



Comment-Response Document 2013-22

Helicopter Vibration Health Monitoring

CRD TO NPA 2013-22 — RMT.0350 AND RMT.0351 (OPS.074(A) AND OPS.074(B)) — 15.09.2014

EXECUTIVE SUMMARY

This Comment-Response Document (CRD) contains the comments received on NPA 2013-22 published on 19 November 2013 by the Agency, and the responses provided thereto.

Based on the comments received and the unanimous support to the Agency's proposal in the NPA not to include an IR requiring VHM equipment to be installed in new and retrofitted to existing CAT helicopters that are not involved in offshore operations, but have a maximum certified take-off mass of more than 3 175 kg or a MOPSC of more than 9, the Agency decided to terminate RMT.0350 and RMT.0351 (OPS.074(a) and OPS.074(b)) at this stage.

Applicability		Process map	
Affected regulations and decisions:	Commission Regulation (EU) No 965/2012 'Air Ops' and related Decisions	Concept Paper:	No
Affected stakeholders:	Commercial Air Transport operators of large helicopters not involved in offshore operations.	Rulemaking group:	No
Driver/origin:	Safety	RIA type:	Light
Reference:	N/A	Technical consultation during NPA drafting:	No
		Publication date of the NPA:	19.11.2013
		Duration of NPA consultation:	3 months
		Review group:	No
		Focussed consultation:	No
		Publication date of the Opinion:	N/A
		Publication date of the Decision:	in parallel with this CRD



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1. Summary of comments and responses

The Agency received 10 comments from 6 commentators during public consultation.

All the commentators, 5 NAAs and 1 association representing helicopter operators, supported or had no objection to the proposal of the NPA not to change the rules. It was proposed instead to rely on voluntarily VHM installation and sharing of best practices through European Helicopter Safety Team (EHESST).

Considering the low number of comments to a subject expected to be of great interest to those involved in helicopter operations, the Agency assumes that the absence of further comments means support of the Agency's proposal.

Some commentators added further considerations to their comments. The detailed answers of the Agency can be found below.

The Agency, therefore, terminates this rulemaking task.



2. Individual comments and responses

In responding to comments, a standard terminology has been applied to attest the Agency's position. This terminology is as follows:

- (a) **Accepted** — The Agency agrees with the comment and any proposed amendment is wholly transferred to the revised text.
- (b) **Partially accepted** — The Agency either agrees partially with the comment, or agrees with it but the proposed amendment is only partially transferred to the revised text.
- (c) **Noted** — The Agency acknowledges the comment but no change to the existing text is considered necessary.
- (d) **Not accepted** — The comment or proposed amendment is not shared by the Agency.

(General Comments)

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comment

2 comment by: *DGAC France*

DGAC France has no specific comment on this NPA

response

Accepted

Your support is appreciated.

comment

3 comment by: *UK CAA***Page No:** All**Paragraph No:** All**Comment:** General comments regarding HUMS (Health and Usage Monitoring System) regulatory action:

1. When originally introduced, it was expected that large helicopters should not be able to comply with the Design Assessment requirement without HUMS; however, HUMS was not explicitly required in order to avoid prescription. If the Design Assessment were being applied rigorously then any rule change to include onshore helicopter operations in an explicit HUMS mandate should have no effect.
2. Note that the recently completed UK CAA review of technical accidents shows evidence of an increasing prevalence of design/certification related causes in the technical accidents in which rotor and transmission failures predominate (i.e. the main target areas for HUMS).
3. Not mandating HUMS for onshore large helicopters creates an inconsistency – emergency landings onshore can be just as hazardous or even more so than offshore; e.g. over cities, forests, mountains. On what basis is a lower safety standard justifiable/acceptable?

response

Noted

Item 1:



The historical information is noted.

Item 2:

This is noted. Relevance to the accidents referred to in the NPA is not seen.

Item 3:

This issue has been assessed with the impact assessment of the NPA. The accident records over the defined years for the helicopters covered by this RMT do not include emergency landings, but include an alarmingly high number of CFIT, loss of control, etc.

The NPA is based on available facts, and lowering of safety standards is neither considered nor proposed. Operators predominantly flying over hostile or congested environment may voluntarily fit VHM, based on their risk assessment.

comment

8 comment by: *Luftfahrt-Bundesamt*

The LBA has no comments on NPA 2013-22.

response

Accepted

Your support is appreciated.

comment

9 comment by: *Tim Glasspool*

The European Helicopter Association agrees with the general text as proposed and supports Option 2.

The safety assessment section should also have included information on the number of occasions when a VHM system has pre-warned an operator of a problem and a potential accident was avoided.

response

Partially accepted

Your support is appreciated.

Referring to the second part of the comment, it should be mentioned that, except for the S-92, none of the helicopters in question are believed to be VHM equipped. What has been seen is that the majority of accidents experienced by the relevant helicopters are related to operations, leaving only a small number to technical faults.

comment

10 comment by: *Austro Control*

General Comment:

Austria supports the conclusion made by EASA.

Enhancement of flight safety should have priority over economic issues.

The voluntary installation of VHM equipment is strongly recommended and supported.

response

Accepted



Your support is appreciated.

2. Explanatory Note — 2.1. Issue — 2.1.1. Overview of the issues to be addressed

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comment

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comment by: UK CAA

Page No: 4

Paragraph No: 2.1

Comment: The original requirement was developed as a JAA task to accommodate current VHM requirements adopted by the UK and Norway under operations regulations for large helicopters operating in the hostile areas of the North Sea and elsewhere, when conducting offshore operations in support of the oil and gas industry. Additionally it was recognised that there would be a safety advantage if the fitment and operation of VHM systems was extended to all complex helicopters whether operated over water or not. This would reflect the recommendation made within ICAO Annex 6 Part III. However, the principle used for extending the scope of VHM was very much predicated on future fitment by OEMs rather than retrospective fitment, due to costs and difficulties in developing the appropriate technologies.

The NPA acknowledges this and recommends that for other than offshore activity (covered by NPA 2013-10 HOFO) the fitment of VHM should be encouraged on a voluntary basis by EHEST. The UK CAA supports Option 2 but it is felt that this should be aimed more at the OEMs to encourage them to encompass the benefits of VHM and other health monitoring systems into their aircraft, in order to provide safety and maintenance enhancements for future helicopters wherever they are operated. The aim should also be to extend the benefits to Part-27 helicopters too.

Justification: Best use of technology to improve the safety and airworthiness of future helicopters.

response

Partially accepted

The support to Option 2 is appreciated.

The intended proposal does not preclude EHEST from directing encouragement also to the OEMs. However, the proposal will be considered by the Agency approaching OEMs also directly.

Extending the benefits to CS-27 helicopters will be considered in the communication to EHEST and OEMs.

2. Explanatory Note — 2.1. Issue — 2.1.3. Safety risk assessment — (a) General

p. 4-5

comment

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comment by: UK CAA

Page No: 4 to 8

Paragraph No: 2.1.3



	<p>Comment: The following general comments on the Safety Risk Assessment are made:</p> <ol style="list-style-type: none"> 1. The sample size in terms of flight hours for the onshore large helicopter fleet is very small in statistical terms, so any conclusions drawn need to be treated with caution. 2. Technical accidents are the same wherever they occur so isolating onshore operations and shrinking the data set is unhelpful and illogical. 3. The Safety Risk Assessment should have included all rotorcraft of MTOW >3,175kg or MOPSC >9 in order that it be based on the largest representative data sample available.
response	<p><i>Noted</i></p> <p>Item 1: This is correct, the difference between operational and technical accidents is, however, visible.</p> <p>Item 2: The comment is noted, but not supported. The technical accidents in which the helicopters in question were involved differed from each other as illustrated in the NPA. It should be remembered that the scope of the task is related to complex helicopters not involved in offshore operations. VHM for offshore helicopters is addressed by another Rulemaking Task (RMT).</p> <p>Item 3: In this RMT all large helicopters involved in the operational theatre in question were included. It was established that technical causes were not the main reason for accidents. Including what the comment suggests would again show that VHM equipment should be regulatory required for helicopters in offshore operations. This, however, is addressed by a different RMT.</p>
comment	<p>6 comment by: <i>UK CAA</i></p> <p>Page No: 4 Paragraph No: 2.1.3 (a) Comment: There is significant circumstantial evidence of a positive safety benefit of HUMS. Justification: Analysis of the accident data for UK offshore helicopter operations from 1976 to 2012 covering 3.5 million flight hours shows a clear and significant reduction in technical accidents, coincident with the voluntary introduction of HUMS by the industry in the early 1990s. Proposed Text: Modify the last sentence of the first paragraph to read: "Although it is difficult to conclusively quantify whether a safety improvement was attributable to HUMS, there was a significant reduction in the technical accident rate coincident with the introduction of HUMS in UK offshore oil and gas support operations."</p>
response	<p><i>Noted</i></p> <p>It is known that the number of technical accidents in offshore helicopter operations in the UK sector became lower in the time frame mentioned.</p>



It is, however, not substantiated that HUMS or VHM systems alone can take credit for this. This is already stated in the paragraph in question in the NPA. Moreover, this RMT is not addressing offshore operations.

2. Explanatory Note — 2.4. Analysis of impacts — 2.4.5. Proportionality issues

p. 10

comment

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comment by: UK CAA

Page No: 10**Paragraph No:** 2.4.5

Comment: The proposition that option 1 “may create an undue higher burden for small operators in comparison to larger operators.” is questionable.

Justification: The cost per aircraft is essentially the same regardless of fleet size, and the burden of supporting HUMS would fall to the rotorcraft OEM if HUMS were to be mandated.

Proposed Text: Modify the text to read: “The potential cost impact of option 1 should not create an undue higher burden for small operators in comparison to larger operators. This is therefore a neutral factor for all three options.”

Also, Table 8 should be amended accordingly.

response

Noted

The justification and argument is not objected to.

The proposed text would, however, not have a significant effect on the balance between Options 0, 1 and 2, and decisions made would not be affected.

2. Explanatory Note — 2.4. Analysis of impacts — 2.4.7. Comparison and conclusion

p. 11

comment

1

comment by: CAA-NL

The Netherlands supports this conclusion and agrees with the line of action; encouragement of voluntary installation.

We are curious how operators will deal with this under their SMS, what choices they will make on what grounds and how Competent Authorities will look into this as part of their oversight on the SMS systems of the operator. This will be a nice example to follow how industry deals with Best practices and how oversight has to ask different questions.

response

Accepted

Your support is appreciated.

