



**European Aviation Safety Agency
Rulemaking Directorate**

EXPLANATORY NOTE

AMC & GM to Part-145

1. General

Background

On 8 April 2008, Regulation (EC) No 216/2008 of 20 February 2008¹ (hereafter referred to as the 'Basic Regulation') entered into force. In addition, the European Commission has adopted the necessary rules (Commission Regulations) for the implementation of the Basic Regulation on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks².

Pursuant to Article 18 of the Basic Regulation, the European Aviation Safety Agency (hereafter referred to as the 'Agency') shall, where appropriate, 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. The Commission Regulations specify which Certification Specifications shall be issued.

Agency measures

Certification Specifications (CS) are used to demonstrate compliance with the Basic Regulation and its Implementing Rules. These include, in particular:

- airworthiness codes, which are standard technical interpretations of the airworthiness essential requirements contained in Annex I to the Basic Regulation; and
- Acceptable Means of Compliance (AMC), which are non-exclusive means of demonstrating compliance with the airworthiness codes or implementing rules.

AMC illustrate a means, but not the only means, by which a specification contained in the airworthiness code or a requirement of an implementing rule, can be met. Satisfactory demonstration of compliance using a published AMC shall provide for presumption of compliance with the related specification or requirement; it is a way to facilitate certification tasks for the applicant and the competent authority.

Guidance material (GM) is issued by the Agency to assist in the understanding of the Basic Regulation, its Implementing Rules and CSs.

General structure and format

This Decision implements changes to AMC and GM to Part-145 as described in its Annex.

¹ Regulation (EC) No 216/2008 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, 19.03.2008, p. 1). Regulation as last amended by Regulation (EC) No 1108/2009 of the European Parliament and of the Council of 21 October 2009 (OJ L 309, 24.11.2009, p. 51).

² Commission Regulation (EC) 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 315, 28.11.2003, p. 1). Regulation as last amended by Regulation (EU) No 1149/2011 of 21 October 2011 (OJ L 298, 16.11.2011, p. 1).

Publication

The full text of Certification Specifications, including airworthiness codes and Acceptable Means of Compliance as well as Guidance Material are available on the Agency's [website](#). For more information, please contact the Agency at: RPS@easa.europa.eu.

2. Consultation on draft proposals

This Decision has been developed by the Agency, following a structured 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'³.

Executive Director Decision 2011/011/R adopts changes to AMC and GM to Part-145, which are the output from the following Agency's rulemaking task:

Rulemaking Task No.	TITLE	NPA No.
145.022	Control of contracted maintenance personnel	2010-08

The Notice of Proposed Amendment (NPA) has been subject to consultation in accordance with Article 52 of the Basic Regulation and Article 15 of the Rulemaking Procedure established by the Management Board. For detailed information on the proposed changes and their justification, please consult the above-mentioned NPA 2010-08⁴ which is available on the Agency's website.

The Agency has addressed and responded to the comments received on the NPA. The responses are contained in the Comment-Response Document (CRD) which has been produced for this NPA (CRD 2010-08⁵) and which is also available on the Agency's website.

In response to the CRD 2010-08, the Agency received the following reactions, which are reproduced below together with the Agency's responses:

³ 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 08-2007, 13.6.2007.

⁴ See Rulemaking Archive page: <http://easa.europa.eu/rulemaking/r-archives.php>.

⁵ See Rulemaking Archive page: <http://easa.europa.eu/rulemaking/r-archives.php#crd>.

CRD Reaction No.	Commenter/ Reference	Reaction	EASA Response
1	Association of Dutch Aviation Technicians NVLT	<p>Page 12 of 41 The possibility to deviate from the 50-50 ratio is intended to provide flexibility to the organisation in a controlled safe manner.</p>	Noted.
2	Airbus	<p>Rational: The Opinion 04/2008 did not address a need for the amendment of the Part-145, considering that the recurrent training requirement should cover the topic which is pertinent. Nevertheless it appears that some organisations have or may missed the EWIS training requirements as no reference is made in the rule or the AMCs, this was also missed by the 145.022 working group even if it enters in the scope of competence assesment. I therefore propose the following amendment to ensure that 145 organisations will not missed this important topic.</p> <p>1) add the following AMC AMC 4 145.A.30 (e) - Personnel requirements Competence assessment should include the verification for the need of additional EWIS training when relevant. EASA guidance is provided for EWIS training programme to maintenance organisation personnel AMC 20-22.</p> <p>2) Add the following line in the table of GM 2 145.A.30 (e) – Competence assessment procedure Knowledge in EWIS when relevant</p>	Accepted. The text of the Decision has been updated to take this comment into account.
3	Baines Simmons Limited	<p>CRD to NPA 2010-08 Proportion of contracted staff versus employed staff – scope of application The comments from industry recorded in the CRD serve to highlight the differing viewpoints within industry regarding the 50-50 ratio and, whilst the EASA response to those comments attempts to address those viewpoints, we feel that further clarification is needed. We accept that the value of the ratio is an acceptable means of compliance and that the proposed text introduces flexibility for organisations to manage temporary operational requirement. However we consider the proposed text creates confusion in relation to the <i>application</i> of the ratio, i.e. should it be applied to: 1. the “organisation” (as a whole)? or 2. “staff that perform maintenance in each workshop, hangar or flight line on any shift”? or 3. Both? The proposed text uses both options 1 and 2 in the same paragraph without explanation. We believe this is the root cause of the confusion in the minds of industry. As an example, consider an organisation of 50 staff with one workshop using 10 of those staff to “perform maintenance”. Applying Option 2 means that up to 5 (of the 10) staff may be contractors (unless managed on a temporary basis as suggested). However, the remaining 45 staff could also be contractors, which</p>	Not accepted. The intention of this new text is clearly written and there is no change in this respect compared to the previous text: the ratio between employed or contracted staff applies to the personnel that perform maintenance in each workshop, hangar or flight line on any shift. The reason for it is that the organisation stability is of most importance for the personnel that perform maintenance and the Agency has no reason to extend it to other personnel in the

		<p>would then result in a contracted versus employed staff ratio of 45-5 for the organisation as a whole. This would not ensure organisational stability. In order to avoid this confusion, the wording must be consistent throughout the AMC. As the objective is to "ensure organisational stability", the ratio should therefore be applied to the organisation as a whole and not simply to those "staff that perform maintenance" (option 1). However, to ensure stability within "each workshop, hangar or flight line on any shift" the ratio should be applied at this level also. Hence option 3 is our preferred policy. We propose the following text for paragraph 1. of AMC 145.A.30 (d) Personnel requirements: 1. Has sufficient staff means that the organisation employs or contracts competent staff, as detailed in the man-hour plan, of which at least half the staff <i>within the organisation as a whole and at least half those that perform maintenance in each workshop, hangar or flight line on any shift</i> should be employed, to ensure organisational stability. For the purpose of meeting a specific operational necessity, a temporary increase of the proportion of contracted staff may be permitted to the organisation by the competent authority, in accordance with an approved procedure which should describe the extent, specific duties, and responsibilities for ensuring adequate organisation stability. For the purpose of this subparagraph, employed means the person is directly employed as an individual by the maintenance organisation approved under Part-145, whereas contracted means the person is employed by another organisation and contracted by that organisation to the maintenance organisation approved under Part-145.</p> <p>We strongly recommended EASA to adopt the above wording in the interest of maintaining a sufficient level of competence across the organisation and to ensure organisational stability.</p>	<p>organisation.</p>
4	MTU	<p>MTU Aero Engines GmbH supports this NPA 2010-08, but please review the following information in the table in GM 2 145.A.30 (e). Even if this table is an example only, it should reflect general accepted requirements.</p> <p>-) "Kowledg[e] of organisation capabilities, privileges and limitations": This knowledge is not marked as required for Certifying staff, but is very important for the Cert. staff. He has to know the privileges of his organisation (rating, scope of work, capability list) before signing the release certificate. -) "Understanding of personnel authorisations and limitations": This applies to all personnel.</p>	<p>Accepted. The text of the Decision has been updated to take this comment into account.</p>
5	SVFB/ SAMA	<p>2010-08_npa_crd_reaction of SAMA/SVFB/ASEA Control of contracted maintenance personnel issue 04 110908</p> <p>Swiss Aircraft Maintenance Association represents the Swiss Aircraft Maintenance Organisations</p> <p>Side remark: The Term B1 and B2 support staff is defined with ambiguity, as in 145.30 ff requires the B1 or B2 staff whom supports the C licence holder to have a licence and on other locations in the text it seems to be staff without a licence whom is B1 and B2 support staff or having other (support) functions. A clear distinction by definition should be in the glossary. Holder of a B1 and B2 licence have high, known and defined level of competence and knowledge as stipulated by their licence.</p> <p>Our opinion is this NPA should not become regulation.</p>	<p>Comment to the side remark: support staff need to have a valid Part-66 license endorsed with the correspondent aircraft type and some recent experience. They are not supposed to have a certification authorisation issued by the organisation unless the same person, additionally to their support staff role, has been allocated certification responsibilities. The Agency does not agree that there is ambiguity.</p>

	<p>We think the justification in the ToR was not sufficient to demonstrate the need to change the present regulation. The root causes of the accidents driving 2010-08 are most outside of the EASA area. If changes are made they should simplify the actual 145.30 and subchapters in order to improve the present version for easier reading, understanding and easier implementation and supervision.</p> <p><i>As all the quoted accidents are a decade back, supposing that the regulations system did work acceptably adequate, there must have been directives issued and/or other countermeasures to address the problem source. Our comment to the given accidents:</i></p> <p>000725_AF4590 Concorde: where the investigators concluded that:</p> <ul style="list-style-type: none"> ▪ After reaching take-off speed, the tyre of the number 2 wheel was cut by a metal strip lying on the runway, which came from the thrust reverser cowl door of the number 3 engine of a Continental Airlines DC-10 that had taken off from the runway several minutes before. This strip was installed in violation of the manufacturer's rules. <p><i>The rule was there, but not followed. Since then, there has been directive for this repair. The proposed additional rulemaking would not have prevented it.</i></p> <p>000227 BA 179 B747 A/P Pitch up The respective chapters in the Maintenance Manual have been revised due to the accident. <i>The instructions to the personal were not complete. The proposed additional rulemaking would not have prevented the accident.</i></p> <p>000524 Helicopter: installation of a bogus part: <i>The data plate was missing and the area where the plate had been factory mounted was raised and painted over. This accident would not have been prevented by additional rules. All necessary rules have been in place to avoid such an installation.</i></p> <p>Rulemaking on accident far in the past and especially on outdated aircraft must take into account all material which have been created by the local NTSB's and the NAA's since the accident and for sure some important changes and/or AD's and SB's have been issued and implemented since the accidents which make additional rulemaking obsolete. Otherwise duplication, triplication and quadrupling of rulemaking for the same code happens, which is one of many reasons present rules are overly complex. The proposed changes are not improving the present regulation. The German LBA has brought it to the point:</p> <p>"19 comment by: Luftfahrt-Bundesamt LBA Comments:</p> <ul style="list-style-type: none"> • The proposed change of the AMC is only based on "feedback without any detailed substantiation and statistically-based safety received" analyses. • The 50/50 ratio of the current AMC is used with limited individual exemptions. The AMC draft opens these exceptional possibilities „...for the purpose of meeting a specific operational necessity..." without any limitation or further explanation. This indefinite legal term opens the possibility for regular unlimited use. The safety impact assessment states that the risk of a following destabilization of the organization is mitigated 	<p>The Terms of Reference for this task do not refer to any particular accident but even if there is no evidence of accidents involving contracted maintenance personnel not compliant with the rules, increasing concerns are identified and preventive measures are being defined with this Decision.</p> <p>With the publication of the CRD, the Agency already responded to LBA's comment to the NPA and we refer to it.</p> <p>Paragraph 145.A.30(e) of the rule already required that 'the organisation shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard agreed by the competent authority'. This requirement makes no distinction between contracted or employed personnel.</p> <p>Therefore, the Agency believes that the impact of this Decision for organisations and aviation authorities is minimal.</p> <p>The procedure used by the organisation for the personnel competence assessment should fit to the organisation scope, size and complexity as explained in the Guidance Material and an existing procedure may not need to be revised if it fits the purpose and intent of the rule.</p>
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6	UK CAA	Please be advised that the UK CAA do not have any comments on CRD 2010-08, Control of Contracted Maintenance Personnel.	Noted.