

Certification Memorandum

Interpretation to 21.A.3B(c)(1) and 21.A.103(a)(2)(i)

EASA CM No.: CM-21.A-D-001 Issue 01 issued 20.08.2018
Regulatory requirement(s): 21.A.3B(c)(1), 21.A.103(a)(2)(i)

In accordance with the EASA Certification Memorandum procedural guideline, the European Aviation Safety Agency proposes to issue an EASA Certification Memorandum (CM) on the subject identified above. All interested persons may send their comments, referencing the EASA Proposed CM Number above, to the e-mail address specified in the “Remarks” section, prior to the indicated closing date for consultation.

EASA Certification Memoranda are intended to provide guidance on a particular subject and, as non-binding material, may provide interpretative material. Certification Memoranda are provided for information purposes only and must not be misconstrued as formally adopted Acceptable Means of Compliance (AMC) or as Guidance Material (GM). Certification Memoranda are not intended to introduce new certification requirements or to modify existing certification requirements and do not constitute any legal obligation.

Log of issues

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1. Purpose and scope

The purpose of this Certification Memorandum is to provide interpretative material to point 21.A.3B(c)(1) and point 21.A.103(a)(2)(i) for an approval of a change to the type certificate with a non-compliance condition as described in chapter 3.1 of this certification memorandum and which is to be mandated by EASA through an airworthiness directive as a corrective action to an unsafe condition.

2. Background

According to Point 21.A.3B(c)(1)

(c) When an airworthiness directive has to be issued by the agency to correct the unsafe condition referred to in point (b), or to require the performance of an inspection, the holder of the type-certificate, restricted type-certificate, supplemental type-certificate, major repair design approval, ETSO authorisation or any other relevant approval deemed to have been issued under this Regulation, shall:

1. propose the appropriate corrective action or required inspections, or both, and submit details of these proposals to the Agency for approval;

the aforementioned “appropriate corrective action” might be the embodiment of a change to the type certificate; as such, it needs to be approved by the Agency in accordance with Point 21.A.103.

Point 21.A.103 (a)(2)(i) requires applicants for changes to type certificate to demonstrate that the changed product meets the applicable certification specifications and environmental protection requirements:

21.A.103 Issue of approval

(a) The applicant shall be entitled to have a major change to a type-certificate approved by the Agency after:

1. ...

2. it is demonstrated that:

(i) the changed product meets the applicable certification specifications and environmental protection requirements, as specified in point 21.A.101;

...

Part-21 subpart D “CHANGES TO TYPE-CERTIFICATES AND RESTRICTED TYPE-CERTIFICATES” is written under the assumption that the product, on which a change is applied to be installed, is fully compliant with the applicable certification basis.

Experience has shown that there are continued airworthiness issues where the initial design is affected by a non-compliance and compliance is proposed to be re-established by more than one change in a sequential manner for necessary practical reasons.

In such cases, compliance to point 21.A.103(a)(2)(i) cannot be demonstrated until the last of the correcting changes to type-certificate is implemented.

However, each of these sequential changes to type certificate that provide an “alleviating action” (as used in GM 21.A.3B(d)(4) 4.1(i) and 4.2(ii)) should be permitted to be approved, to mitigate a potential unsafe condition and to maintain an adequate level of airworthiness (according to GM 21.A.3B(d)(4) 2.5(a)).

Similarly, GM 21.A.3B(d)(4) is written under the assumption that restoring an adequate level of airworthiness risk after the discovery of an unsafe condition is necessarily performed in two steps: first by immediate alleviating actions such as an inspection or limitation (or a change), and then the final fix (which can be one or more major changes to the type certificate).



3. EASA Certification Guidance

3.1. Applicability

This Certification Memorandum is applicable for the approval of changes to TC, which are required because:

- In-service experience reveals a non-compliance with a product's certification basis leading to an unsafe condition, AND
- The corrective actions consist of more than one change to type-certificate, which will be implemented in line with GM 21.A.3B(d)(4) but in a sequential manner, to restore an acceptable level of safety as early as possible. AND
- Each of the correcting changes to type certificate contributes to the restoration of compliance to the same parts of the certification basis but each change in its own does not provide full compliance at product level.

3.2. Interpretative Material to 21.A.3B(c)(1) and 21.A.103(a)(2)(i)

Part-21 contains a lacuna, where changes to type-certificate can contribute to the alleviation of a potential unsafe condition, but where the individual change as such cannot restore full compliance to the applicable certification basis of the change.

The applicable certification basis of a change is including all parts of the certification basis that are affected by the change on product level.

Under the condition of 21.A.3B(c)(1) and as described in paragraph 3.1, point 21.A.103(a)(2)(i) is interpreted as fulfilled if the following conditions are met:

1. The change to type certificate is demonstrated to increase the level of safety in the affected area of change, and
2. The additional (complementing) corrective actions necessary to restore full compliance with the applicable certification basis at product level are identified and planned by the TC, RTC or STC holder by identification of the affected certification basis and reference of the complementing corrective changes. These complementing corrective changes are to be accepted by EASA.
The complementing corrective changes will be approved at a later stage, according to a timescale that are to be accepted by the Agency (see GM 21.A.3B(d)(4) Defect correction – Sufficiency of proposed corrective action), and
3. The residual non-compliance at aircraft level shall be covered by additional mitigating means as described per GM 21.A.3B(d)(4)(4.1)(i) and GM 21.A.3B(d)(4)(4.2)(i).

4. Remarks

1. Suggestions for amendment(s) to this EASA Certification Memorandum should be referred to the Certification Policy and Safety Information Department, Certification Directorate, EASA. E-mail CM@easa.europa.eu.
2. For any question concerning the technical content of this EASA Proposed Certification Memorandum, please contact:

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