Annex to ED Decision 2016/007/R

'AMC/GM to Part-21 — Issue 2, Amendment 6'

The Annex to ED Decision 2012/020/R of the Executive Director of the Agency of 30 October 2012 is hereby amended as follows:

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

(a) deleted text is marked with ~~strike through~~;

(b) new or amended text is highlighted in grey;

(c) an ellipsis (…) indicates that the remaining text is unchanged in front of or following the reflected amendment.

1. GM No 1 to 21.A.15(d) is amended as follows:

GM No 1 to 21.A.15(d) Clarification of the term 'as applicable'

The term 'as applicable' indicates that not all ~~elements~~ OSD constituents as listed in 21.A.15(d)(1) through (~~6~~5) are 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~~OSD constituent 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~~constituents are not applicable to aircraft in the category 'other-than-complex motor-powered'. In more detail:

— The requirement to produce minimum syllabi for type rating training of pilots is only applicable when the aircraft has a type rating. By default, most small aircraft will be in a class rating. However, the Agency can decide 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 ~~C~~certification ~~S~~specifications for the related OSD ~~element~~constituent. When no individual type rating is required for the aircraft, it means that the relevant OSD ~~elements~~constituents 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 rating 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 (EU) No 1321/2014 (~~point~~ 66.A.5). When no individual type rating training is required for the aircraft, it means that the relevant OSD ~~elements~~constituents 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 OSD constituent ~~S~~'dimulator ~~D~~data' is only required when the syllabus for pilot type rating training includes the use of full flight simulators or flight training devices (FTDs), Level 3 for 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, except when required through the certification basis. Small aircraft do not have this number of passenger seats.

— The requirement to establish an ~~M~~MEL is applicable to all complex motor-powered aircraft and to all aircraft that ~~can be~~ are used for commercial operations ~~since the relevant operators must have MELs for those aircraft~~. 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~~ on 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 ~~very light aeroplanes (VLA), light sport aeroplanes (LSA), very light rotorcraft (VLR), sailplanes, powered sailplanes, balloons and ELA2 airships~~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 implementing 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: • 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.	YES
— 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	YES

• FBW; or • more than one engine; and — tilt rotors.	
— 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	YES: CS-MMEL

• a minimum crew of two pilots; or — tilt rotors.	
— Helicopters with: • 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.	YES: special condition based on CS-MMEL
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'

2. GM No 2 to 21.A.15(d) is amended as follows:

GM No 2 to 21.A.15(d) Determination of type or variant

The criteria for the determination whether an aircraft with a new type certificate (TC) is considered a new type or is a variant with reference to another aircraft type from the same TC holder for the purpose of the specific OSD ~~element~~constituent~~,~~ are provided in the applicable certification specifications for maintenance certifying staff data, flight crew data and cabin crew data.

3. GM No 3 to 21.A.15(d) is amended as follows:

GM No 3 to 21.A.15(d) OSD content

The OSD will typically consist of elements that are required to be included by the TC applicant and elements that can be added at the request of the TC applicant. (See also GM No 4 to 21.A.15(d)).

Both the required elements and the additional elements will have a part that is mandatory to be used by the operator or training organisation (status of rule) and a part which is not mandatory to the operator or training organisation (status of AMC). For illustration of this concept, ~~the below~~ F~~f~~igure 1 below is included.

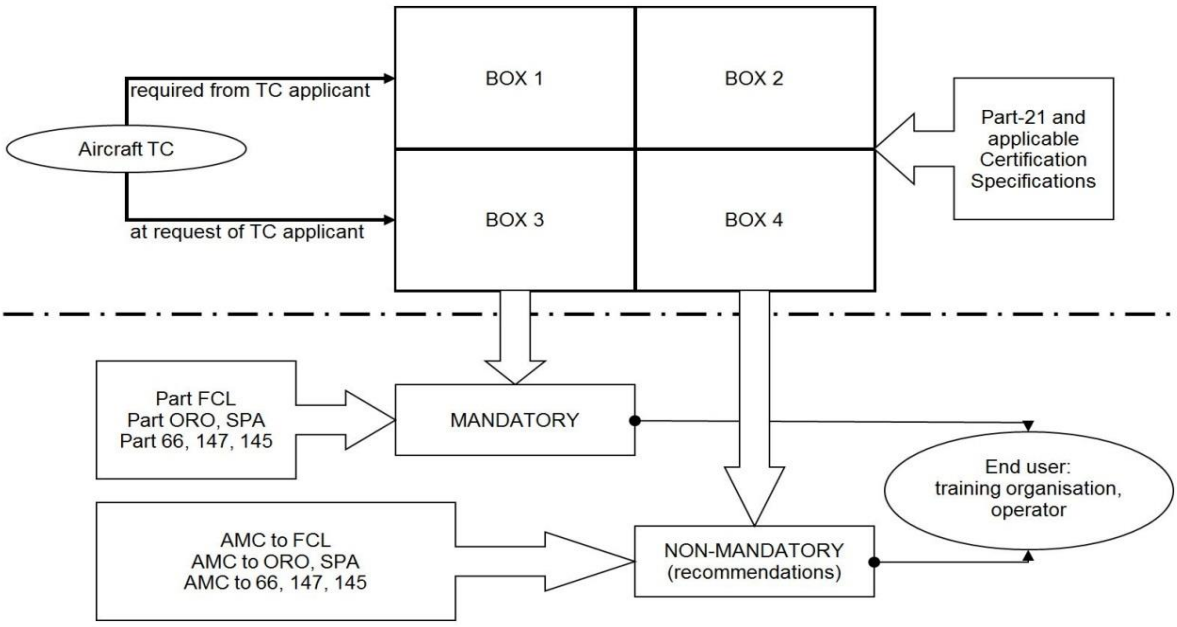


Figure 1: OSD boxes concept

Box 1: required from TC holder; mandatory for end-users.

Box 2: required from TC holder; not mandatory (recommendations) for end-users.

Box 3: at request of TC holder; mandatory for end-users.

The TC applicant may wish to apply for the approval of differences training between variants or types to reduce training, checking or currency requirements for operations of more than one type or variant. This is regarded as an optional element in addition to the required elements of Box 1 and 2.

Box 4: at request of TC holder; not mandatory (recommendations) for end-users.

The exact content of the four boxes in the above figure is determined by the certification specification that is applicable to the specific ~~element~~OSD constituent or the special condition in case of an 'other type-related operational suitability element'.

The status the data will have on the side of the operator or training organisation should be indicated in the OSD by segregating the data in a section called 'Mandatory' and a section called 'Non-mandatory (recommendations)'.

4. GM No 4 to 21.A.15(d) is amended as follows:

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

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

The five defined OSD constituents are listed in 21.A.15(d)(1) through (5). As explained in GM No 1 to 21.A.15(d), they may not be all applicable to all aircraft types. The content of each of the OSD

constituents is defined in the relevant certification specification and will be approved under a type certificate (TC), supplemental type certificate (STC) or change to those certificates.

As explained in GM No 3 to 21.A.15(d), each OSD constituent can have a part that is mandatory for the end-user (operator, training organisation, etc.) and a part that is not mandatory (recommendation) for the end-user. However, both the mandatory and the non-mandatory part together are the OSD constituent. Furthermore, the OSD constituent always includes the element required from the TC/STC applicant, as specified in the CS, and may include additional element at the request of the TC/STC applicant, but still as defined in the CS.

~~(b) Under the term 'Other type-related operational suitability elements' of 21.A.15(d)(6) there are several possibilities for including elements in the OSD at the request of the TC applicant in addition to the required elements. These additional elements should be linked to one of the required elements or should concern the operational suitability of the aircraft type.~~

5. A new GM No 1 to 21.A.15(d)6 is added as follows:

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

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

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

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

— it concerns data (not the approval of equipment);

— the data is type specific;

— the data is not already be part of the 'classic' part of the type certificate (TC) (such as Airworthiness Limitations Section (ALS), aircraft flight manual (AFM), etc.);

— the data is relevant for the safe operation of the aircraft type; and

— conditions/criteria for the approval of the data can be established.

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

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

6. GM to 21.A.21(f), 21.A.23(b) and 21.A.103(a)(4) is amended as follows:

GM No 1 to 21.A.21(f), 21.A.23(b) and 21.A.103(a)(4) Approval of OSD

It is acknowledged that it may not always be possible to have the operational suitability data available on~~at~~ the date of the issue~~ance~~ of the type certificate (TC), change approval or STC. The derogation provided by ~~points~~ 21.A.21(f), 21.A.23(b) and 21.A.103(a)(4) are intended for that case. The TC, change approval or STC can be issued before compliance with the operational suitability data certification basis has been ~~shown~~demonstrated~~, provided the applicant declares the date that the OSD will be available~~. However, the OSD have to be approved before the data must be used by a training organisation for the purpose of obtaining a European Union licen~~c~~se, rating or attestation, or by an EU operator. This is normally done ~~at the~~ upon entry into service of the first aircraft by an EU operator but could also be later for some of the ~~elements~~OSD constituents, such as the definition of scope of validation source data ~~for~~ to support the objective qualification of a simulator, which should only be available when a simulator has to be qualified.

The derogation in 21.A.103(a)(4) is applicable to all major changes to TC, so also to minor design changes when triggering a major MMEL change, and also to changes where only one of the OSD constituent changes is major.

However, there may be a need to make one or several OSD ~~elements~~constituents available before the entry into service~~, or even before the TC is issued~~. For example, there may be a need to start training activities before all ~~elements~~OSD constituents contained in the OSD application can be approved. Making use of the derogation in 21.A.21(f), 21.A.23(b) or 21.A.103(a)(4), the relevant OSD constituent can be approved under the TC, a change approval or the STC, the use of which can then be limited to specific purposes.

There may, in some specific cases, even be a need to make provisional OSD available before the TC (or STC) is issued. ~~Therefore~~ In such cases, before the availability of a complete and fully compliant OSD, the Agency can ~~certify~~ confirm partial compliance of only one or several provisional OSD ~~elements~~constituents~~under the TC, change approval or STC, the use of which can then be limited to specific purposes~~.

7. GM to 21.A.90A is amended as follows:

GM to 21.A.90A Scope

~~In case of changes to operational suitability data, the term 'changes' includes amendments, deviations, additions and supplements.~~

The term 'changes to the type certificate' is consistently used in Part-21, Subpart D and E, as well as in the related AMC and GM. This term does not refer to changing the document that reflects the type certificate (TC) but to the concept of TC as defined in 21.A.41. It means that the processes for approval of changes, as described in the said two Subparts, do not only apply to changes to the type design, but may also apply to changes to:

— the operating limitations;

— the type certificate data sheet (TCDS) for airworthiness and emissions;

— the applicable type certification basis and environmental protection requirements with which the Agency demonstrates compliance;

— any other conditions or limitations prescribed for the product in the applicable certification specifications (CSs) and environmental protection requirements;

— the applicable operational suitability data (OSD) certification basis;

— the OSD; and

— the TCDS for noise.

NOTE: OSD is only applicable to aircraft TCs and not engine or propeller TCs. Therefore, changes to OSD are only relevant for changes to aircraft TCs.

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

GM 21.A.91 Classification of changes to type ~~design~~ certificate

1. PURPOSE OF CLASSIFICATION

Classification of changes to a type ~~design~~ certificate (TC) into MAJOR or MINOR is to determine the approval route to be followed in Part-21 Subpart D, i.e., either 21.A.95 or 21.A.97, or alternatively whether application and approval has to be made in accordance with Part-21 Subpart E.

2. INTRODUCTION

2.1 21.A.91 proposes criteria for the classification of changes to a ~~type design~~TC as minor ~~and~~ or major.

(~~i~~a) This GM is intended to provide guidance on the term 'appreciable effect' affecting the airworthiness of the product or affecting any of the other characteristics mentioned in ~~from~~ 21.A.91, where 'airworthiness' is interpreted in the context of a product in conformity with type design and in condition for safe operation. It provides complementary guidelines to assess a ~~design~~ change to the TC in order to fulfil the requirements of 21.A.91 and 21.A.117 where classification is the first step of a procedure.

Note: For classification of Repairs see GM 21.A.435.

(~~ii~~b) Although this GM provides guidance on the classification of major changes, as opposed to minor changes as defined in 21.A.91, the GM and 21.A.91 are deemed entirely compatible.

2.2 For an ETSO authorisation, 21.A.611 gives specific ~~additional~~ requirements for design changes to ETSO articles.

For APU, this GM 21.A.91 should be used.

3. ASSESSMENT OF A ~~DESIGN~~ CHANGE FOR CLASSIFICATION

3.1 Changes to the ~~type design~~TC

~~21.A.31 defines what constitutes the type design. Alteration to any of the data included within the scope of 21.A.31 is considered a change to the type design.~~

21.A.91 addresses changes to all aspects of a TC. This includes changes to type design, as defined in 21.A.31, as well as to the other constituents of a TC, as defined in 21.A.41. This GM provides guidance on changes to the type design and changes to the operational suitability

data (OSD). A change to a TC can include a change to the type design and/or a change to the OSD.

3.2 Separate classification for type design and OSD

Although in the end, the change to the TC, which includes a change to type design and a change to OSD, will have only one classification, it will be possible to classify the different components of the change independently. This will facilitate the approval of a major change with no verification by the Agency of the OSD component if the change to OSD is considered minor, or with no verification by the Agency of the design change if the design change is considered minor (see also GM to 21.A.103).

3.~~2~~3 Classification Process (see attached diagram)

21.A.91 requires all changes to be classified as either major or minor, using the criteria of 21.A.91 ~~and the complementary guidance of paragraph 3.34~~.

~~On some occasions, the classification process is initiated at a time when some data necessary to make a classification decision are not yet available. Therefore, the applicant should wait for availability of data before making a decision.~~

Wherever there is doubt as to the classification of a change, the Agency should be consulted for clarification.

When the strict application of the paragraph 3.~~3~~4 criteria results in a major classification, the applicant may request re-classification, if justified, and the Agency could take the responsibility in re-classifying the change.

A simple design change planned to be mandated by an airworthiness directive may be re-classified minor due to the involvement of the Agency in the continued airworthiness process.

Reasons for a classification decision should be recorded.

3.~~3~~4 Complementary guidance for classification of changes~~.~~

A change to the ~~type design~~ TC is judged to have an 'appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, noise, fuel venting, exhaust emission, operational suitability or other characteristics affecting the airworthiness of the product' and, therefore, should be classified as major, in particular but not only~~,~~ when one or more of the following conditions are met:

(~~i~~a) ~~W~~where the change requires an adjustment of the type certification basis or the OSD certification basis (~~such as~~ special conditions or equivalent safety findings~~, elect to comply, earlier certification specification (reversion), later certification specification~~) other than elect to comply with later certification specifications~~.~~;

(~~ii~~b) ~~W~~where the applicant proposes a new interpretation of the certification specifications used for the ~~type~~ type- certification basis or the OSD certification basis that has not been published as AMC material or otherwise agreed with the Agency~~.~~;

(~~iii~~c) ~~W~~where the demonstration of compliance uses methods that have not been previously accepted as appropriate for the nature of the change ~~to the product or for similar changes to other products designed by the applicant.~~;

(~~iv~~d) ~~W~~where the extent of new substantiation data necessary to comply with the applicable certification specifications and the degree to which the original substantiation data has to be re-assessed and re-evaluated is considerable~~.~~;

~~(v) The change alters the Airworthiness Limitations or the Operating Limitations.~~

(~~vi~~e) where ~~T~~the change is made mandatory by an airworthiness directive or the change is the terminating action of an airworthiness directive (ref. 21.A.3B)~~.~~, s~~S~~ee N~~n~~ote 1~~.~~and;

(~~vii~~f) ~~W~~where the design change introduces or affects functions where the failure effect is classified catastrophic or hazardous.

Note 1: The ~~design~~ change previously classified minor and approved prior to the airworthiness directive issuance decision needs no re-classification. However, the Agency retains the right to review the change and re-classify/re-approve if found necessary.

Note 2: The~~se~~ above conditions are an explanation of the criteria noted in 21.A.91.

For an understanding of how to apply the above conditions it is useful to take note of the examples given in Appendix A to GM 21.A.91.

3.5 Complementary guidance on the classification of changes to OSD

This paragraph provides firstly general guidance on minor OSD change classification, and secondly additional guidance specific to each OSD constituent.

Changes to OSD are considered minor when they:

— incorporate optional information (representing improvements/enhancements);

— provide clarifications, interpretations, definitions or advisory text; or

— do not change the intent of the OSD document, e.g. changes to:

- titles, numbering, formatting, applicability;
- order, sequence, pagination; or
- sketches, figures, units of measurement, and correction of editorial mistakes such as:
  - spelling; or
  - reference numbers.

Given the structure and individual intent of the separate OSD constituents, the interpretation of 'appreciable' is also affected by the specific nature of the applicable certification specifications (CS) for that constituent. Therefore, specific guidance on each of the OSD constituents is provided hereafter.

(a) Master minimum equipment list (MMEL)

(1) A change to the MMEL is judged to have an 'appreciable effect on the operational suitability of the aircraft' and, therefore, should be classified as major, in particular but not only when one or more of the following conditions are met:

(i) where the change requires an adjustment of the OSD certification basis;

(ii) where the applicant proposes changes to the means of compliance with the requirements used for the OSD certification basis (i.e. MMEL safety methodology);

(iii) where the extent of substantiation data and the degree to which the substantiation data has to be assessed and evaluated is considerable, in particular but not only when:

(A) the substantiation data involving the review of failure conditions that are classified as hazardous or catastrophic has to be evaluated;

(B) the assessment of the failure effects (including next worst failure/event effects) on crew workload and the applicable crew procedures has to be evaluated; or

(C) the capability of the aircraft to perform types of operation (e.g. extended-range twin operations (ETOPS), instrument flight rules (IFR)) under MMEL is extended.

(2) A change to the MMEL is judged not to have an 'appreciable effect on the operational suitability of the aircraft' and, therefore, should be classified as minor, in particular but not only when one or more of the following conditions are met:

<u>Modifications to an existing item when:</u>

(i) the change only corresponds to the applicability of an item for configuration management purposes;

(ii) the change corresponds to the removal of an item;

(iii) the change corresponds to the increase in the number of items required for dispatch; and

(iv) the change corresponds to a reduction in the rectification interval of an item.

<u>Addition of a new item when:</u>

(v) it is considered as non-safety-related (refer to CS-MMEL, GM2 MMEL.110); or

(vi) it is indicated as eligible for minor change classification in 1 to GM1 CS-MMEL-145.

(b) Flight crew data (FCD)

(1) FCD change related to change to the type design

When classifying the FCD change as minor or major, the method of CS-FCD, Subpart D should be used.

(i) An analysis should be performed to assess the change impact on the FCD through the allocation of difference levels realised with operator difference requirement (ODR) tables as per CS FCD.400. In this case, the base aircraft is the aircraft without the type design change, whereas the candidate aircraft is the aircraft which includes the type design change.

(A) If a no more than level B difference is assigned for training, checking and currency for the candidate aircraft, the related FCD change should be classified as minor.

(B) If a difference level C, D or E for training, checking and currency is assigned to the candidate aircraft, the related FCD change should be classified as major.

(ii) Notwithstanding the above, the change to FCD should be classified as major when a T1 or T2 test is found necessary by the applicant to confirm that the aircraft with the type design change is not a new type for pilot type rating.

(2) Stand-alone changes to FCD are not related to any type design changes. They may be triggered for example by in-service experience or by the introduction of data at the request of the applicant after type certification.

(i) Introduction of credits in training, checking or currency should be classified as major. Example: addition of further-differences training, common take-off and landing credits, etc.

(ii) Stand-alone changes to FCD that correspond to a change of the intent of a data should be classified as major. Example: addition of a training area of special emphasis (TASE) or prerequisite, expansion of a TASE.

(c) Cabin crew data (CCD)

(1) OSD change related to change to the type design

When classifying the OSD CCD change as minor or major, the method from CS-CCD, Subpart B should be used.

(i) An analysis should be performed to assess the change impact on the OSD CCD through the identification of the difference and its impact on operation in the aircraft difference table (ADT) as per CS CCD.200. In this case, the base aircraft is the aircraft without the type design change, whereas the candidate aircraft is the aircraft which includes the type design change.

(A) If the difference has no impact on the operation of an element of the ADT for the candidate aircraft, the related OSD CCD change should be classified as minor.

(B) If the difference has an impact on the operation of an element of the ADT for the candidate aircraft, the related OSD CCD change should be classified as major.

(ii) Notwithstanding the above, the change to OSD CCD should be classified as major when an ADT analysis is found necessary by the applicant to confirm that the aircraft with the type design change is not a new type for cabin crew.

(2) Stand-alone changes to OSD CCD are not related to any type design changes. They may be triggered for example by in-service experience or by the introduction of data at the request of the applicant after type certification.

(i) Stand-alone changes to cabin aspects of special emphasis (CASE) should be classified as major. Example: addition of further CASE, expansion of CASE.

(ii) When classifying stand-alone changes to type-specific data for cabin crew the method from CS-CCD, Subpart B should be used. An analysis should be performed to assess the change impact on the type-specific data through the identification of the difference and its impact on operation in the ADT as per CS CCD.200.

(A) If the change does not concern a determination element of CS CCD.205, the stand-alone change should be classified as minor.

(B) If the change has no impact on the operation of an element of the ADT, the stand-alone change should be classified as minor.

(C) If the change has an impact on the operation of an element of the ADT, the stand-alone change should be classified as major.

(d) Simulator data (SIMD)

The OSD constituent 'simulator data' does not include the data package that is necessary to build the simulator. It includes only the definition of the scope of validation source data to support the objective qualification of a simulator. So, when this guidance discusses changes to 'simulator data', this concerns only changes to the 'definition of scope of validation source data' and not changes to the data package.

(1) A change to the SIMD should be classified as major, in particular but not only when one or more of the following conditions are met:

(i) when a change to the SIMD introduces validation source data from an engineering platform where the process to derive such data has not been audited by the Agency in the initial SIMD approval; or

(ii) when the process to derive validation source data from an engineering platform is changed.

(2) A change to the SIMD could be classified as minor, in particular but not only when one or more of the following conditions are met:

(i) changes to engineering validation data independent of the aircraft due to improvements or corrections in simulation modelling (e.g. aerodynamics, propulsion);

(ii) configuration changes to the aircraft where the process to derive validation source data from an engineering platform is unchanged;

(iii) changes to validation source data by using better, more applicable flight test data; or

(iv) editorial changes to the validation data roadmap (VDR).

(e) Maintenance certifying staff data (MCSD)

[Reserved]

Appendix A to GM 21.A.91: Examples of Major Changes per discipline

The information below (…)

9. A new GM No 1 to 21.A.93(c) is added as follows:

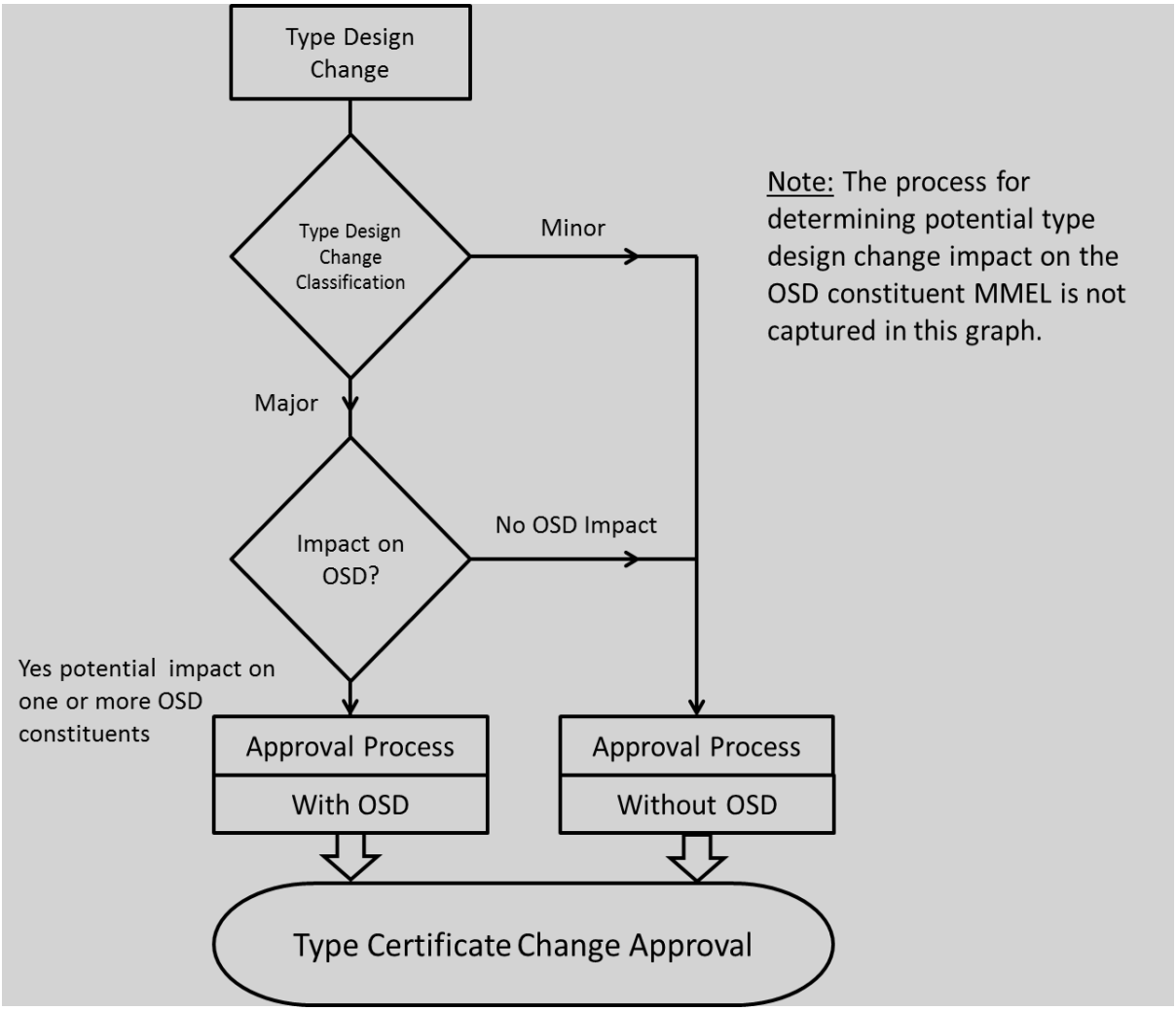
GM No 1 to 21.A.93(c) Interaction of changes to the type design and changes to operational suitability data (OSD)

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 MMEL can be treated differently from the impact on other OSD constituents. Therefore, a separate GM No 2 to 21.A.93(c) is available to explain the interaction between design changes and 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).

In assessing the interactions between the changes to the type design and to the OSD, the following can be taken into consideration (see Figure 1):

Figure 1



(a) Changes to the type certificate (TC) that only include a minor change to the type design ('stand-alone' type design changes) do not have an effect on the OSD. No dedicated assessment of the effects of the minor type design change on the OSD is needed in this case.

(b) TC changes that only include a major type design change do not need to be assessed for their effect on the OSD in case the experience of the applicant has demonstrated that similar changes do not have an effect on the OSD. Examples of major type design changes and their expected effect on OSD constituents are identified in Table 1 below.

Table 1: Examples of major type design changes and their expected impact on OSD constituents

Discipline	Example of major type design change	Expected impact on OSD constituent			
		FCD	SIMD	CCD	MCSD
Structure	(i) Changes such as a cargo door cut-out, fuselage plugs, change to dihedral, addition of floats.	No	No	No	tbd[1]
	(ii) Changes to material, processes or methods of manufacture, or to primary structural elements such as spars, frames and critical parts.	No	No	No	tbd
	(iii) Changes that adversely affect fatigue or damage tolerance or life limit characteristics.	No	No	No	tbd
	(iv) Changes that adversely affect aeroelastic characteristics.	No	No	No	tbd
	(v) Aircraft weight changes such as maximum zero fuel weight (MZFW) changes or reduction in maximum take-off weight (MTOW) for operational considerations.	No	No	No	No
Cabin safety	(i) Changes which introduce a new cabin layout of a sufficient extent to require a reassessment of the emergency evacuation capability, or which adversely affect other aspects of passenger or crew safety in aeroplanes with more than 19 passenger seats.	No	No	Yes, potential impact	No

[1] To be determined under rulemaking task RMT.0106 (21.039(e)).

Discipline	Example of major type design change	Expected impact on OSD constituent			
		FCD	SIMD	CCD	MCSD
	(ii) Changes which introduce new cabin layout of a sufficient extent to require a reassessment of the emergency evaluation capability, or which adversely affect other aspects of passenger or crew safety in aeroplanes with 19 or less passenger seats.	No	No	No (unless assessment identifies need for CCD	No
	(iii) Installation of observer seat.	No	No	Yes, potential impact	No
Flight	(i) Software changes that do not affect the pilot interface.	No	No	No	No
	(ii) Software changes that affect the pilot interface.	Yes, potential impact	No	No	No
Systems	(i) Updating the aircraft cockpit voice recorder (CVR) or flight data recorder (FDR) to meet a later standard.	No	No	No	No
Propellers	(i) Changes to: — diameter, — aerofoil, — planform, — material, and — blade retention system.	No	No	No	No
Engines	(i) Power limit change	No	No	No	No
Rotors and drive systems	[Reserved]				

Discipline	Example of major type design change	Expected impact on OSD constituent			
		FCD	SIMD	CCD	MCSD
Environment	(i) A change that introduces either an increase in the noise certification level(s) or a reduction in the noise certification level(s) for which the applicant wishes to take credit.	No	No	No	No
Power plant installation	(i) Modifications to the fuel system and tanks (number, size, or configuration)	No	No	No	tbd
Avionics	Comprehensive flight deck upgrade, such as conversion from entirely-federated, independent electromechanical flight instruments to highly-integrated and combined electronic display systems with extensive use of software and/or complex electronic hardware	Yes, potential impact	No	No	tbd

(c) Design changes to aircraft for which OSD is not required in accordance with Article 7(a)(2) of Regulation (EU) No 748/2012, as amended by Regulation (EU) No 69/2014, cannot trigger the need to establish OSD.

(d) The OSD constituents SIMD and MCSD were not required to be included in the 'catch-up' OSD in accordance with Article 7(a)(2) of Regulation (EU) No 748/2012, as amended by Regulation (EU) No 69/2014. No design change can trigger the need to add that constituent.

(e) When the design change makes an OSD constituent applicable (see GM No 1 to 21.A.15(d) Clarification of the term 'as applicable') where it was not applicable before, that OSD constituent should be added to the application for the approval of the change to the TC. In accordance with paragraph (e), this does not apply to the OSD constituents SIMD and MCSD.

10. A new GM No 2 to 21.A.93(c) is added as follows:

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

In general, it has to be assumed that changes to the type certificate (TC) that affect the type design can have an effect on the MMEL. Due to its alleviating nature, the MMEL is developed to improve aircraft use, thereby providing a more convenient and economical air transportation for the public. Therefore, not introducing an MMEL relief for new equipment, system or function has no effect on the safe operation. The introduction of an MMEL relief for new equipment can, therefore, be treated as a stand-alone MMEL change, separately from the design change, and can be processed at

a later date than the entry into service of the aircraft including the design change. Not modifying an MMEL item whose validity is altered by a type design modification may, however, have an effect on the safe operation. The applicant for a change to the TC that changes the type design should, therefore, identify if this change needs to be supplemented by a change to the MMEL. However, the update of an MMEL relief for an already addressed equipment, system or function can be treated at a later date than the entry into service of the aircraft including the design change, provided that the change to the MMEL is of an alleviating nature. When the change to the MMEL is not of an alleviating nature, it has to be made available according to 21.A.103(a)(4).

It may be assumed that a change to the type design requires a change to the MMEL if any of the following conditions are fulfilled:

(a) the change affects an existing MMEL item in a more restrictive manner: there is a change to equipment, system or function linked to an MMEL item, or a change to the operational limitations and procedures linked to an MMEL item;

(b) the change invalidates the assumptions used to justify an existing MMEL item, and requires a more restrictive MMEL item; and

(c) the change invalidates any dispatch conditions of the MMEL.

Examples of the above three conditions, where no change to the MMEL is required:

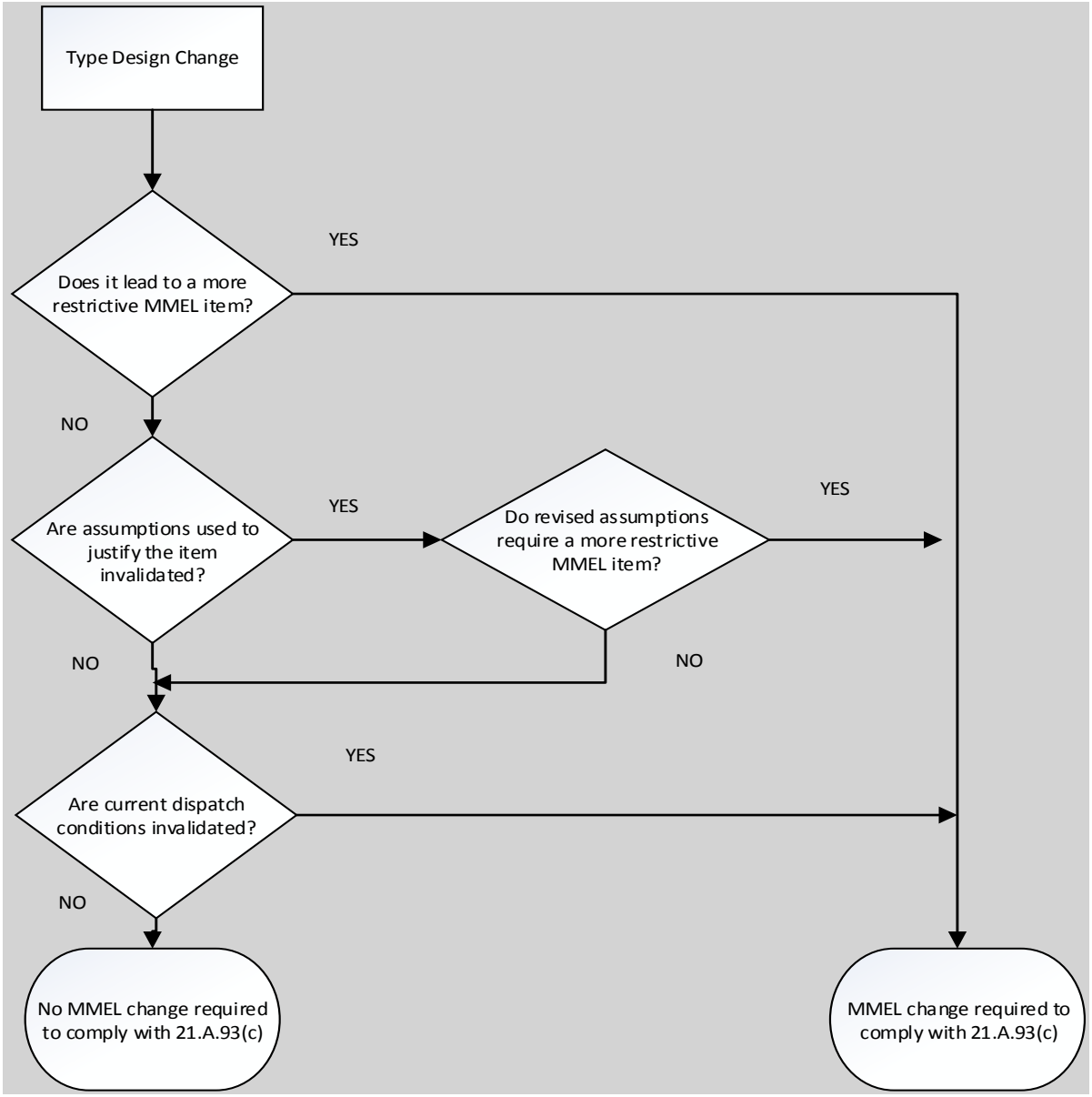
(a) introduction of new equipment, system or function in the type design;

(b) the change has no adverse impact on the qualitative and quantitative assessment used to justify an MMEL item; and

(c) the dispatch conditions do not need to be more restrictive if the current intent of (o) or (m) procedures (as referred in CS MMEL.125) is not impacted.

The following diagram summarises the interaction between type design changes and changes to MMEL (see Figure 1).

Figure 1



11. A new GM No 1 to 21.A.101(g) is added as follows:

GM No 1 to 21.A.101(g) Establishment of the operational suitability data (OSD) certification basis of changed type certificates (TCs)

This GM provides guidance on the application of 21.A.101(g) in order to determine the applicable OSD certification basis in accordance with 21.A.101(a), (b), (c), (d) and (f) for changes to the OSD of type-certified aircraft.

1. Minor changes

Minor changes to the OSD are automatically considered not significant under 21.A.101(b).

2. Major changes

a. If the design change that triggered the change to the OSD constituent is classified as non-significant, the change to the OSD constituent is also non-significant.

b. If the design change that triggered the change to the OSD constituent is classified as significant, the change to the OSD constituent should comply with the latest amendment of the applicable CS unless the exceptions of 21.A.101(b)(3) apply or unless the OSD change can be classified as minor as per 21.A.91. The guidance of GM 21.A.101 Chapter 3, Paragraph 10, regarding the exceptions 'impractical' and 'not contributing materially to the level of safety', can be applied by analogy and as far as it is applicable to OSD changes.

c. Stand-alone changes to an OSD constituent are considered to be non-significant.

d. When a new OSD constituent is added or required to be added, it should comply with the latest amendment of the applicable certification specification (CS).

e. In accordance with Article 7(a)(3) of Regulation (EU) No 748/2012, the Operational Evaluation Board (OEB) reports and master minimum equipment lists (MMELs), issued in accordance with the Joint Aviation Authorities (JAA) procedures or by the Agency before the entry into force of Regulation (EU) No 748/2012, are deemed to constitute the OSD approved in accordance with 21.A.21(e).

The original procedures, guidance material (GM), advisory circular joint (ACJ) and/or acceptable means of compliance (AMC), advisory material joint (AMJ) material, that were used to establish the original documents (JAA/Agency MMELs or OEB reports), are deemed to be the original certification basis for these documents.

g. 21.A.101(c) provides an exception from the requirements of 21.A.101(a) for a change to OSD of certain aircraft under a specified maximum weight. If an applicant applies for a change to OSD for an aircraft (other than rotorcraft) of 2 722 kg (6 000 lbs) or less maximum weight, or for a non-turbine-powered rotorcraft of 1 361 kg (3 000 lbs) or less maximum weight, the applicant can demonstrate that the changed OSD complies with the OSD certification basis incorporated by reference in the TC. The applicant can also elect to comply, or may be required to comply, with a later amendment. See also Chapter 4, Section 2 (GM No 1 to 21.A.101) for specific guidance on this requirement.

Note: Refer to GM No 1 to 21.A.15(d) for applicability of OSD to aircraft other-than-complex motor-powered aeroplanes.

12. A new GM No 1 to 21.A.103, 21.A.115 and 21.B.70 is added as follows:

GM No 1 to 21.A.103, 21.A.115 and 21.B.70 Approval of changes to type certificates (TCs)

The requirement for the Agency in 21.B.70 mainly addresses stand-alone changes to OSD. For such stand-alone changes, there is a separate classification process (see GM 21.A.91), and the way to administer the changes depends on the extent of the change, but normally, an update of the type certificate data sheet 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 different components of the TC. For example, a change to the cockpit design may trigger a change to the flight crew data (FCD), being part of OSD, and, therefore, included in the TC.

All interrelated changes should ultimately be approved together under a single approval. However, before issuing such a comprehensive approval, it is possible that different processes are used for the different parts of the change.

The complete change can be split up in a change to the type design and changes to the OSD constituents. Each part can be classified as a minor or major change separately (see GM 21.A.91).

— In case all parts of the change are classified as minor, the design organisation approval (DOA) holder can approve the whole change.

— In case one or more parts of the change is/are classified as major, while the associated part(s) of the change is/are classified as minor, the approved design organisation can propose to the Agency not to verify the classification and the part(s) of the change classified as minor in accordance with its privilege under 21.A.263(b)(2) or (3). The Agency should then accept the part(s) of the change classified as minor without further verification. Once it is satisfied that compliance has been demonstrated for the part(s) of the change classified as major, the Agency can then issue the complete change approval or supplemental type certificate (STC).

— In case all parts of the change are classified as major, the Agency will issue the approval for the whole change once it is satisfied that compliance has been demonstrated.

13. GM 21.A.112B is amended as follows:

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

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

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

Product	**Discipline**	**Kind of STC**	**Group**
All aircraft			
	OSD		
		Major stand-alone change to any OSD constituent	1
CS-23 (products where J DOA is required for TC)			

Product	Discipline	Kind of STC	Group
Notes : * STC which leads to reassess the loads on large parts of primary structure should be in group 1. * 2/1 means that an assessment of consequences in terms of handling qualities, performance or complexity of demonstration of compliance may lead to classification in group 1.			
	Aircraft		
		Conversion to tail wheel configuration	1
		Auxiliary fuel tank installations	2/1
		Glass fibre wing tips	2/1
		Fairings: nacelle, landing gear	2
		Gap seals: aileron, flap, empenage, doors	2
		Vortex generators	2/1
		Spoiler installation	1
		Increase in MTOW	1
	Structures		
		Stretcher installation	2
		Change to seating configuration	2
		Windshield replacement (heated, single piece, etc.)	2
		Light weight floor panels	2
		Ski installations	2/1
	Propulsion		
		Engine model change	1
		Fixed pitch propeller installation	2
		Constant speed propeller installation	2/1
		Installation of exhaust silencer	2
		Installation of Graphic engine monitor	2
		Installation of fuel flow meter	2
		Accessory replacement (alternator, magnetos, etc.)	2
		Inlet modifications: oil cooler; induction air	2
	Equipment		
		Avionics upgrades (EFIS, GPS, etc.)	2/1
		Engine instrument replacements	2

Product	Discipline	Kind of STC	Group
		Carburettor ice detection system	2
		Autopilot system installation	1
		Wing tip landing light; recognition lights	2
		WX radar installation	2
		Aeromedical system installations	2
		De- and anti-ice system installations	1
		Emergency power supply installations	2
CS-25			
	Cabin Safety		
Note : Basically all changes related to cabin configuration should be in Group 2.		Cabin layout (installation of seats (16G), galleys, single class or business / economy class, etc.)	2
		Floor path marking	2
		Crew rest compartment	1
		Change of cargo compartment classification (from class D to class C)	1
	Structure		
Note : STC which leads to reassess the loads on large parts of primary structure should be in Group 1.		Cargo door	1
		Change from Passenger to Freighter configuration	1
	Avionics		
Notes : For CS-25 products, the existence of ETSO is not taken into account for the classification ; Impact on aircraft performance, and influence of aircraft performance are criteria to assess the classification ; Subjective assessment of human factors is considered for determination of classification.		CVR	2
		VHF	2
		NAV (ADF, VOR, GPS, BRNAV)	2

Product	Discipline	Kind of STC	Group
		Autopilot, HUD, EFIS, FMS	1
		DFDR	2/1
		Meteo radar	2
		ILS Cat 3	1
		RVSM	1
		TCAS, EGPWS	1
		GPWS	2
	Powerplant		
		Auxiliary fuel tanks	1
		Thrust Reverser system	1
		Hushkit	1
		Fire detection	1
		Fuel gauging	1
		Change of Engine or Propeller	1
CS-27 or 29	**All disciplines**		
Note : 2/1 means that an assessment of consequences in terms of handling qualities and performance may lead to classification in Group 1.		Main rotor or tail rotor blades replacement	1
		Autopilot	1
		Engine type change	1
		GPS installation	2
		Jettisonable overhead raft installation	2
		Utility basket installation	2/1
		Nose or side mount camera installation	2/1
		Passenger access step installation	2/1
		Protection net & handle installation (parachuting)	2
		VIP cabin layout	2
		Navigation system installation	2
		Fuel boost pump automatic switch-on installation	2
		Decrease of maximum seating capacity	2

Product	Discipline	Kind of STC	Group
		Agricultural spray kit installation	2/1
		Long exhaust pipe installation	2
		Flotation gear installation	2/1
		Wipers installation	2
		Engine oil filter installation	2
		Skid gear covering installation	2/1
		Gutter installation (top pilot door)	2
		Cable cutter installation	2
		Auxiliary fuel tank fixed parts installation	2
		Cabin doors windows replacement	2
		Radio-altimeter aural warning installation	2
		Stand-by horizon autonomous power supply	2
		Fire attack system	2/1
		Hoisting system installation	2/1
		External loads hook installation	2
		Emergency flotation gear installation	2/1
		Heating/demisting (P2 supply)	2

14. AMC No 1 to 21.A.263(c)(1) is amended as follows:

AMC No 1 to 21.A.263(c)(1) Procedure for the classification of changes to type ~~design~~ certificate (TC) and repairs as minor ~~and~~ or major

1. INTENT

This ~~acceptable means of compliance~~ ~~(~~AMC~~)~~ provides the means to develop a procedure for the classification of changes to a ~~type design~~ TC and repairs.

Each DOA applicant ~~must~~ should develop its own internal classification procedure following this AMC~~,~~ in order to obtain the associated privilege under 21.A.263(c)(1) ~~privilege~~.

2. PROCEDURE FOR THE CLASSIFICATION OF CHANGES TO A TYPE ~~DESIGN~~ CERTIFICATE AND REPAIRS

2.1 Content

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

- the identification of changes to a type ~~design~~ certificate or repairs,
- classification,
- justification of the classification,
- authorised signatories, and

- supervision of changes to a type ~~design~~ certificate or repairs initiated by sub-contractors.

For changes to a type ~~design~~ certificate, the criteria used for the classification ~~must~~ should be in compliance with 21.A.91 and GM 21.A.91.

For repairs, the criteria used for the classification ~~must~~ should be in compliance with 21.A.435 and GM 21.A.435.

2.2 Identification of changes to a type ~~design~~ certificate or repairs

The procedure ~~must~~ should indicate how the following are identified:

- major changes to a type ~~design~~ certificate or major repairs;
- those minor changes to a type ~~design~~ certificate or minor repairs where additional work is necessary to demonstrate compliance with the CS and environmental protection requirements; and
- other minor changes to a type ~~design~~ certificate or minor repairs requiring no further demonstration of compliance.

2.3 Classification

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

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

2.4 Justification of the classification

All decisions of classification of changes to a type ~~design~~ certificate or repairs as 'major' or 'minor' ~~must~~ should be recorded and, for those which are not straightforward, also documented. These records ~~must~~ should be easily accessible to the Agency for sample check.

2.5 Authorised signatories

All classifications of changes to a type ~~design~~ certificate or repairs ~~must~~ should be accepted by an appropriate authorised signatory.

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

For those changes or repairs that are handled by sub-contractors, as described under paragraph 2.6, it ~~must~~ should be described how the DOA holder manages its classification responsibility.

2.6 Supervision of changes to a type ~~design~~ certificate or repairs initiated by sub-contractors

The procedure ~~must~~ should indicate, directly or by cross-reference to written procedures, how changes to a type ~~design~~ certificate or repairs may be initiated and classified by sub-contractors and are controlled and supervised by the DOA holder.

15. AMC No 2 to 21.A.263(c)(1) is amended as follows:

AMC No 2 to 21.A.263(c)(1) Privileges –— Organisations designing minor changes to a type ~~design~~ certificate (CT) or minor repairs to products: classification procedure

1. Content

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

- configuration control rules, especially the identification of changes to a type ~~design~~ certificate or repairs;
- classification~~,~~ in compliance with 21.A.91 and GM 21.A.91 for changes and GM 21.A.435 for repairs;
- justification of the classification;
- authorised signatories.

2. Identification of changes to a type ~~design~~ certificate or repairs

The procedure ~~must~~ should indicate how the following minor changes to a type ~~design~~ certificate or minor repairs are identified:

- those minor design changes to a type ~~design~~ certificate or minor repairs where additional substantiation data is necessary to demonstrate compliance with the CS or environmental protection requirements;
- other minor design changes to a type ~~design~~ certificate or minor repairs requiring no further demonstration of compliance.

3. Classification

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

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

For repair, see also GM 21.A.435.

4. Justification of the classification

All decisions o~~f~~n classification of changes to a type ~~design~~ certificate or repairs as 'minor'~~:~~ ~~must~~ should be recorded and, for those which are not straightforward, also documented. These records ~~must~~ should be easily accessible to the Agency for sample check.

It may be in the format of meeting notes or register.

5. Authorised signatories

All classifications of changes to a type ~~design~~ certificate or repairs ~~must~~ should be accepted by an appropriate authorised signatory.

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

16. AMC No 1 to 21.A.263(c)(2) is amended as follows:

AMC No 1 to 21.A.263(c)(2) Procedure for the approval of minor changes to a type ~~design~~ certificate (CT) or minor repairs

1. INTENT

This ~~acceptable means of compliance (~~AMC~~)~~ provides the means to develop a procedure for the approval of minor changes to a type ~~design~~ certificate or minor repairs.

Each DOA applicant ~~must~~ should develop its own internal procedures following this AMC~~,~~ in order to obtain the associated privilege under 21.A.263(c)(2).

2. PROCEDURE FOR THE APPROVAL OF MINOR CHANGES TO A TYPE ~~DESIGN~~ CERTIFICATE OR MINOR REPAIRS

2.1 Content

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

- compliance documentation;
- approval under the DOA privilege;
- authorised signatories;
- supervision of minor changes to a type ~~design~~ certificate or minor repairs handled by sub-contractors.

2.2 Compliance documentation

For those minor changes to a type ~~design~~ certificate or minor repairs where additional work to demonstrate compliance with the applicable CS and environmental protection requirements is necessary, compliance documentation ~~must~~ should be established and independently checked as required by 21.A.239(b).

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

2.3 Approval under the DOA privilege

2.3.1 For those minor changes to a type ~~design~~ certificate or minor repairs where additional work to demonstrate compliance with the applicable CS and environmental protection requirements is necessary, the procedure ~~must~~ should define a document to formalise the approval under the DOA privilege.

This document ~~must~~ should include at least:

- identification and brief description of the change or repair and reasons for change or repair;
- applicable CS or environmental protection requirements and methods of compliance;
- reference to the compliance documents;
- effects, if any, on limitations and on the approved documentation;
- evidence of the independent checking function of the demonstration of compliance;
- evidence of the approval under the privilege of 21.A.263(c)(2) by an authorised signatory;

- date of the approval.

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

2.3.2 For the other minor changes to a type ~~design~~ certificate or minor repairs, the procedure ~~must~~ should define a means to identify the change or repair and reasons for the change or repair, and to formalise its approval by the appropriate engineering authority under an authorised signatory. This function may be delegated by the Office of Airworthiness but ~~must~~ should be controlled by the Office of Airworthiness~~,~~ either directly or through appropriate procedures of the DOA holder's design assurance system.

2.4 Authorised signatories

The persons authorised to sign for the approval under the privilege of 21.A.263(c)(2) ~~must~~ should be identified (name, signature and scope of authority) in appropriate documents that may~~be~~ be linked to the handbook.

2.5 Supervision of minor changes to a type ~~design~~ certificate or minor repairs handled by sub-contractors

For the minor changes to a type ~~design~~ certificate or minor repairs described in 2.3.2, that are handled by sub-contractors, the procedure ~~must~~ should indicate, directly or by cross-reference to written procedures, how these minor changes to a type ~~design~~ certificate or minor repairs are approved at ~~the~~ sub-contractor level and the arrangements made for supervision by the DOA holder.

17. AMC No 2 to 21.A.263(c)(2) is amended as follows:

AMC No 2 to 21.A.263(c)(2) Privileges -— Organisations designing minor changes to a type ~~design~~ certificate (TC) or minor repairs to products: procedure for the approval of minor changes to a ~~type design~~ TC or minor repairs

1. Content

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

— compliance documentation;

— approval under the DOA privilege;

— authorised signatories.

2. Compliance documentation

For those minor changes to a type ~~design~~ certificate or minor repairs where additional work to demonstrate compliance with the applicable CS and environmental protection requirements is necessary, compliance documentation ~~must~~ should be established and independently checked as required by 21.A.239(b).

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

3. Approval under the DOA privilege

3.1. For those minor changes to a type ~~design~~ certificate or minor repairs where additional work to demonstrate compliance with the applicable CS or environmental protection requirements is necessary, the procedure ~~must~~ should define a document to formalise the approval under the DOA privilege.

This document ~~must~~ should include at least:

1. identification and brief description of the change or the repair and reason for change or repair;
2. applicable CS or environmental protection requirements and methods of compliance;
3. reference to the compliance documents;
4. effects, if any, on limitations and on the approved documentation;
5. evidence of the independent checking function of the demonstration of compliance;
6. evidence of the approval under the privilege of 21.A.263(c)(2) by an authorised signatory;
7. date of the approval.

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

3.2. For the other minor changes to a type ~~design~~ certificate or minor repairs, the procedure ~~must~~ should define a means to identify the change or repair and reasons for the change or repair, and to formalise its approval by the appropriate engineering authority under an authorised signatory. This function ~~must~~ should be controlled through appropriate procedures of the DOA holder~~'~~'s design assurance system.

4. Authorised signatories

The persons authorised to sign for the approval under the privilege of 21.A.263(c)(2) ~~must~~ should be identified (name, signature and scope of authority) in appropriate documents that may be linked to the handbook.