



Explanatory Note to Decision 2017/024/R

Regular update of the Acceptable Means of Compliance and Guidance Material to Annex I (Part-21)

RELATED RMT.0031

EXECUTIVE SUMMARY

The objective of this Decision is to amend the acceptable means of compliance (AMC) and guidance material (GM) to Annex I (Part 21) as follows:

- Introduce into the text of GM 21.A.101 the amendments developed by the Continuous Improvement Team (CIT); and
- Update the AMC to 21.A.143, 21.A.243, 21.A.14(b), 21.A.112B(b) and 21.A.432B(b) *Flight Test Operations Manual (FTOM)*, and create a new AMC No 3 to Appendix XII to introduce new means for test organisations (part of a design organisation approval (DOA)/production organisation approval (POA)) to demonstrate the compliance of a lead flight test engineer (LFTE) based on a previous title (i.e. a holder of a national licence or a person already nominated as an LFTE by another organisation).

The amendments are expected to improve harmonisation with the Federal Aviation Administration (FAA) and Transport Canada Civil Aviation (TCCA) and to reduce the regulatory burden for design organisations

Action area:	Regular updates/review of rules		
Affected rules:	Decision 2012/020/R (AMC & GM to Part 21)		
Affected stakeholders:	Design and production organisations; EASA; national aviation authorities (NAAs)		
Driver:	Efficiency/Proportionality	Rulemaking Group:	No
Impact assessment:	None	Rulemaking Procedure:	Direct

● EASA rulemaking process



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1. About this Decision

The European Aviation Safety Agency (EASA) developed ED Decision 2017/024/R 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 EASA 5-year Rulemaking Programme³ under rulemaking task (RMT).0031. The scope and timescales of the task were defined in the related Terms of Reference⁴.

The draft text of this Decision has been developed by EASA and consulted with its Advisory Bodies in accordance with Article 15 'Special rulemaking procedure: direct publication' of MB Decision No 18-2015. EASA has taken the decision to follow the procedure laid down in said Article as this regulatory proposal is related to topics expected to have a negligible impact or addresses an issue which has been already widely consulted by the FAA, as described in Section 2.1. Five comments were received from all interested parties, including industry and national aviation authorities. An overview is reported in paragraph 2.4.

The major milestones of this regulatory activity are presented on the title page.

¹ 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/EC (OJ L 79, 19.3.2008, p. 1) <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1467719701894&uri=CELEX:32008R0216>).

² EASA is bound to follow a structured rulemaking process as required by Article 52(1) of Regulation (EC) No 216/2008. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (<http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure>).

³ <http://easa.europa.eu/rulemaking/annual-programme-and-planning.php>

⁴ <http://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0031>



2. In summary — why and what

2.1. Why we need to change the CS/AMC/GM

This Decision includes amendments to the GM and AMC to Part 21 as the outcome of a regular update process to take specific safety issues into consideration, and it introduces new methods of compliance which are considered non-controversial and mature enough to be implemented. The changes selected for this Decision are amendments to:

- the GM to the Changed Product Rule (CPR): GM to 21.1A.101; and
- the AMC for the qualification of the LFTE: AMC to 21.A.143, 21.A.243, 21.A.14(b), 21.A.112B(b) and 21.A.432B(b) *Flight Test Operations Manual (FTOM)*, and to introduce a new AMC, No 3, to Appendix XII.

Amendments to GM to the Changed Product Rule (CPR)

Point 21.A.101 was initially developed and harmonised by EASA, the US Federal Aviation Administration (FAA), the Agência Nacional de Aviação Civil (ANAC) and Transport Canada Civil Aviation (TCCA), and was adopted in 2003. Guidance material was also written and harmonised by the four aviation authorities. New applications of the CPR continue to develop requiring either new or revised policies or further harmonisation to avoid differences in the application of the CPR concept, namely any differences in the classification of changes and the resulting potential validation conflicts.

While working through application issues, it was acknowledged, and subsequently agreed, that an oversight team is needed to continue the harmonised application of the rule and policies, including revising the guidance material as necessary. Therefore, in October 2013, a new team for CPR continuous improvement (Continuous Improvement Team (CIT)) composed of the CPR focal points of the four aviation authorities was set up and chartered through the Certification Management Team (CMT) to further amend in a harmonised way the existing regulatory guidance material in view of the recently experienced implementation issues and challenges.

The CIT was in operation from October 2013 till March 2015, and during this time period it developed amended guidance material in the format of a draft FAA Advisory Circular (AC), which subsequently underwent consultation. The European industry and EASA were invited and participated in the consultation of the draft FAA AC and the final text also took into consideration their comments⁵. The material was afterwards finalised and the FAA adopted and published their FAA AC 21.101-1B on 11 March 2016⁶. The final content of the FAA AC guidance material was considered acceptable by the other three authorities (TCCA, ANAC and EASA) as a basis for production of their own harmonised guidance material aligned with their legal frameworks and style/terminology.

The text proposed in this draft Decision, amending GM 21.A.101, reflects therefore the above-mentioned FAA AC 21.101-1B. Only minor changes were introduced to adapt to the European legal framework, style and terminology, in some cases to better clarify the text or to take into account some small differences between FAA and EASA Part 21 requirements, such as:

⁵ See comment review sheet issue by the FAA available at:
http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/256E07922765293086257F88005B3EE4?OpenDocument.

⁶ http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/256E07922765293086257F88005B3EE4?OpenDocument



- the scope of EASA Part- 21 includes also the verification of compliance of operational suitability data (OSD) requirements, therefore the terminology has been adapted to use the term ‘changes’ when it affects both airworthiness requirements and OSD, and the term ‘type changes’ when it affects only airworthiness requirements;
- point 21.A.101(f) in EASA Part 21 also includes the possibility for an applicant to elect to comply with an amendment to the certification specifications that is effective after the filing of the application;
- the note in the example of a significant change related to human external cargo (HEC) has been improved to better clarify when the assumptions used for certification are considered invalidated; in the case of small single-engine helicopters, such a change might not be considered significant.

It should be noted that with NPA 2015-03 ‘Embodiment of Level of Involvement (LOI) requirements into Part-21’⁷, EASA proposed to amend point 21.A.101(a) to improve the text and to remove any possible ambiguity regarding the extent of the demonstration required by an applicant for a change. The new text proposed for point 21.A.101(a) will still be consistent with this GM.

Moreover, following a comment provided by industry, the definition of ‘baseline product’ has been updated as described in paragraph 2.4.

Since the FAA text was also considered acceptable by EU stakeholders during the above-mentioned consultation, it was decided not to conduct a further consultation but to develop instead the amendment to GM 21.A.101 applying the ‘direct publication procedure’ in accordance with Article 15 of the EASA Management Board Decision 18-2015.

Amendments to the AMC for the qualification of the lead flight test engineer (LFTE)

With A-NPA 2013-16 ‘Lead Flight Test Engineer Licence’⁸, EASA consulted the stakeholders about the need for an LFTE licence. Based on the evaluation of the comments by the rulemaking group and based on further evaluation of the arguments provided, EASA decided not to create a licencing system for LFTEs.

Subsequently, Regulation (EU) 2015/1039⁹ introduced new requirements in Appendix XII to Annex I (Part 21). Those define and harmonise the flight test crew qualifications. The Regulation provided, as a transitional measure, the possibility for holders of national LFTE licences (issued in the past on the basis of national regulations) to continue to exercise their privileges until 31 December 2017. After 1 January 2018, the Regulation gives to the test organisation (part of a DOA/POA) the responsibility to verify that the flight test personnel meet the requirements of Annex I (Part 21).

Some design organisations raised concerns about the burden that a design or a production organisation will have in nominating an LFTE after 1 January 2018, since the only way to nominate an LFTE will be through a suitable course managed by that organisation. This implies that even if someone had a previous title, especially related to competence levels 1 and 2 (i.e. a holder of a national licence

⁷ <http://www.easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2015-03>

⁸ <https://www.easa.europa.eu/document-library/notices-of-proposed-amendments/npa-2013-16>

⁹ Commission Regulation (EU) 2015/1039 of 30 June 2015 amending Regulation (EU) No 748/2012 as regards flight testing (OJ L 167, 1.7.2015, p. 1) (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R1039&rid=1>).



or a person already nominated as an LFTE by another organisation), this could not be readily used and they need to be re-qualified.

Moreover, it was taken into consideration that some Member States (MSs) have in place a national licensing scheme for LFTEs related to Annex II activities or other activities outside the scope of the Basic Regulation. During a series of meetings held with the affected MSs and the main stakeholders, it was agreed that such a national system may be recognised as a means for design organisations to demonstrate compliance with the LFTE competence/experience requirements under Annex I (Part 21).

2.2. What we want to achieve — 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 2.1.

The specific objectives of this proposal are, therefore, to:

- improve the GM related to the CPR and reflect the lessons learned and the outcome of the experience gained from the implementation of the current process; and
- introduce new means for a test organisation (part of a DOA/POA) to demonstrate the compliance of an LFTE based on a previous title (i.e. a holder of a national licence or a person already nominated as an LFTE by another organisation).

2.3. How we want to achieve it — overview of the amendments

Amendments to the GM to the Changed Product Rule (CPR)

The text of GM 21.A.101 has been updated to include some clarifications as part of the lessons learned during the application of the rule by the four aviation authorities. The amendments are intended to:

- provide a procedure that systematically and consistently promotes the introduction of the later standards, balanced by exceptions that recognise when earlier amendments are more appropriate;
- provide a common interpretation of point 21.A.101 by implementing guidance material harmonised between the four aviation authorities;
- provide common training material to support the implementation of the new GM within the four aviation authorities and industry; and
- reduce divergence in change classification.

The core text of the GM has been reduced and four new appendices have been introduced, while the others have been updated to assist an applicant that applies for a change in defining the edition of the technical standard they need to demonstrate compliance with. The four new appendices are the following:

- **Appendix C: a method to determine the changed and affected areas**
This Appendix is meant to assist an applicant when proposing a large, complex design change. It provides directions to identify the areas which are physically or functionally affected by the change and it is complemented by some examples. For a type design change, it is important to properly assess the effects of such a change on any areas, systems, components, equipment,

parts or appliances of the product because areas that have not been physically changed may still be considered to be part of the affected area.

- **Appendix D: other guidance for affected areas**
It contains additional guidance on affected areas not discussed in other parts of the GM.
- **Appendix G: Changed Product Rule (CPR) decision record**
It provides an optional decision record form for an applicant to record the change classification and the associated rationale.
- **Appendix H: examples of documenting the proposed certification basis list**
It contains two examples of establishing the applicable airworthiness and OSD certification specifications that will become part of the type-certification basis for airworthiness or the OSD certification basis.

Moreover, the list of examples of substantial, significant and not significant changes has been revisited to better clarify some existing examples and to include some new cases.

Amendments to the AMCs for the qualification of a lead flight test engineer (LFTE)

A new AMC to Appendix XII to Part 21, an amendment to the AMC to 21.A.143, 21.A.243, 21.A.14(b), 21.A.112B(b) and 21.A.432B(b) *Flight Test Operations Manual (FTOM)*, and new GM to Appendix XII to Part 21 have been developed in order to allow design organisations to readily employ flight test engineers (FTEs) and nominate them as LFTEs based on titles held from past experience, such as:

- a national document (i.e. licence) issued by a Member State: it can be retained as a means of compliance for the intent to issue the initial authorisation for the role of LFTE and their continued competence provided that the competent authority establishes that such a document covers the competence requirements contained in Part 21;
- a certificate of course completion issued by an approved training organisation (ATO) to an FTE: it can be used as a means of compliance with the level 1 or level 2 competence requirements of Part 21, provided that the competent authority certifies that the course content is in accordance with Part 21.

In order to make use of the second option, an amendment to the requirements of point ORA.ATO.355 of Regulation (EU) No 1178/2011¹⁰ is required. This amendment is included in NPA 2016-16 'Regular update of Part-FCL — Regular update of Regulation (EU) No 1178/2011 regarding pilot training and licensing and the related oversight'¹¹ to better clarify the conditions under which ATO privileges can be extended to providing training for competence level 1 and 2 FTEs. In this case, the training performed by the ATO could be recognised by all DOAs without unnecessary further verification. The EASA Opinion resulting from NPA 2016-16 is planned to be published in Q3 of 2017.

2.4. What are the stakeholders' views

The draft Decision was consulted with the advisory bodies. One NAAs replied without providing comments and another NAA provided an editorial comment on terminology that was incorporated. Industry provided four comments, all related to the GM 21.A.101. They proposed to keep the exact

¹⁰ Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1) (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1178&rid=1>).

¹¹ <https://www.easa.europa.eu/system/files/dfu/NPA%202016-16.pdf>



text published by FAA in the AC 21.101-1B and add in the introduction an explanation of the differences between FAA and EASA regulatory definitions and structure. EASA did not accept this comment since in this way the resulting GM 21.A.101 text would not have been consistent and harmonised with the other text in Part 21. The adaptations made by EASA to the FAA text did not modify the concept and structure of the text developed by the CIT.

Industry also proposed to amend the definition of baseline product, introduced in paragraph 5.3, using the text published by FAA in the Order 8110.48A. This new text recognises that the baseline product may be representative of multiple build configurations. EASA decided to accept this proposal. The remaining comments were editorial and they have been incorporated.

2.5. What are the benefits and drawbacks

Amendments to the GM to the Changed Product Rule (CPR)

The amendments to GM 21.A.101 are considered non-controversial — they have been already evaluated by the four aviation authorities and widely consulted, therefore no drawbacks are expected. The benefits are a smoother application of the CPR process and its harmonisation between the frameworks of the European, US and Canadian systems.

Amendments to the AMCs for the qualification of a lead flight test engineer (LFTE)

The new AMCs will avoid unnecessary re-qualification for FTEs when they hold a title from past experience.

2.6. How do we monitor and evaluate the rules

The monitor and evaluation of the rule will be based on the time spent by industry and EASA to define the certification basis applicable to a change.



3. References

3.1. Related regulations

- Commission Regulation (EU) No 748/2012 of 3 August 2012 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 organisations (OJ L 224, 21.8.2012, p. 1)

3.2. Affected decisions

- Decision N° 2012/020/R of the Executive Director of the European Aviation Safety Agency of 30 October 2012 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')

3.3. Other reference documents

N/A



4. Appendix

None

