



# Implementation of CAEP/9 amendments

RELATED NPA/CRD 2014-15 — RMT.0172 (BR.012), RMT.0083 (34.003) & RMT.0086 (36.007) — 12.12.2014

## EXECUTIVE SUMMARY

This Opinion addresses an environmental issue related to aircraft noise and aircraft engine emissions.

The Opinion is linked to the ICAO State Letters AN 1/17.14 – 14/24 and AN 1/17.14 – 14/25 on the adoption of Amendments 11 and 8 to Annex 16, Volume I and II respectively.

The specific objective is to provide a high uniform level of environmental protection in the European Union as well as a level playing field for all actors in the aviation market by aligning European Union legislation with the latest ICAO Standards and Recommended Practices (SARPs) and Guidance Material on aircraft noise and aircraft engine emissions. The new amendments to these SARPs and Guidance Material were approved by the ICAO Committee on Aviation Environmental Protection at its 9th meeting (CAEP/9) in February 2013 and adopted by the ICAO Council at its 201st meeting in March 2014.

Amendment 11 of ICAO Annex 16, Volume I introduces a new Noise Standard for jet and propeller-driven aeroplanes (Chapter 14), which includes an increase in stringency of 7 EPNdB (cumulative) relative to the current Chapter 4 limits. Amendment 11 also upgrades the current guidance for the noise certification of tilt-rotors in Annex 16, Volume I, Attachment F to a new Noise Standard for tilt-rotors (Chapter 13).

Amendment 8 of ICAO Annex 16, Volume II addresses various technical issues arising from the application of the SARPs and related guidance for aircraft engine emissions certification. There are no changes to the emissions limits. All changes to Volume II are considered to be stringency-neutral.

This Opinion proposes the incorporation of CAEP/9 amendments into Article 6 of Regulation (EC) No 216/2008 and into Annex I (Part-21) to Commission Regulation (EU) No 748/2012.

The proposed changes aim to ensure compliance with the latest ICAO SARPs on aircraft noise and aircraft engine emissions, and to provide a level playing field for all actors in the aviation market.

	Applicability	Process map	
Affected regulations and decisions:	<ul style="list-style-type: none"><li>— Regulation (EC) No 216/2008;</li><li>— Annex I (Part-21) to Regulation (EU) No 748/2012;</li><li>— ED Decision 2012/020/R (AMC &amp; GM to Part-21);</li><li>— ED Decision 2003/003/RM (CS-34);</li><li>— ED Decision 2003/004/RM (CS-36)</li></ul>	Terms of Reference:	4.12.2013
		Concept Paper:	No
		Rulemaking group:	No EASA rulemaking group for CAEP
		RIA type:	Full (by CAEP)
		Technical consultation during NPA drafting:	No
		Publication date of the NPA:	24.6.2014
Affected stakeholders:	Design and production organisations	Duration of NPA consultation:	2 months
Driver/origin:	Environmental protection	Review group:	No
		Focussed consultation:	No
Reference:	n/a	Publication date of the Opinion:	2014/Q4
		Publication date of the Decision:	2016/Q1



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## 1. Procedural information

### 1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Opinion in line with Regulation (EC) No 216/2008<sup>1</sup> (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure<sup>2</sup>.

This rulemaking activity is included in the Agency's [Rulemaking Programme for 2014–2017](#) under RMT.0172 (BR.012), RMT.0083 (34.003) & RMT.0086 (36.007). The scope and timescale of the task were defined in the related Terms of Reference (see process map on the title page).

The draft text of this Opinion has been developed by the Agency based on the outcome of the 9th meeting of the ICAO Committee on Aviation Environmental Protection (CAEP/9) and the 201st meeting of the ICAO Council. All interested parties were consulted through NPA 2014-15<sup>3,4</sup>. 9 comments were received from interested parties, including industry (2 comments) and national aviation authorities (7 comments).

The Agency has addressed and responded to the comments received on the NPA. The comments received and the Agency's responses are presented in the related Comment-Response Document (CRD) 2014-15<sup>5</sup>.

The final text of this Opinion (i.e. Explanatory Note and two draft Commission regulations) has been developed by the Agency.

The process map on the title page summarises the major milestones of this rulemaking activity.

### 1.2. The structure of this Opinion and related documents

Chapter 1 of this Opinion contains the procedural information related to this task. Chapter 2 'Explanatory Note' explains the core technical content. The draft rule text proposed by the Agency is published on the Agency's website<sup>6</sup>.

### 1.3. The next steps in the procedure

This Opinion contains proposed changes to Union regulations. It is addressed to the European Commission, which shall use it as a technical basis in order to prepare a legislative proposal.

For information, the Agency published the draft text for the related Agency Decision containing the CS/AMC/GM in CRD 2014-15. The final Decision adopting the CS/AMC/GM will be published by the

<sup>1</sup> 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), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34).

<sup>2</sup> 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 2013.

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

<sup>4</sup> <http://easa.europa.eu/document-library/notices-of-proposed-amendment/npa-2014-15>

<sup>5</sup> <http://easa.europa.eu/document-library/comment-response-documents>

<sup>6</sup> <http://easa.europa.eu/document-library/opinions>



Agency once the European Commission, the European Parliament and the Council have adopted the regulations.



## 2. Explanatory Note

### 2.1. *Issues to be addressed*

The ICAO Council adopted the amendments to Annex 16 at its 201st meeting in March 2014, as proposed by the Committee on Aviation Environmental Protection at its 9th meeting in February 2013 (CAEP/9). The amendments include the introduction of a new Noise Standard for jet and propeller-driven aircraft (Annex 16, Volume I, Chapter 14) as well as for tilt-rotors (Annex 16, Volume I, Chapter 13).

Article 6 of the Basic Regulation and Annex I (Part-21) to Regulation (EU) No 748/2012<sup>7</sup> make direct reference to the amendments of Annex 16, Volume I and II, as well as to the chapters in these volumes. The amendment of the above-mentioned rules is therefore necessary in order to ensure that EU regulations in the field of aviation environmental protection are aligned with the latest ICAO Standards and Recommended Practices (SARPs).

### 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. The specific objective of this proposal is, therefore, to ensure a high uniform level of environmental protection, as well as to provide a level playing field for all actors in the aviation market, by aligning the Agency's rules with the ICAO Standards and Recommended Practices (Annex 16).

### 2.3. *Outcome of the consultation*

The comments received on NPA 2014-15 unanimously support the implementation of CAEP/9 amendments, which were developed with significant input from the Agency. Two comments proposed additional edits which are not directly related to CAEP/9 amendments; they are addressed in CRD 2014-15.

### 2.4. *Summary of the Regulatory Impact Assessment*

The Regulatory Impact Assessment (RIA) highlighted the pros and cons of the two policy options identified during the Preliminary Regulatory Impact Assessment (Pre-RIA) stage, namely: leave current rules unchanged ('do nothing'), or implement CAEP/9 amendments.

Out of these two options, only the second one (implementation of CAEP/9 amendments) has positive impacts on all identified aspects (environmental, social, economic and harmonisation), while the first one (the 'do nothing' option) has negative impacts on all these aspects.

It was therefore proposed to proceed with the implementation of CAEP/9 amendments as adopted by the ICAO Council at its 201st meeting. It should be noted that CAEP/9 amendments result from the work of the CAEP working groups during the 2010–2013 period, in which European stakeholders were actively involved. In particular, the CAEP working groups have conducted a detailed cost-effectiveness

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<sup>7</sup> 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).



analysis of the various stringency options envisaged for the proposed new aircraft Noise Standard (Chapter 14).

## 2.5. Overview of the proposed amendments

The purpose of this Opinion is to amend Article 6 of Regulation (EC) No 216/2008 (the 'Basic Regulation') as well as Annex I (Part-21) to Commission Regulation (EU) No 748/2012.

The proposed amendments are designed to reflect the latest updates of the ICAO SARPs and Guidance Material on aircraft noise and aircraft engine emissions, as described below.

### Amendment 11-B to ICAO Annex 16, Volume I

The purpose of the 11th Amendment of the SARPs in Annex 16, Volume I, is to address technical issues arising from the application of the SARPs and related guidance for aircraft noise certification. Amendment 11 was split into two sub-amendments, namely 11-A and 11-B, with different applicability dates. For clarity, it is proposed to explicitly refer to Amendment 11-B in the new Article 6 of the Basic Regulation. The proposals for this amendment include:

- (a) a new Noise Standard (as Annex 16, Volume I, Chapter 14) for jet and propeller-driven aeroplanes, which includes an increase in stringency of 7 EPNdB (cumulative) relative to the current Chapter 4 levels. The new Standard shall be applicable to new subsonic jet aeroplane types submitted for certification on or after 31 December 2017 at or above 55 tonnes in weight, and on or after 31 December 2020 for subsonic jet aeroplanes less than 55 tonnes in weight and propeller-driven aeroplanes above 8.618 tonnes in weight;
- (b) upgrading the current guidance for the noise certification of tilt-rotors in Annex 16, Volume I, Attachment F to a new Chapter 13 Noise Standard for tilt-rotors. The new Standard shall be applicable to new tilt-rotor types submitted for certification on or after 1 January 2018;
- (c) improvements concerning the harmonisation of sections on noise data validity and the scheduling of sound pressure level calibrations, and with regard to updating the specifications in the light of advances in audio recording technology;
- (d) a correction to the wind speed values given in m/s used for the definition of the noise certification test window;
- (e) updating the wording of the title of Annex 16, Volume I, Attachment A, to read 'Equations for the calculation of maximum permitted noise levels as a function of take-off mass' (i.e. including: maximum permitted). Related consequential amendments to Annex 16, Volume I, are also proposed; and
- (f) changes and corrections due to minor errors or for consistency reasons.

The applicability date of the proposed amendments listed in (a) to (f) is 1 January 2015.



Amendment 8 to ICAO Annex 16, Volume II

The purpose of the 8th amendment of the SARPs in Annex 16, Volume II, is to address technical issues arising from the application of the SARPs and related guidance for aircraft engine emissions certification. The proposals include:

- (a) an amendment to Annex 16, Volume II, Attachment A to Appendix 3, to update the Hydro Carbon (HC) analyser oven temperature range;
- (b) an amendment to Annex 16, Volume II, Attachment F to Appendix 3, to allow the use of modern instruments for humidity measurement, and to update the location of the humidity instrument during emissions certification tests; and
- (c) changes and corrections due to minor errors or for consistency reasons.

The applicability date of the proposed amendments to Annex 16, Volume II, is 1 January 2015.

Done at Cologne, on 12 December 2014.

Patrick KY  
Executive Director



### 3. References

#### 3.1. Affected regulations

- 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), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34)
- 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, and repealing Commission Regulation (EC) No 1702/2003 (OJ L 224, 21.8.2012, p. 1), as last amended by Commission Regulation (EU) No 69/2014 of 27 January 2014 (OJ L 23, 28.1.2014, p. 12)

#### 3.2. Affected decisions

- ED Decision 2012/020/R 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 organisation (AMC and GM to Part-21), as last amended by ED Decision 2014/007/R of 31 January 2014
- ED Decision 2003/3/RM of 17 October 2003 on Certification Specifications providing for Acceptable Means of Compliance for aircraft engine emissions and fuel venting (« CS-34 »), as last amended by ED Decision 2013/002/R of 23 January 2013
- ED Decision 2003/4/RM of 17 October 2003 on Certification Specifications providing for Acceptable Means of Compliance for aircraft noise (« CS-36 »), as last amended by ED Decision 2013/003/R of 23 January 2013

#### 3.3. Reference documents

- ICAO CAEP/9 WP/61, Report of the 9th meeting of the Committee on Aviation Environmental Protection, February 2013
- ICAO State Letter AN 1/17.14 – 14/24, Adoption of Amendment 11 to Annex 16, Volume I, 10 April 2014
- ICAO State Letter AN 1/17.14 – 14/25, Adoption of Amendment 8 to Annex 16, Volume II, 10 April 2014
- Annex 16 to the Convention on International Civil Aviation, Volumes I and II
- ICAO Environmental Technical Manual (Doc 9501), Volumes I and II

