Comment Response Document (CRD)
to Notice of Proposed Amendment (NPA) 12-2006

for amending the Executive Director Decision No 2003/16/RM of 14 November 2003 on Certification Specifications, including airworthiness code and acceptable means of compliance, for Small Rotorcraft (CS-29)

PERFORMANCE AND HANDLING QUALITIES REQUIREMENTS FOR LARGE ROTORCRAFT

Explanatory Note

I. General

The purpose of the Notice of Proposed Amendment (NPA), dated 15 August 2006 was to propose an amendment to the Executive Director Decision No 2003/16/RM of 14 November 2003 on Certification Specifications, including airworthiness code and acceptable means of compliance, for Large Rotorcraft (CS-29) to propose changes related to Performance and Handling Qualities Requirements for Large Rotorcraft.

II. Consultation

1. The draft Executive Director Decision amending Decision N° 2003/15/RM was published on the web site (www.easa.europa.eu) on 16 August 2006.

   By the closing date of 27 September 2006, the Agency had received 7 comments from 4 national authorities.

III. Publication of the CRD

2. All comments received have been acknowledged and incorporated into a Comment Response Document (CRD). This CRD contains a list of all persons and/or organisations that have provided comments and the answers of the Agency.

3. In responding to comments, a standard terminology has been applied to attest EASA's acceptance of the comment. This terminology is as follows:

   - **Accepted** – The comment is agreed by the Agency and any proposed amendment is wholly transferred to the revised text.
   - **Partially Accepted** – Either the comment is only agreed in part by the Agency, or the comment is agreed by the Agency but any proposed amendment is partially transferred to the revised text.
   - **Noted –** The comment is acknowledged by the Agency but no change to the existing text is considered necessary.
   - **Not Accepted** - The comment is not shared by the Agency

4. The Agency's Decision will be issued at least two months after the publication of this CRD to allow for any possible reactions of stakeholders regarding possible misunderstandings of the comments received and answers provided.

5. Such reactions should be received by EASA not later than 13-08-2007 and should be sent by the following link: CRD@easa.europa.eu;

Com-ment #	Para	Comment provider	Comment/Justification	Response	Resulting text
1.	JAA NPA 29-26 CS 29.177 Static Directional Stability	Belgian CAA	(a) The directional controls must operate in such a manner that the sense and direction of motion of the rotorcraft following control displacement are in the direction of the pedal motion …" **Comment :** this text has no meaning or even says the contrary of what it is supposed to express. What is the pedal motion? One pedal is moving forward while the other is moving backward; the rotorcraft will not move forward or backward but will turn either to the left or to the right. When pushing the right pedal forward, the axle of the control pedals [palonnier in French] will turn to the left while the rotorcraft is supposed to turn in the opposite (not the same) direction. Somebody coming from the DPM world would understand that if you push the right foot, the rotorcraft would turn to the left as it does with the nose wheel of a DPM on the ground (or like on a bicycle or a car when you push your right hand forward). **Proposed text :** "The directional controls must operate in such a manner that when the pilot pushes the right pedal forward, the sense and direction of motion of the rotorcraft following control displacement are also to the right (and vice versa) …" Justification: see comment ; the text should be understandable without ambiguity by a technician with no flying experience on this type of aircraft.	**Noted** While it is accepted that the wording is not optimal, the meaning is understood by the rotorcraft community – application of right pedal results in nose right response. It is considered that further clarification would best be addressed through a change to CS 29.779, by introducing a specific yaw axis convention, similar to CS-25. However, this does not form part of these proposals and would introduce a difference with FAR Part 29. The comment is therefore retained for consideration in any new rulemaking action.	N/A
2.	CS 29.143 (c) (4)	CAA-UK	Typographical error "standards sea level conditions" should be "standard sea level conditions"	**Accepted**	Editorial correction

Com-ment #	Para	Comment provider	Comment/Justification	Response	Resulting text
3.	Appendix B VII (a) Stability Augmentation System (SAS)	CAA-UK	Previously this paragraph sought to establish probability limits on failure conditions. In this revision the word "condition" has been deleted. In the context of systems safety assessment a "failure" and a "failure condition" are two distinctly different things. Deletion of the word "condition" changes the severity of the requirement. However, the text of the NPA does not discuss this change so it is not known whether this change of severity was intended. If no change of meaning was intended then the text should revert to use of the term "failure condition". If a change of meaning was intended then a clear explanation and justification should be given for the change.	**Accepted** It has been established that the deletion of "condition" was an error introduced during the final stages in the preparation of the FAA NPRM and subsequently included in the EASA NPA. The FAA has been notified and aims to correct the error prior to publishing the final text.	**Appendix B to CS-29 Airworthiness Criteria for Helicopter Instrument Flight** … VII. Stability Augmentation System (SAS) (a) If a SAS is used, the reliability of the SAS must be related to the effects of its failure. Any SAS failure that would prevent continued safe flight and landing must be extremely improbable. It must be shown that for any failure condition of the SAS that is not shown to be extremely improbable: …
4.	Page 11 Paragraph 8, Page 16 Proposal 8, Page 19 "Note"	CAA-UK	The UK CAA actively participated in the development of these proposals and has no comments on the rulemaking proposals in this NPA. However, the NPA states in the paragraphs identified above that adoption of the proposed AMC material to CS-29 will follow EASA consultation after the FAA have published the AC material in an update to FAA AC29-2C. The FAA have separately stated that the next update (or "Change") to 29-2C will not take place until after consideration of the 2008 AC revision process. Hence, literal compliance with the statement in this NPA could mean that the supporting AC material to these requirement changes will not be adopted until long after the associated requirement changes themselves have been adopted. This situation should be avoided and it is therefore recommended that EASA begin their AMC consultation process following specific FAA publication of the AC material on the FAA web site, rather than waiting	**Not Accepted** On publication of the Rule, the associated AC material will be made available for use on the FAA website and open for comment. Formal adoption by the FAA will be at the next AC revision, and may be subject to change in response to comments received and initial experience in applying the AC. By including the AC within NPA 12-2006, the EASA has already initiated its consultation process ahead of the FAA. A second consultation will be performed as part of the process for adopting FAA AC revisions within CS-27/29 Book 2 to ensure that any changes introduced by the FAA are acceptable to EASA. This approach	N/A

Com-ment #	Para	Comment provider	Comment/Justification	Response	Resulting text
			for FAA publication of a complete update (or "Change") to AC29-2C.	will ensure harmonisation is retained wherever possible.	
5.	Proposal 8.3 AC 29.173	CAA-UK	Typographical error: "the basic tenants of the rule" should read "the basic tenets of the rule"	**Partially Accepted** While the comment is accepted, to aid understanding "principles" is substituted.	**AC 29.173** **Static Longitudinal Stability.** a. Explanation. (1) CS-29 Amendment 1makes a … requirements. The basic ~~tenants~~ principles of the rule …
6.	General Comment	DGAC-France	I am pleased to inform you that we have no comments on NPA 11/2006 and 12/2006 related to Performance and Handling Qualities Requirements in CS 27 and CS 29	**Noted**	
7.	General Comment	FAA	The FAA has reviewed the subject NPA and has no comments.	**Noted**	

OTHER CHANGES

Following FAA consultation (NPRM 06-11, dated July 2006), and in the interests of retaining harmonisation between FAR Part 29 and CS-29, the following additional changes to the text have been accepted by the EASA:

1. To aid clarity, CS 29.25(a)(1)(iv) is amended to read as follows:

> The highest weight, as a function of altitude and temperature, in which the provisions of CS 29.79 ~~or~~and CS 29.143(c)(1)~~, or combinations thereof~~, are demonstrated if the ~~weights and~~ operating conditions (altitude and temperature) prescribed by those requirements can not be met; and

2. To correct a cross reference as a result of re-designating sub-paragraphs in CS 29.143, CS 29.143 (b)(4) is amended to read as follows:

> Power off, except for helicopters demonstrating compliance with sub-paragraph (~~e~~f), and power on.

3. reference to "in-ground effect" is removed as it is considered inappropriate in a paragraph addressing out-of-ground effect and is redundant as it is already required by other parts of CS 29.1587.

> CS 29.1587 (a)(7) Out-of-ground-effect hover performance determined under CS 29.49 and the maximum weight for each altitude and temperature condition at which the rotorcraft can safely hover ~~in ground effect and~~ out-of-ground effect in winds of not less than 17 knots from all azimuths. This data must be clearly referenced to the appropriate hover charts.
>
> CS 29.1587 (b)(8) Out-of-ground-effect hover performance determined under CS 29.49 and the maximum safe wind demonstrated under the ambient conditions for data presented. In addition, the maximum weight for each altitude and temperature condition at which the rotorcraft can safely hover ~~in ground effect and~~ out-of-ground effect in winds of not less than 31 km/h (17 knots) from all azimuths. This data must be clearly referenced to the appropriate hover charts; and