



Notification of a Proposal to issue a Certification Memorandum

Vibration Health Monitoring: Prioritisation of Maintenance Alerts

EASA Proposed CM No.: Proposed CM-DASA-001 Issue 01 issued 15 December 2014

Regulatory requirement(s): CS 29.1465

In accordance with the EASA Certification Memorandum procedural guideline, the European Aviation Safety Agency proposes to issue an EASA Certification Memorandum (CM) on the subject identified below. All interested persons may send their comments, referencing the EASA Proposed CM Number above, to the e-mail address specified in the “Remarks” section, prior to the indicated closing date for consultation.

EASA Certification Memoranda clarify the European Aviation Safety Agency’s general course of action on specific certification items. They are intended to provide guidance on a particular subject and, as non-binding material, may provide complementary information and guidance for compliance demonstration with current standards. Certification Memoranda are provided for information purposes only and must not be misconstrued as formally adopted Acceptable Means of Compliance (AMC) or as Guidance Material (GM). Certification Memoranda are not intended to introduce new certification requirements or to modify existing certification requirements and do not constitute any legal obligation.

EASA Certification Memoranda are living documents into which either additional criteria or additional issues can be incorporated as soon as a need is identified by EASA.



Log of issues

Issue	Issue date	Change description
01	15.12.2014	First issue.

Table of Content

Log of issues.....	2
Table of Content	2
1. Introduction.....	3
1.1. Purpose and scope	3
1.2. References	3
1.3. Abbreviations.....	3
1.4. Definitions	3
2. Background.....	4
3. EASA Certification Policy	4
3.1. EASA Policy	4
3.2. Who this Certification Memorandum Affects	4
4. Remarks	5



1. Introduction

1.1. Purpose and scope

The purpose of this Certification Memorandum is to supplement the existing guidance for compliance with CS 29.1465 – Vibration Health Monitoring, specifically with respect to the issue of prioritisation of Alerts.

1.2. References

It is intended that the following reference materials be used in conjunction with this Certification Memorandum:

Reference	Title	Code	Issue	Date
---	Certification Specifications for Large Helicopters	CS-29	---	---
FAA AC 29-2C	Certification of Transport Category Rotorcraft	---	---	---

1.3. Abbreviations

AC	Advisory Circular
AMC	Acceptable Means of Compliance
CM	Certification Memorandum
CS	Certification Specification
EASA	European Aviation Safety Agency
FAA	Federal Aviation Administration
VHM	Vibration Health Monitoring

1.4. Definitions

Alert	An indication produced by the VHM system that requires further processing or investigation by the operator to determine if corrective maintenance action is required.
Alarm	An Alert that, following additional processing or investigation, has resulted in a maintenance action being required.
False Alert	This is an Alert that after further processing or investigation has been determined to not require any further action.
False Alarm	An Alert that after further processing or investigation has resulted in unnecessary maintenance action.



2. Background

Service experience over recent years has shown that it is beneficial to have some form of prioritisation hierarchy of Alerts, in order to show which are the most significant and / or urgent. Also, it is necessary to distinguish for which Alerts verification of the False Alert /Alarm status and any associated corrective maintenance actions must be performed prior to continuing flight. For convenience the definitions of Alerts and Alarms provided in AMC 29.1465 are repeated in Section 1.4 above.

The AMC to CS 29.1465 at issue 1 has been found not to provide sufficient guidance regarding the prioritisation of Alerts and to allow standardisation of the use of colours in relation to the urgency / importance of subsequent investigation and associated maintenance action. Accordingly, in addition to AMC 29.1465, consideration should be given to Section 3 of this Certification Memorandum when demonstrating compliance with CS 29.1465.

3. EASA Certification Policy

3.1. EASA Policy

- (a) Alerts to maintenance personnel should:
 - (1) provide the maintenance personnel with the information needed to:
 - (i) identify abnormal health indicator conditions, and
 - (ii) determine any appropriate actions;
 - (2) be readily and easily accessible and intelligible to the responsible maintenance personnel;
 - (3) be removed when the alerting conditions no longer exists.

- (b) Alerts should reflect the following prioritisation hierarchy based on the urgency of maintenance personnel awareness and action:
 - (1) Level 1: For Alerts that require maintenance personnel awareness, verification and, if confirmed, successful corrective action prior to the next flight.
 - (2) Level 2: For Alerts that require maintenance personnel awareness. Operation of the helicopter may be continued whilst determining the status of the Alert (i.e. Alarm or False Alert) and any subsequent corrective action that may be necessary.
 - (3) Advisory: For conditions that require maintenance personnel awareness and may influence future maintenance action.

- (c) Visual ground station alert indications should:
 - (1) conform to the following colour convention:
 - (i) Red for Level 1 alert indications.
 - (ii) Amber or yellow for Level 2 alert indications.
 - (iii) Any colour other than green for Advisory alert indications, provided the colour differs sufficiently from the colours prescribed in sub-paragraphs (i) and (ii) to avoid possible confusion.

- (d) Use of the colours red, amber and yellow on the ground station for any purpose other than maintenance personnel alerting should be limited and should not adversely affect maintenance personnel alerting.

3.2. Who this Certification Memorandum Affects

Designers of helicopters utilising vibration health monitoring and specifically those complying with CS 29.1465.



4. Remarks

1. This EASA Proposed Certification Memorandum will be closed for public consultation on the **28th of January 2015**. Comments received after the indicated closing date for consultation might not be taken into account.
2. Comments regarding this EASA Proposed Certification Memorandum should be referred to the Certification Policy and Safety Information Department, Certification Directorate, EASA. E-mail CM@easa.europa.eu or fax +49 (0)221 89990 4459.
3. For any question concerning the technical content of this EASA Proposed Certification Memorandum, please contact:

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