~ data.

Note: Data and information related to the measures required by point 21.A.3B(b) (airworthiness directives (ADs)) are submitted to EASA to ensure their compatibility with the content of an AD (see point 21.A.265(e)), and contain a statement that they are, or will be, subject to an AD issued by EASA.

17. AMC 21.A.605(a)(1) is amended as follows:

AMC 21.A.605(a)(1) Certification programme

(a) For the purpose of the compliance demonstration in accordance with point 21.A.606(b), the applicant should:

(1) establish a certification programme;

(2) submit the certification programme to EASA; and

(3) keep the certification programme updated during the ~~approval~~ authorisation process.

(b) The certification programme should contain the following information:

(1) a detailed description of the relevant European technical standard order (ETSO) article, including all of its configurations to be certified, and the identification of ETSO functions and ~~any~~ non-ETSO functions, if any ~~as well as safety means (if applicable)~~;

~~(4)~~ (2) the applicable CS-ETSO, in case of different minimum performance standard (MPS) available, the selected MPS, the other requirements and any optional aspects (applicable standards, applicable requirements, choice of classes (if applicable))~~demonstration of compliance with certification memoranda)~~ as well as the expected deviations;

~~(2)~~ (3) the operating characteristics and the expected limitations ~~or deviations from ETSO requirements~~;

~~(3)~~ (4) the intended use of the article and the kind of operations for which the approval is requested;

(5) the proposed means of compliance, including the list of documents and deliverables for EASA;

(6) an overview of the safety assessment for the functions supported by the article, including the main failure conditions, their classification, the associated assumptions, and architectural features supporting the safety aspects ~~an assessment of the safety aspects related to (1) to (5) above, and of the main failure conditions, in particular for any novel or unusual features;~~

(7) the way in which the applicant will record its justifications of compliance; and

(8) a project schedule, including major milestones.

18. GM 21.A.605(b) is amended as follows:

GM 21.A.605(b) Reporting from the compliance demonstration process and updates to the certification programme

The applicant should report to EASA any unexpected difficulty or event encountered during the compliance demonstration which invalidates or appreciably affects the assumptions previously made, e.g.:

— an increase in the severity of the consequences of a certain condition (e.g. a failure mode) of the article;

— one or more significantly reduced margins on the 'pass-fail' criteria of the compliance demonstration;

— an unusual interpretation of the results of the compliance demonstration;

— a deviation from the agreed means as defined in the certification programme;

— a change to the conditions set out in the AMC to 21.B.100(b) ~~and 21.A.605(a)(8) for the assessment of EASA's level of involvement (LoI)~~; and

— any potential deviations discovered by the applicant.

The applicant should also evaluate whether the unexpected difficulty or event encountered will impact the certification programme and, if necessary, they should amend the certification programme as per point 21.A.603.

19. AMC 21.A.606(d) is amended as follows:

AMC 21.A.606(d) Declaration

~~A European technical standard order (ETSO) authorisation is granted in accordance with point 21.B.117 and only if no interference with non-ETSO functions is ensured.~~

The related declaration should confirm that compliance with the applicable ETSO is successfully demonstrated and that all the assumptions, constrains, deviations, limitations, and open problem reports that are relevant for the approval of the installation are defined both for the ETSO functions and the non-ETSO functions.

Additionally, the applicant should demonstrate that the non-ETSO functions do not interfere with the ETSO functions.

20. GM 21.B.80 is amended as follows:

GM 21.B.80 Type-certification basis for a type certificate (TC) or restricted type certificate (RTC)

1. INTRODUCTION

This GM addresses the type certification basis for a TC or an RTC.

2. APPLICABLE CERTIFICATION SPECIFICATIONS (CSs) (see point 21.B.80(a))

The type certification basis for a TC or an RTC consists of the airworthiness CSs that were effective on the date of application and were applicable for that certificate.

The effectivity date of the initial application may be changed, as per point 21.A.15(f)(2), when the ~~effectivity~~ period of validity of an application for a type certificate is exceeded, or it is evident that it will be exceeded, and the applicant requests an extension; see GM 21.A.15(e) and (f).

The certification basis is then revised accordingly.

3. ELECT TO COMPLY (see point 21.B.80(a)(1))

It is also possible for an applicant to elect to comply with a CS that entered into force after the date of application.

EASA should assess ~~if~~ whether the proposed certification basis is appropriate to ensure that the 'elect to comply' proposal includes any other CSs that are 'directly related' to one or several of the CSs in it.

Directly related CSs are those that are deemed to contribute to the same safety objective by building on each other's requirements, addressing complementary aspects of the same safety concern, etc. Typically, they are adopted simultaneously with, or prior to, the CSs with which the applicant has elected to comply.

4. EQUIVALENT LEVEL OF SAFETY (see point 21.B.80(a)(2))

In cases when the applicable CS(s) cannot be literally complied with, either in part or fully, EASA may accept a suitable alternative~~,~~ which provides an equivalent level of safety through the use of appropriate compensating factors.

In cases in which the requirements contain not only objectives but also prescriptive parts, an equivalent level of safety may be accepted if:

— the objectives are met by designs or features other than those required in the CS; or

— suitable compensating~~/mitigating~~ factors are proposed.

5. ALTERNATIVE MEANS OF COMPLIANCE ~~(AltMoC)~~ (see point 21.B.80(a)(3))

If the intent of the CSs defined in point 21.B.80(a) cannot be met, EASA may accept mitigating factors to the CSs, provided that the safety objective is met.

~~EASA may accept or prescribe alternative means of compliance when the safety objective is met by using a different method of compliance demonstration than the one prescribed by the CSs defined in point 21.B.80(a).~~

In the case of a TC, the ~~AltMoC~~ alternative means should provide a demonstration of compliance with the essential requirements for airworthiness laid down in ~~Annex I to Regulation (EC) No 216/2008~~ Annex II to Regulation (EU) 2018/1139.

In the case of an RTC, the ~~AltMoC~~ alternative means should provide a sufficient level of safety ~~with regard to~~ for the intended use.

Note: '~~AltMoC~~Alternative means of compliance' should not be confused with 'AMC'.

6. SPECIAL CONDITIONS (see point 21.B.75)

EASA may also prescribe special conditions in accordance with point 21.B.75. Guidance on special conditions is provided in GM 21.B.75.

21. The following GM 21.B.82 is inserted:

GM 21.B.82 Operational suitability data certification basis for an aircraft type certificate or restricted type certificate

1. INTRODUCTION

This GM addresses the operational suitability data certification basis for a TC or an RTC.

2. APPLICABLE CERTIFICATION SPECIFICATIONS (CSs) (see point 21.B.80(a))

The operational suitability certification basis for a TC or an RTC consists of the operational suitability data CSs that were applicable for that certificate and that were effective on the date of application for the type certificate or restricted type certificate or, if applicable, on the date of the application supplement.

The effectivity date of the initial application for the type certificate or restricted type certificate may be changed, as per point 21.A.15(f)(2), when the period of validity for an application for a type certificate is exceeded, or it is evident that it will be exceeded, and the applicant requests an extension; see GM 21.A.15(e) and (f). As a consequence, the OSD certification basis will be revised accordingly.

3. ELECT TO COMPLY (see point 21.B.82 (a)(1))

It is also possible for an applicant to elect to comply with a CS that entered into force after the date of application.

EASA should assess whether the proposed certification basis is appropriate to ensure that the 'elect to comply' proposal includes any other CSs that are 'directly related' to one or several of the CSs in it.

Directly related CSs are those that are deemed to contribute to the same safety objective by building on each other's requirements, addressing complementary aspects of the same safety concern, etc. Typically, they are adopted simultaneously with, or prior to, the CSs with which the applicant has elected to comply.

4. EQUIVALENT LEVEL OF SAFETY (see point 21.B.82 (a)(2))

In cases in which the applicable CS(s) cannot be literally complied with, either fully or in part , EASA may accept a suitable alternative which provides an equivalent level of safety through the use of appropriate compensating factors.

In cases in which the requirements contain not only objectives but also prescriptive parts, an equivalent level of safety may be accepted if:

— the objectives are met by designs or features other than those required in the CS; or

— suitable compensating factors are proposed.

5. ALTERNATIVE MEANS OF COMPLIANCE (see point 21.B.82 (a)(2))

If the intent of the CSs defined in point 21.B.82(a) cannot be met, EASA may accept mitigating factors to the CSs, provided that the safety objective is met.

In the case of a TC, the alternative means should provide a demonstration of compliance with the essential requirements for airworthiness laid down in Annex II to Regulation (EU) 2018/1139.

In the case of an RTC, the alternative means should provide a sufficient level of safety for the intended use.

Note: 'Alternative means of compliance' should not be confused with 'AMC'.

6. SPECIAL CONDITIONS (see point 21.B.75)

EASA may also prescribe special conditions in accordance with point 21.B.75. Guidance on special conditions is provided in GM 21.B.75.

22. AMC 21.B.100(a) and 21.A.15(b)(6) is amended as follows:

AMC 21.B.100(a) and 21.A.15(b)(6) Level of involvement (LoI) in a certification project for a type certificate (TC), a major change to a TC, a supplemental type certificate (STC), ~~or~~ a major repair design or ETSO authorisation for an APU

1. Definitions

Risk: the combination of the likelihood and the potential impact of a non-compliance with part of the certification basis.

Likelihood: a prediction of how likely an occurrence of non-compliance with part of the certification basis is, based on a combination of the novelty and complexity of the proposed design and its related compliance demonstration activities, as well as on the performance of the design organisation.

Criticality: a measure of the potential impact of a non-compliance with part of the certification basis on product safety or on the environment.

Compliance demonstration item (CDI): a meaningful group of compliance demonstration activities and data ~~identified in~~ of the certification programme, which can be considered in isolation for the purpose of performing a risk assessment.

EASA panel: an EASA panel is composed of one or more experts who are responsible for a particular technical area. Each technical area addressed during product certification is covered by an EASA panel.

EASA discipline: a discipline is a technical sub-area of an EASA ~~p~~panel.

EASA's level of involvement (LoI): the compliance demonstration activities and data that EASA retains for verification during the certification process, as well as the depth of the verification.

2. Background

The applicant has to submit a certification programme for their compliance demonstrations in accordance with point 21.A.15(b). The applicant has to break down the certification programme into meaningful groups of compliance demonstration activities and data, hereinafter referred as CDIs, and provide their proposal for EASA's LoI.

[…]

3.4. Method for the determination of risk classes

The risk is determined as a combination of the potential impact of an unidentified non-compliance with part of the certification basis (vertical axis) and of the likelihood of the unidentified non-compliance (horizontal axis) using the following matrix.

As a consequence, four qualitative risk classes are established at the CDI level.

Step 2 — Risk classes				
Likelihood (see Section 3.2.5) / Criticality (see Section 3.3)	Very low	Low	Medium	High
Non-critical	Class 1	Class 1	Class 2	Class 3
Critical	Class 1	Class 2	Class 3	Class 4

The various inputs and the resulting risk class determination are of a continuous nature, rather than consisting of discrete steps. The risk class provides the order of magnitude of EASA's involvement and is used as a qualitative indicator for the determination of EASA's involvement described in Section 3.5 below.

Under specific circumstances, the risk class determined on the basis of the above criteria may be reduced or increased on the basis of justified and recorded arguments.

For a reused and well-proven item of compliance demonstration for which:

— the CDI is independent of the affected product type or model; and

— the design, operation, qualification, and installation of the product are basically the same; and

— the certification process is identical to one that was used in a modification already approved by EASA,

~~I~~the CDI may be accepted as being similar, resulting in a reduced LoI, as the likelihood of an unidentified non-compliance is low.

Furthermore, when a truly identical CDI is reused for the compliance demonstration in a new project, there is no ~~LoI~~ involvement ~~is reduced to the acceptance of the certification plan,~~ in the compliance demonstration verification, as the likelihood of an unidentified non-compliance is very low.

3.5. Determination of EASA's LoI

EASA's LoI in compliance demonstration verification should be proposed by the applicant and determined by EASA in Step 3 on the basis of the qualitative risk class identified per CDI in Step 2, as well as by applying sound engineering judgement.

EASA's LoI is reflected in a list of activities and data, in which EASA retains the verification of compliance demonstration (e.g. compliance data review and acceptance, ~~test~~ witnessing of tests, etc.), as well as the depth of the verification. The depth of the verification for individual

compliance reports, data, test witnessing, etc., may range from spot checks to extensive reviews. EASA always responds to those retained compliance demonstration activities and data with corresponding comments or a 'statement of no objection'.

In addition, some data that is not retained for verification may be requested for information. In this case, no 'statement of no objection' will be provided.

It is recommended that an LOI should be proposed for each of the EASA disciplines involved.

Depending on the risk classes determined in Section 3.4 above, EASA's LoI in:

a) compliance demonstration verification data; and

b) compliance demonstration activities (witnessing of tests, audits, etc.),

may be as follows:

— risk Class 1: ~~after acceptance of the certification programme,~~ there is no ~~further~~ EASA involvement in verifying the compliance data/activities performed by the applicant to demonstrate compliance at the CDI level;

— risk Class 2: EASA's LoI is typically limited to the review of a small portion of the compliance data; there is either no participation in the compliance activities, or EASA participates in a small number of compliance activities (witnessing of tests, audits, etc.);

— risk Class 3: in addition to the LoI defined for Class 2, EASA's LoI typically comprises the review of a large amount of compliance data, as well as the participation in some compliance activities (witnessing of tests, audits, etc.); and

— risk Class 4: in addition to the LoI defined for Class 3, EASA's LoI typically comprises the review of a large amount of compliance data, the detailed interpretation of test results, and the participation in a ~~high~~ large number of compliance activities (witnessing of tests, audits, etc.).

By default, the following activities require EASA's involvement in all cases:

— initial issues of, and changes to, a flight manual (for those parts that require EASA approval and that do not fall under the DOA holder's privilege);

— classification of failure cases that affect the handling qualities and performance, when performed through test (in flight or in a simulator); and

— initial issues of, and non-editorial changes to, airworthiness limitations.

If the risk assessment (Steps 1 and 2 above) is made on the level of a compliance demonstration activity or on the level of a document, the risk class provides an indication for the depth of the involvement, i.e. the verification may take place only for certain compliance data within a compliance document.

[…]

23. GM 21.B.107 and 21.B.110 is amended as follows:

GM 21.B.107 and ~~21.B.110~~ 21.B.111 Operational suitability data (OSD) considerations for the approval of changes to type certificates (TCs) or supplemental type certificates

The ~~R~~requirements for EASA in points 21.B.107(c) or ~~21.B.110~~ 21.B.111(c) are applicable to necessary changes to the OSD as foreseen by 21.A.95(b) Section 2 for minor changes, 21.A.97(b) Section 2 for major changes, and 21.A.115(b) Section 3 for supplemental type certificates. ~~which should be, by~~ By analogy, these requirements should also be considered by design organisation approval (DOA) holders who approve ~~approving~~ changes or issue~~ing~~ supplemental type certificates (STCs) under their privileges (without EASA's involvement).

~~mainly addresses stand-alone changes to OSD. For such stand-alone OSD changes, there is a separate classification process (see GM 21.A.91, Sections 3.2 and 3.5), and the way to administer the changes depends on the extent of the change, but normally, an update of the TCDS is not required. However, the requirement can also be applied to combinations of design changes and OSD changes.~~

Changes to TCs can comprise several interrelated changes to the TC. For example, a change to the cockpit design may trigger a necessary change to the flight crew data, ~~being~~ which is part of the OSD, and is, therefore, included in the change to the TC.

Interrelated changes (e.g. type design changes and necessary changes to the MMEL and/or flight crew data) should ~~ultimately~~ be approved together under a single approval.

4. Impact assessment (IA)

This NPA provides only an update to the contents of NPA 2017-20 without adding additional regulatory options. Therefore, for additional details on impact assessments, please refer to NPA 2017-20 and Opinion No 07/2016.

5. Proposed actions to support implementation

This NPA provides only an update to the contents of NPA 2017-20. Therefore, for details on proposed actions to support implementation, please refer to NPA 2017-20.

6. References

6.1. Related regulations

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

6.2. Affected decisions

Decision N° 2012/020/R of the Executive Director of the Agency of 30th October 2012 on acceptable means of compliance and guidance material for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations ('AMC and GM to Part 21') repealing Decision No 2003/01/RM of the Executive Director of the Agency of 17 October 2003

6.3. Other reference documents

ToR and Concept Paper MDM.060 (RMT.0262 & RMT.0611 and RMT.0550 & RMT.0612) Issue 1 'Embodiment of Level of Involvement (LOI) and Safety Management System (SMS) requirements into Part-21' of 27 August 2013[10]

[10] https://www.easa.europa.eu/document-library/terms-of-reference/tor-and-concept-paper-mdm060-rmt0262-rmt0611-and-rmt0550-rmt0612

7. Appendix 1 — Correlation table between current Part 21 and its next amendment

To facilitate the review of the proposed AMC/GM to Part 21, the following correlation table has been created.

This table provides cross references between the requirements of Part 21 (Annex I to Regulation (EU) No 748/2012, as amended by Regulations (EU) 2016/5, 2015/1039, as well as Nos 69/2014 and 7/2013) and those that are included in the new amendments to Part 21.

Part 21 reference	New Part 21 amendment reference
SECTION A	SECTION A
SUBPART A	SUBPART A
21.A.1	21.A.1
21.A.2	21.A.2
21.A.3A	21.A.3A
21.A.3B	21.A.3B
21.A.4	21.A.4
SUBPART B	SUBPART B
21.A.11	21.A.11
21.A.13	21.A.13
21.A.14	21.A.14
21.A.15(a)	21.A.15(a)
21.A.15(b), (c), (d)	21.A.15(b)
—	21.A.15(c)
21.A.16A	21.B.70
21.A.16B	21.B.75
21.A.17A	21.B.80
21.A.17B	21.B.82
21.A.18	21.B.85
21.A.19	21.A.19
21.A.20(a), (b)	21.A.20(a)
—	21.A.20(b)
21.A.20(c)	21.A.20(c)
21.A.20(d)	21.A.20(d)(1)
21.A.20(e)	21.A.20(e)

Part 21 reference	New Part 21 amendment reference
21.A.21(a)	21.A.21(a)(1)
21.A.21(b)	21.A.21(a)(2)
21.A.21(c)(1)	21.A.21(a)(3)
21.A.21(c)(2)	21.B.80(a)(2)
21.A.21(c)(3)	21.A.20(d)(2)
21.A.21(d)	21.A.21(a)(3)
21.A.21(f)	21.A.21(b)
21.A.23	21.A.21
21.A.31	21.A.31
21.A.33(a)	—
—	21.A.33
21.A.33(b)	21.A.33(b)
21.A.33(c)	21.A.33(d)(1)
—	21.A.33(c)
21.A.33(d), (e)	21.A.33(d), (e)
21.A.35	21.A.35
21.A.41	21.A.41
21.A.44	21.A.44
21.A.47	21.A.47
21.A.51	21.A.51
21.A.55	21.A.55
21.A.57	21.A.57
21.A.61	21.A.61
21.A.62	21.A.62
SUBPART C	SUBPART C
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21.A.90A	21.A.90A
21.A.90B	21.A.90B
21.A.91	21.A.91
21.A.92	21.A.92
21.A.93 first paragraph	21.A.93(a)
21.A.93(a)	21.A.93(b)

Part 21 reference	New Part 21 amendment reference
—	21.A.93(b) first paragraph, (b)(1)(i)
21.A.93(b)	21.A.93(b)(2)
21.A.93(c)	21.A.93(b)(1)(iii)
—	21.A.93(b)(3), (c)
21.A.95(a), (b)	21.A.95(a)
—	21.A.95(b) to (e)
21.A.97(a)	—
21.A.97(b)	21.A.97(d) and 21.B.107(d)
—	21.A.97(a) to (c)
21.A.101(a), (b), (c), (d), (f), (g)	21.A.101(a), (b), (c), (d), (f), (g)
21.A.101(e)	21.A.15(e), (f)
21.A.103(a)(1),(2),(3)	21.A.97(b)
21.A.103(a)(4)	21.B.107(b)
21.A.103(b)	21.B.107(a)(1)(i)
21.A.105	21.A.105
21.A.107	21.A.107
21.A.108	21.A.108
21.A.109	21.A.109
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21.A.111	21.A.111
21.A.112A	21.A.112A
21.A.112B	21.A.112B
21.A.113(a) and (b)	21.A.113(a) and (b)
—	21.A.113(c)
21.A.114	21.A.115(b)
21.A.115(a)	21.A.115(b)(4)
21.A.115(b)	—
21.A.115(c)	21.A.115(b)(1)
21.A.115(d)	21.A.115(b)(5)
—	21.A.115(a)
—	21.A.115(b)(2) and (b)(3)
—	21.A.115(c)

Part 21 reference	New Part 21 amendment reference
—	21.A.115(d)
21.A.116	21.A.116
21.A.117	21.A.117
21.A.118A	21.A.118A
21.A.118B	21.A.118B
21.A.119	21.A.119
21.A.120A	21.A.120A
21.A.120B	21.A.120B
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21.A.122	21.A.122
21.A.124	21.A.124
21.A.125A	21.A.125A
21.A.125B	21.A.125B
21.A.125C	21.A.125C
21.A.126	21.A.126
21.A.127	21.A.127
21.A.128	21.A.128
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21.A.133	21.A.133
21.A.134	21.A.134
21.A.135	21.A.135
21.A.139	21.A.139
21.A.143	21.A.143
21.A.145	21.A.145
21.A.147	21.A.147
21.A.148	21.A.148
21.A.149	21.A.149
21.A.151	21.A.151

Part 21 reference	New Part 21 amendment reference
21.A.153	21.A.153
21.A.157	21.A.157
21.A.158	21.A.158
21.A.159	21.A.159
21.A.163	21.A.163
21.A.165	21.A.165
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21.A.171	21.A.171
21.A.172	21.A.172
21.A.173	21.A.173
21.A.174	21.A.174
21.A.175	21.A.175
21.A.177	21.A.177
21.A.179	21.A.179
21.A.180	21.A.180
21.A.181	21.A.181
21.A.182	21.A.182
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21.A.201	21.A.201
21.A.203	21.A.203
21.A.204	21.A.204
21.A.207	21.A.207
21.A.209	21.A.209
21.A.210	21.A.210
21.A.211	21.A.211
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21.A.234	21.A.234
21.A.235	21.A.235
21.A.239	21.A.239
21.A.243	21.A.243

Part 21 reference	New Part 21 amendment reference
21.A.245	21.A.245
21.A.247	21.A.247
21.A.249	21.A.249
21.A.251	21.A.251
21.A.253	21.A.253
21.A.257	21.A.257
21.A.258	21.A.258
21.A.259	21.A.259
21.A.263(a) and (b)	—
21.A.263(c)(1) and (c)(2)	21.A.263(c)(1) and (c)(2)
21.A.263(c)(3)	21.A.265(h)
21.A.263(c)(4)	21.A.263(c)(2)
21.A.263(c)(5) to (c)(7)	21.A.263(c)(5) to (c)(7)
—	21.A.263(c)(8) and (c)(9)
21.A.265	21.A.265
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21.A.301	21.A.301
21.A.303	21.A.303
21.A.305	21.A.305
21.A.307	21.A.307
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SUBPART M	SUBPART M
21.A.431A(a) to (e)	21.A.431A(a) to (e)
—	21.A.431A(f)
21.A.431B	21.A.431B
21.A.432A	21.A.432A
21.A.432B	21.A.432B
—	21.A.432C
21.A.433(a)(1)	21.A.433(a)(1)
21.A.433(a)(2)	21.A.433(b)
21.A.433(a)(3)	21.A.433(a)(2)
21.A.433(b)	21.A.433(a)(4)

Part 21 reference	New Part 21 amendment reference
—	21.A.433(a)(3)
21.A.435	21.A.435(a)
21.A.437	21.A.435(b)
21.A.439	21.A.439
21.A.441	21.A.441
21.A.443	21.A.443
21.A.445	21.A.445
21.A.447	21.A.447
21.A.449	21.A.449
21.A.451	21.A.451
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21.A.601	21.A.601
21.A.602A	21.A.602A
21.A.602B	21.A.602B
21.A.603	21.A.603
21.A.604	21.A.604
21.A.605(a) to (f)	21.A.605(a)(2) to (a)(7)
—	21.A.605(a)(1)
—	21.A.605(a)(8)
—	21.A.605(b)
21.A.606(a) to (c)	21.A.606(a) to (c)
—	21.A.606(d)
21.A.607	21.A.607
21.A.608	21.A.608
21.A.609	21.A.609
21.A.610	21.A.610
21.A.611	21.A.611
21.A.613	21.A.613
21.A.615	21.A.615
21.A.619	21.A.619
21.A.621	21.A.621

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21.A.703	21.A.703
21.A.705	21.A.705
21.A.707	21.A.707
21.A.708	21.A.708
21.A.709	21.A.709
21.A.710	21.A.710
21.A.711	21.A.711
21.A.713	21.A.713
21.A.715	21.A.715
21.A.719	21.A.719
21.A.721	21.A.721
21.A.723	21.A.723
21.A.725	21.A.725
21.A.727	21.A.727
21.A.729	21.A.729
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21.A.801	21.A.801
21.A.803	21.A.803
21.A.804	21.A.804
21.A.805	21.A.805
21.A.807	21.A.807
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21.B.25	21.B.25
21.B.30	21.B.30
21.B.35	21.B.35
21.B.40	21.B.40
21.B.45	21.B.45

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—	21.B.100
—	21.B.103
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—	21.B.107(a)
—	21.B.105
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—	21.B.111
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21.B.120	21.B.120
21.B.125	21.B.125
21.B.130	21.B.130
21.B.135	21.B.135
21.B.140	21.B.140
21.B.145	21.B.145
21.B.150	21.B.150
SUBPART G	SUBPART G
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21.B.225	21.B.225
21.B.230	21.B.230
21.B.235	21.B.235
21.B.240	21.B.240
21.B.245	21.B.245
21.B.260	21.B.260
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21.B.325	21.B.325

Part 21 reference	New Part 21 amendment reference
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21.B.327	21.B.327
21.B.330	21.B.330
21.B.345	21.B.345
SUBPART I	SUBPART I
21.B.420	21.B.420
21.B.425	21.B.425
21.B.430	21.B.430
21.B.445	21.B.445
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SUBPART K	SUBPART K
SUBPART L	SUBPART L
SUBPART M	SUBPART M
—	21.B.450
—	21.B.453
SUBPART N	SUBPART N
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SUBPART P	SUBPART P
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21.B.525	21.B.525
21.B.530	21.B.530
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Note: The above table does not contain references to the Part 21 amendments that were triggered by the following EASA Opinions:

— Opinion No 01/2017 'Maintenance check flights' of 8 March 2017

— Opinion No 09/2017 'Implementation of the CAEP/10 amendments on climate change, emissions and noise' of 7 November 2017