DOARI 2018-01 Consultation Paper + Final Disposition after consultation process

1 Introductory Note

The hereby presented deviation requests shall be subject to public consultation, in accordance with EASA Management Board Decision No 7-2004 as amended by EASA Management Board Decision No 12-2007 products certification procedure dated 11th September 2007, Article 3 (2.) of which states:

"2. *Deviations from the applicable airworthiness codes, environmental protection, certification specifications and/or acceptable means of compliance with Part 21, as well as important special conditions and equivalent safety findings, shall be submitted to the panel of experts and be subject to a public consultation of at least 3 weeks, except if they have been previously agreed and published in the Official Publication of the Agency. The final decision shall be published in the Official Publication of the Agency."*

2 Original PART 21 requirement and/or AMC

21.A.91 Classification of changes to a type-certificate
GM 21.A.91

3 Problem Description

It is acknowledged that Airworthiness Limitation Section (ALS) of the Instructions for Continued Airworthiness is an approved document, part of the Type Design, which is itself part of and approved through the Type Certificate.

Being part of the Type Certificate, any change to the ALS shall be handled according to the Part 21 Subpart D "Changes to Type-Certificates and Restricted Type-Certificates" requirements.

EASA interpretation of Part 21.A.91 requirement and associated Guidance Material has, up to now, always been to consider any change to the Type Certificate which alters the ALS, as major.

This interpretation might be seen as too restrictive and the industry has collected and it is ready to propose cases of ALS changes which can be classified as minor and approved using DOA privileges.

4 Industry Position

For the purpose of the proposal below, the content of the ALS might be differentiated as follows:

- ALS Part 1 Safe Life Airworthiness Limitations Items;
- ALS Part 2 Damage Tolerant Airworthiness Limitations Items;
- ALS Part 3 Certification Maintenance Requirements (CMR);

- ALS Part 4 Ageing Systems Maintenance (including System Equipment Maintenance Requirements - SEMR).

Considering the above ALS content, the industry is proposing the following examples of ALS minor changes:

Item No.	Examples of minor changes to ALS
1	Addition of a new Weight Variant that does not require additional compliance data (relative to previously approved data) to meet the applicable fatigue and damage tolerance requirements, including Part 26. This means that the new Weight Variant is fully covered by the data contained in the existing (approved) ALS Part 1 and 2.
2	Introduction of a minor design change on a life limited item that does not alter the previously established life limits but requires a new Part Number (P/N) to be introduced in the ALS Part 1.
3	Introduction of a minor design change on a life limited item that does not alter the life limit characteristics but requiring a new P/N to be introduced in the ALS Part 4
4	Relaxation of a life limit in ALS Part 1, resulting from and substantiated by Type Certification full scale fatigue test results (e.g. LG fatigue test). Ensuring that the method used for establishing the life limit based on full scale fatigue test is agreed by EASA and the part/structure has been inspected in accordance with the test plan and there are no findings.
5	Temporary limitation relaxation in ALS Part 3 / 4 substantiated by fatigue tests results (e.g. LG actuator fatigue test) Ensuring that the method used for establishing the life limit based on full scale fatigue test is agreed by EASA and the part/structure has been inspected in accordance with the test plan and there are no findings.
6	Increase of maintenance threshold in ALS Part 2, resulting from and substantiated by Type Certification full scale fatigue and damage tolerance test results. Ensuring that the method used for establishing the threshold based on full scale fatigue test is agreed by EASA and the part/structure has been inspected in accordance with the test plan and there are no findings.
7	Removal of an existing CMR / SEMR as a result of an anti-MOD that brings the configuration back in an already certified state, provided the CMR/SEMR has not been introduced as a terminating action of an AD or as an action raised by the MRBR (ALS Part 3 / ALS Part 4).
8	Increase of maintenance threshold and/or interval resulting from a minor design change (ALS Part 2). Provided that the inspection is not required for any other purposes than those which the minor change is directly addressing and that all other potentially affected structure has been assessed.
9	Increase of interval resulting from change in safety analysis assumptions triggered by refined reliability data or improved failure rates which are demonstrated by tests or in-service experience and that are statistically relevant (ALS Part 3 / ALS Part 4).
10	Introduction of an alternate Part Number (P/N) that doesn't impact: • the system previous architecture, • the failure effect classification, • and the intent of the Candidate Maintenance Requirement (Candidate CMR or Candidate SEMR), but requires a modification of the CMR / SEMR to adapt to the alternate P/N (ALS Part 3 / ALS Part 4).
11	Administrative changes such as editorial revisions or corrections (ALS Part 1 / Part 2 / Part 3 / ALS Part 4).

5 EASA position

The above list of minor change examples may be considered as being compliant with the change classification criteria in 21.A.91. Nevertheless, the definition and use of such examples and the actual approval process for minor ALS changes shall be subject of procedures acceptable to the Agency. As a consequence, any DOA intending to introduce such classification and approval process has to apply to the Agency for a Significant Change to their Design Assurance System.

6 Final disposition after consultation process

Following the public consultation, the retained list of examples of minor ALS changes is the following (changes highlighted in yellow):

Item No.	Examples of minor changes to ALS
1	Addition of a new Weight Variant that does not require additional compliance data (relative to previously approved data) to meet the applicable fatigue and damage tolerance requirements, including Part 26. This means that the new Weight Variant is fully covered by the data contained in the existing (approved) ALS Part 1 and 2.
2	Introduction of a minor design change on a life limited item that does not alter the previously established life limits but requires a new Part Number (P/N) to be introduced in the ALS Part 1.
3	Introduction of a minor design change on a life limited item that does not alter the life limit characteristics but requiring a new P/N to be introduced in the ALS Part 4
4	Relaxation of a life limit in ALS Part 1, resulting from and substantiated by Type Certification full scale fatigue test results (e.g. LG fatigue test). Ensuring that the method used for establishing the life limit based on full scale fatigue test is agreed by EASA and the part/structure has been inspected in accordance with the test plan and there are no findings.
5	Temporary limitation relaxation in ALS Part 3 / 4 substantiated by fatigue tests results (e.g. LG actuator fatigue test) Ensuring that the method used for establishing the life limit based on full scale fatigue test is agreed by EASA and the part/structure has been inspected in accordance with the test plan and there are no findings.
6	Increase of maintenance threshold in ALS Part 2, resulting from and substantiated by Type Certification full scale fatigue and damage tolerance test results. Ensuring that the method used for establishing the threshold based on full scale fatigue test is agreed by EASA and the part/structure has been inspected in accordance with the test plan and there are no findings.
7	Removal of an existing CMR / SEMR as a result of an anti-MOD* that brings the configuration back in an already certified state, provided the CMR/SEMR has not been introduced as a terminating action of an AD or as an action raised by the MRBR (ALS Part 3 / ALS Part 4).
8	Increase of maintenance threshold and/or interval resulting from a minor design change (ALS Part 2). Provided that the inspection is not required for any other purposes than those which the minor change is directly addressing and that all other potentially affected structure has been assessed.
9	Increase of interval resulting from change in safety analysis assumptions triggered by ~~refined~~ in-service reliability data ~~or~~/ improved failure rates ~~which are demonstrated by tests or in-service experience and that are statistically relevant (ALS Part 3 / ALS Part 4)~~. The method for evaluating the in-service experience should be agreed by EASA.
10	Introduction of an alternate Part Number (P/N) that doesn't impact: • the system previous architecture,

	• the failure effect classification, • and the intent of the Candidate Maintenance Requirement (Candidate CMR or Candidate SEMR), but requires a modification of the CMR / SEMR to adapt to the alternate P/N (ALS Part 3 / ALS Part 4).
11	Administrative changes such as editorial revisions or corrections (ALS Part 1 / Part 2 / Part 3 / ALS Part 4).

*An “anti-mod” is a design change which defines a mean of removing a previously installed design change