

European Aviation Safety Agency

DECISION N° 2009/011/R OF THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY

OF 24 AUGUST 2009

amending the Annex to Decision No. 2003/01/RM of the Executive Director of the Agency of 17 October 2003 on acceptable means of compliance and guidance material for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations ("AMC and GM to Part 21")

"Fuel tank flammability reduction"

and

"Repair and design changes to European Technical Standard Order (ETSO)"

THE EXECUTIVE DIRECTOR OF THE EUROPEAN AVIATION SAFETY AGENCY,

Having regard to the Regulation (EC) No 216/2008 of the European Parliament and of 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/EC¹(hereinafter "The Basic Regulation"), and in particular Articles 18(c), 38(3)(a) and (e) thereof,

Having regard to the Commission Regulation (EC) No 1702/2003 of 24 September 2003 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations²,

Whereas:

- (1) The Agency shall, pursuant to Article 18 of the Basic Regulation, issue certification specifications, including airworthiness codes and acceptable means of compliance, as well as guidance material for the application of the Basic Regulation and its implementing rules.

¹ OJ L 79, 19.03.2008, p. 1.

² OJ L 243, 27.9.2003, p. 6. Regulation as last amended by Regulation (EC) No 287/2008 of 28 March 2008 (OJ L 87, 29.3.2008, p. 3).

- (2) The Agency, further to the fuel tank explosion accidents which occurred in the recent years, has amended Certification Specifications for Large Aeroplanes (« CS-25 »³) in order to mitigate the risk of fuel tank explosion. To complement the existing CS-25 specifications on fuel tank ignition prevention, some requirements have been introduced to address fuel tank flammability exposure. In order to meet the newly introduced average flammability exposure requirement (refer to CS-25 chapter 25.981(b)(2) and Appendix M), applicants may have to include active Flammability Reduction Means (FRM) systems in their design.
- (3) In the absence of in service experience from FRM systems, it is necessary to ensure that holders of a type certificate, restricted type certificate, supplemental type certificate and of any other relevant approval deemed to have been issued under Part 21 (Annex to Commission Regulation (EC) 1702/2003) which have included a FRM in their design will monitor the reliability of their FRM system to ensure it actually meets the average flammability exposure required by the amended CS-25. This means that an adequate reliability data collection system must be demonstrated, and a regular reporting to the Agency shall be done during the first service years.
- (4) Part 21 chapter 21A.3(a) already requires certificate and approval holders to have a "System for Collection, Investigation and Analysis of Data". However, there is no associated existing acceptable means of compliance (AMC) detailing how this process is expected to be put in place. For this reason, the Agency has decided to create a new AMC explaining what is expected in the case of the FRM reliability monitoring.
- (5) The Agency, pursuant to Article 52(1)(c) of the Basic Regulation and articles 5(3) and 6 of the Rulemaking Procedure⁴, has widely consulted interested parties on the matter of "*Fuel tank flammability reduction*"⁵ and has provided thereafter a written response to the comments received⁶.
- (6) The Agency was requested to investigate further possibilities for the approval of changes and repairs to European Technical Standard Order (ETSO) articles in addition to those existing in Part 21 with the objective to provide more flexibility to stakeholders.
- (7) The Agency, pursuant to Article 52(1)(c) of the Basic Regulation and articles 5(3) and 6 of the Rulemaking Procedure⁴, has widely consulted interested parties on the matter of "*Repair and design changes to European Technical Standard Order (ETSO)*"⁷ and has provided thereafter a written response to the comments received⁸.
- (8) Based on the results of the above consultation the Agency concluded that additional approval possibilities for changes and repairs to ETSO articles would not bring the requested flexibility. In addition it noted that there is limited awareness of the existing possibility to approve a minor change to an ETSO article as a change to the product in which it is installed. The Agency therefore decided to create new Guidance Material (GM) to increase the awareness of this existing option.

HAS DECIDED:

³ Decision No. 2003/02/RM of the Executive Director of the Agency of 17 October 2003 on Certification Specifications, including Airworthiness Codes and Acceptable Means of Compliance, for Large Aeroplanes (« CS-25 »), as amended by Executive Director Decision No. 2009/010/R

⁴ 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/08/07, 13.6.2007.

⁵ See NPA 2008-19 on Rulemaking Archives page http://www.easa.europa.eu/ws_prod/r/r_archives.php.

⁶ See CRD 2008-19 on Rulemaking Archives page http://www.easa.europa.eu/ws_prod/r/r_archives.php.

⁷ See NPA 2008-12 on Rulemaking Archives page http://www.easa.europa.eu/ws_prod/r/r_archives.php

⁸ See CRD 2008-12 on Rulemaking Archives page http://www.easa.europa.eu/ws_prod/r/r_archives.php

24/08/2009

Article 1

The Annex "Acceptable means of compliance and guidance material to be used in the airworthiness certification of products, parts and appliances and the approval of organisations involved in their design or manufacture" to Decision ED/2003/01/RM of the Executive Director of the Agency of 17 October 2003 is hereby amended as provided in Annex 1 to this decision.

Article 2

This decision shall enter into force on 31st August 2009. It shall be published in the Official Publication of the Agency.

Done in Cologne, on 24 August 2009.

P. GOUDOU

Annex 1 to ED Decision 2009/011/R

The following paragraphs are added to the Annex to Decision 2003/1/RM "Acceptable means of compliance and guidance material to be used in the airworthiness certification of products, parts and appliances and the approval of organisations involved in their design or manufacture" of the Executive Director of the Agency of 17 October 2003:

AMC 21A.3(a)**Collection, investigation and analysis of data related to Flammability Reduction Means (FRM) reliability**

Holders of a type-certificate, restricted type certificate, supplemental type certificate and of any other relevant approval deemed to have been issued under Part-21 and which have included a FRM in their design should assess on an on-going basis the effects of aeroplane component failures on FRM reliability. This should be part of the system for collection, investigation and analysis of data required by 21A.3 (a). The applicant/holder should do the following:

- (a) Demonstrate effective means to ensure collection of FRM reliability data. The means should provide data affecting FRM reliability, such as component failures.
- (b) Unless alternative reporting procedures are approved by the Agency, provide a report to the EASA every six months for the first five years after service introduction. After that period, continued reporting every six months may be replaced with other reliability tracking methods found acceptable to the Agency or eliminated if it is established that the reliability of the FRM meets, and will continue to meet, the exposure specifications of paragraph M25.1 of appendix M to CS-25.
- (c) Develop service instructions or revise the applicable aeroplane manual, according to a schedule approved by the Agency, to correct any failures of the FRM that occur in service that could increase any fuel tank's Fleet Average Flammability Exposure to more than that specified by paragraph M25.1 of appendix M to CS-25.

GM to 21A.611**Design changes**

A change to an ETSO article can either be seen:

under this 21A.611 in the context of an ETSO authorisation, i.e., when an article as such is specifically approved under Subpart O, with dedicated rules that give specific rights and obligations to the designer of the article, irrespective of any product type design or change to the type design. For a change to such an article, irrespective of installation on any aircraft, Subpart O, and this 21A.611 in particular, should be followed.

Or

When an airline or a maintenance organisation is designing a change (based on data not published in the TC holder or Original Equipment Manufacturer documentation) on an article installed on an aircraft, such a change can be considered as a change to the product in which the article is installed, not to the article taken in isolation. Therefore Subpart D can be used for the approval of this change that will be identified as "change to product x affecting article y", but not "change to article y".