



European Aviation Safety Agency – Rulemaking Directorate
Notice of Proposed Amendment 2014-06

Regular update of CS-25

RMT.0606 – 27.03.2014

EXECUTIVE SUMMARY

This Notice of Proposed Amendment (NPA) makes use of the 'systematic tasks' concept introduced in the revised EASA Management Board Decision amending and replacing the 'Rulemaking Procedure' (EASA MB Decision No 01/2012 of 13 March 2012). This provision aims at improving the efficiency of the EASA rulemaking process.

The specific objective of this NPA is to propose an amendment to CS-25 based on the selection of non-complex, non-controversial, and mature subjects. The ultimate goal is to increase safety.

This NPA proposes to upgrade the AMC material for 'Powerplant – Cooling tests' (CS 25.1043) in order to better reflect testing practice and provide clearer guidance in harmonisation with the FAA advisory material, as well as to make corrections and provide clarifications in Cabin Safety-related certification specifications and AMC.

The proposed changes are expected to contribute to an updated CS-25 reflecting available state of the art and acceptable means of compliance (complying with the objective of Article 19 of Regulation (EC) No 216/2008), facilitate the certification process, and improve harmonisation with the FAA. Overall, this would bring a moderate safety benefit, it would create no social or environmental impacts, and may provide a slight economic benefit by streamlining the certification process.

Applicability		Process map	
Affected regulations and decisions:	ED Decision 2003/02/RM, as last amended by ED Decision 2013/033/R 'Certification specifications and acceptable means of compliance for large aeroplanes (CS-25)'	Concept Paper:	No
Affected stakeholders:	Large aeroplane manufacturers	Terms of Reference:	27.1.2014
Driver/origin:	Safety; EASA Rulemaking Procedure (EASA MB Decision No 01/2012), Article 3.5 on 'systematic tasks'	Rulemaking group:	No
Reference:	N/A	RIA type:	None
		Technical consultation during NPA drafting:	No
		Duration of NPA consultation:	2 months
		Review group:	No
		Focussed consultation:	No
		Publication date of the Opinion:	N/A
		Publication date of the Decision:	Q1/2015

Table of contents

1. Procedural information	3
1.1. The rule development procedure	3
1.2. The structure of this NPA and related documents	3
1.3. How to comment on this NPA.....	3
1.4. The next steps in the procedure	3
2. Explanatory Note	4
2.1. Overview of the issues to be addressed.....	4
2.2. Objectives	4
2.3. Summary of the Regulatory Impact Assessment (RIA)	5
2.4. Overview of the proposed amendments	5
3. Proposed amendments	6
3.1. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision)	6
4. Regulatory Impact Assessment (RIA)	8
5. References	9
5.1. Affected regulations.....	9
5.2. Affected CS, AMC and GM.....	9
5.3. Reference documents	9

1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Notice of Proposed Amendment (NPA) in line with Regulation (EC) No 216/2008¹ (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure².

This rulemaking activity is included in the Agency's [4-year Rulemaking Programme](#) under RMT.0606.

The text of this NPA has been developed by the Agency. It is hereby submitted for consultation of all interested parties³.

The process map on the title page contains the major milestones of this rulemaking activity to date and provides an outlook of the timescale of the next steps.

1.2. The structure of this NPA and related documents

Chapter 1 of this NPA contains the procedural information related to this task. Chapter 2 (Explanatory Note) explains the core technical content. Chapter 3 consists of the proposed text for the new requirements. Chapter 4 contains the Regulatory Impact Assessment (RIA) showing which options were considered and what impacts were identified, thereby providing the detailed justification for this NPA.

1.3. 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/>⁴.

The deadline for submission of comments is **27 May 2014**.

1.4. The next steps in the procedure

Following the closing of the NPA public consultation period, the Agency will review all comments.

The outcome of the NPA public consultation will be reflected in the respective Comment-Response Document (CRD).

The Agency will publish the CRD with the Decision containing Certification Specification (CS), Acceptable Means of Compliance (AMC) and Guidance Material (GM).

¹ Regulation (EC) No 216/2008 of the European Parliament and the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34).

² The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of Opinions, Certification Specifications and Guidance Material (Rulemaking Procedure), EASA MB Decision No 01-2012 of 13 March 2012.

³ In accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.

⁴ In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

2. Explanatory Note

In order to increase the efficiency of the rulemaking process, it has been decided to group together some subjects that are considered as non-complex, non-controversial, and mature. This concept was introduced in the revised EASA Management Board Decision amending and replacing the 'Rulemaking Procedure' (EASA MB Decision No 01-2012 of 13 March 2012), see Article 3.5 on 'systematic tasks'.

Every year the Agency will make a review of potential applicable subjects, and, if enough substance is available, an NPA will be published.

The present NPA has been prepared for this purpose.

2.1. Overview of the issues to be addressed

This NPA proposes to amend CS-25 in order to deal with the following items:

— **Powerplant – Cooling tests**

CS 25.1041 requires applicants to show that cooling provisions can maintain the temperatures of powerplant components and engine fluids within the temperature limits for which they have been certificated, under ground and flight operating conditions, and after normal engine shutdown.

The current AMC 25.1041 deals with tests in hot climatic conditions and does not really reflect the content of CS 25.1041. Tests aspects are provided in CS 25.1043.

There is currently no AMC material supporting CS 25.1043 on cooling tests.

It is therefore proposed to delete the current AMC 25.1041 and create a new AMC 25.1043. Furthermore, the content of the existing AMC 25.1041 needs to be upgraded to reflect testing practices and to provide clearer guidance, in harmonisation with FAA relevant advisory material (i.e. AC 25-7C (Flight Test Guide For Certification Of Transport Category Airplanes), section 5, paragraph 130.b(8)).

The proposed new AMC 25.1043 provides more guidance pertinent to CS 25.1043, and it also maintains the maximum temperature deviation value provided in the current AMC 25.1041.

— **Cabin Safety**

- a) CS 25.801 (Ditching): CS 25.801(a) should reference CS 25.807(i) instead of CS 25.807(e). The paragraph numbering inside CS 25.807 was changed at Amendment 12 but was not reflected in CS 25.801.
- b) AMC 25.1447(c)(3) (Equipment Standards for Oxygen Dispensing Units): It is proposed to replace 'five feet/five seconds' by 'five feet or five seconds' in order to clarify that the '/' should be read as 'or'.
- c) In CS 25.562(b) (Emergency landing dynamic conditions): Typo correction (missing closing bracket).

2.2. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2 of this NPA.

The specific objective is to propose an amendment of CS-25 based on the selection of non-complex, non-controversial, and mature subjects. The ultimate goal is to increase safety.

2.3. Summary of the Regulatory Impact Assessment (RIA)

N/A

2.4. Overview of the proposed amendments

Please refer to paragraph 2.1 above.

3. Proposed amendments

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.

3.1. Draft Certification Specifications and Acceptable Means of Compliance (Draft EASA Decision)

- Amend CS 25.562(b) as follows:

CS 25.562 Emergency landing dynamic conditions

...

(b) With the exception of flight deck crew seats, each seat type design approved for occupancy must successfully complete dynamic tests or be demonstrated by rational analysis based on dynamic tests of a similar type seat, in accordance with each of the following emergency landing conditions. The tests must be conducted with an occupant simulated by a 77 kg (170 lb) anthropomorphic, test dummy sitting in the normal upright position:

...

- Amend CS 25.801 as follows:

CS 25.801 Ditching

(a) If certification with ditching provisions is requested, the aeroplane must meet the requirements of this paragraph and CS 25.807(e)(i), 25.1411 and 25.1415(a).

- Delete AMC 25.1041 as follows:

~~AMC 25.1041~~

~~Tests in hot climatic conditions~~

~~The need for additional tests, if any, in hot climatic conditions should take account of any tests made by the engine constructor to establish engine performance and functioning characteristics and of satisfactory operating experience of similar power units installed in other types of aeroplane.~~

~~The maximum climatic conditions for which compliance will be established should be declared and this should not be less severe than the ICAO Intercontinental Maximum Standard Climate (37°C (100°F) at sea level). If the tests are conducted under conditions which deviate from the maximum declared ambient temperature, the maximum temperature deviation should not normally exceed 13.9°C (25°F).~~

Create a new AMC 25.1043 as follows:

AMC 25.1043**Cooling tests**

In accordance with CS 25.1041, applicants must show that cooling provisions can maintain the temperatures of powerplant components and engine fluids within the temperature limits for which they have been certificated, under ground and flight operating conditions, and after normal engine shutdown.

CS 25.1043(b) establishes 37.8 °C (100 °F) at sea level as the lowest maximum ambient temperature for cooling tests, except for winterisation installations. Applicants may establish a higher temperature limit if desired.

The assumed temperature lapse rate is 6.6 °C per thousand meter (3.6 °F per thousand feet) of altitude above sea level until a temperature of -56.5 °C (-69.7 °F) is reached, above which altitude the temperature is considered at -56.5 °C (-69.7 °F). The compliance demonstration flight test should be conducted with an ambient temperature as close to the desired maximum ambient atmospheric temperature as practical; the maximum temperature deviation should not normally exceed 13.9 °C (25 °F). If testing is accomplished at lower ambient temperatures, then the test data must be corrected to that which would have resulted from testing on a day with the maximum ambient atmospheric temperature.

The maximum ambient temperature selected and demonstrated satisfactorily, taking account of correction factors, shall not be less than the minimum hot day conditions prescribed by CS 25.1043(b) and shall be an aeroplane operating limitation per the requirements of CS 25.1521(d). The applicant should correct the engine temperatures to as high a value as possible in order to minimise the impact of this limitation.

Amend AMC 25.1447(c)(3) as follows:

AMC 25.1447(c)(3)**Equipment Standards for Oxygen Dispensing Units**

If oxygen outlets are not provided in a dedicated area, called here 'remote area', the applicant should demonstrate that oxygen dispensing outlets are within ~~'five feet/five seconds'~~ five feet or five seconds reach of the remote area(s) and should show that no visual obstruction exists between the potential oxygen users and the outlets, such as curtains or partitions, unless another method of indication (e.g. a light) is provided in the remote area.

4. Regulatory Impact Assessment (RIA)

This NPA does not create new requirements for applicants, but only proposes to add AMC material based on common certification practices agreed with applicants. There are no impacts and therefore no RIA needs to be developed.

5. References

5.1. Affected regulations

N/A

5.2. Affected CS, AMC and GM

CS-25 (ED Decision 2003/02/RM, as last amended by ED Decision 2013/033/R on certification specifications and acceptable means of compliance for large aeroplanes)

5.3. Reference documents

N/A