



# European Aviation Safety Agency — Rulemaking Directorate

## Comment-Response Document 2013-10

### Helicopter offshore operations

CRD TO NPA 2013-10 — RMT.0409 (OPS.093(a)) — 14.08.2014

#### EXECUTIVE SUMMARY

NPA 2013-10 'Helicopter offshore operations' was published on 6 June 2013 and received 368 comments from 26 commentators.

A complete list of comments and responses thereto, as well as a summary thereof are included in this CRD.

Revised draft Regulations, AMC and GM based on the comments are also included.

The CRD publication was delayed to allow the CAA UK offshore review to finish, which resulted in the publication of CAP 1145 'Civil Aviation Authority – Safety review of offshore public transport helicopter operations in support of the exploitation of oil and gas'. It was considered that recommendations from this offshore review might influence the EASA proposal for offshore operations. The CRD, therefore, contains a section explaining if and how these recommendations are included in this proposal.

Stakeholders are invited to verify if their comments were appropriately addressed, and to comment as requested in the CRD.

The Agency will review eventual reactions and take them into account when drafting its final Opinion.

Applicability		Process map	
Affected regulations and decisions:	Cover Regulation Air Operations, Annex I Definitions, Part-ARO, Part-CAT, Part-SPA, Part-NCC, Part-SPO and associated AMC/GM	Concept Paper:	No
Affected stakeholders:	Air operators and NAAs	Terms of Reference:	07.10.2011
Driver/origin:	Industry and Member States request	Rulemaking group:	Yes
Reference:	N/A	RIA type:	Full
		Technical consultation during NPA drafting:	Yes
		Publication date of the NPA:	2013/Q2
		Duration of NPA consultation:	3 months
		Review group:	Yes
		Focussed consultation:	No
		Publication date of the Opinion:	2014/Q3
		Publication date of the Decision:	2015/Q3

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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 Comment-Response Document (CRD) 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 [4-year Rulemaking Programme](#), under RMT.0409 (OPS.093(a)). The scope and timescale of the task are defined in the related Terms of Reference (see process map on the title page).

The draft Regulations and related AMC/GM have been developed by the Agency based on the input of the Rulemaking Group RMT.0409 (OPS.093(a)) and RMT.0410 (OPS.093(b)).

All interested parties were consulted through NPA 2013-10<sup>3</sup>, which was published on 6 June 2013.

368 comments were received from interested parties, including industry, national aviation authorities, social partners, etc. as defined in paragraph 2.

The initial rulemaking group was complemented with 4 additional experts representing national aviation authorities and social partners. The Review Group met once and discussed a number of principle issues raised by commentators. Furthermore, the Review Group was consulted on the overall CRD and the amended text.

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

This CRD provides a summary of comments and responses as well as the full set of individual comments and responses received to NPA 2013-10. The resulting rule text is provided in Chapter 3 of this CRD.

### 1.3. The next steps in the procedure

Stakeholders are invited to provide reactions to this CRD regarding possible misunderstandings of the comments received and the responses provided.

Such reactions should be received by the Agency not later than **15 October 2014** and should be submitted using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt><sup>4</sup>.

The Opinion, containing the proposed changes to EU regulations, is addressed to the European Commission and is published in no less than two months after the publication of this CRD.

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<sup>1</sup> Regulation (EC) No 216/2008 of the European Parliament and 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 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 2012.

<sup>3</sup> See [EASA website](#).

<sup>4</sup> In case of technical problems, please contact the CRT webmaster ([crt@easa.europa.eu](mailto:crt@easa.europa.eu)).

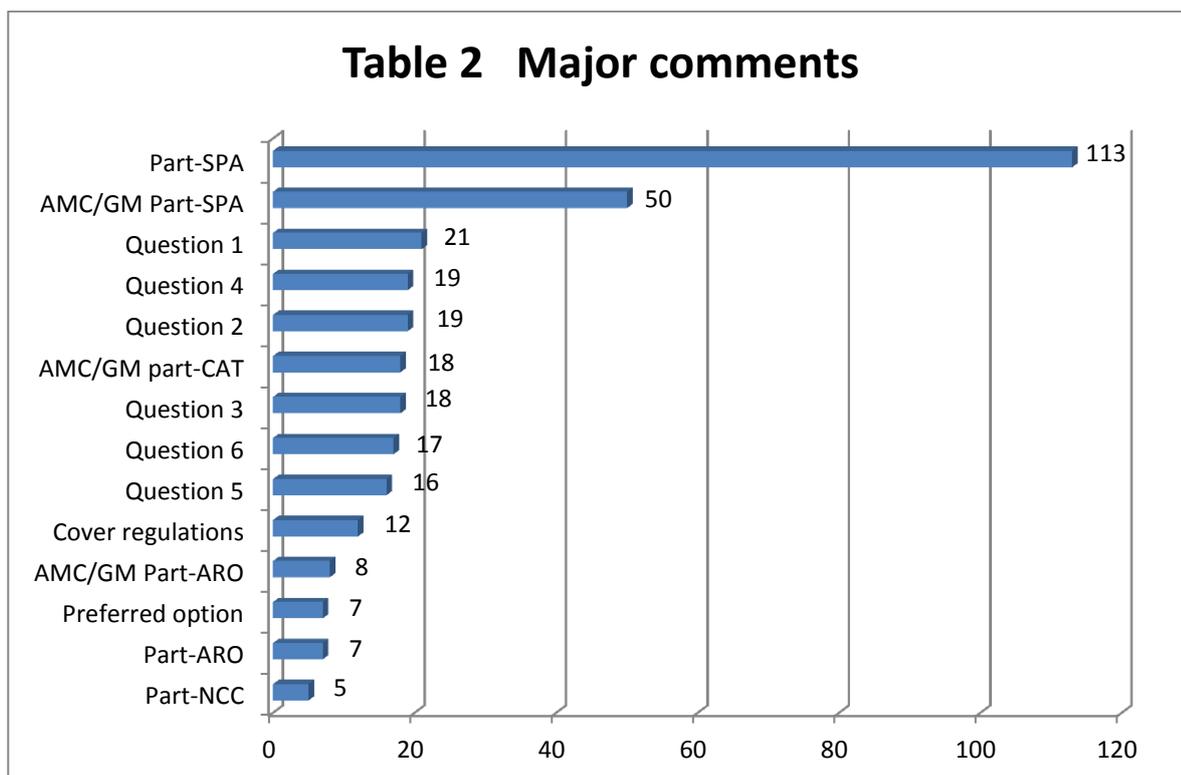
The Decision containing Certification Specifications, Acceptable Means of Compliance (AMC) and Guidance Material (GM) will be published by the Agency when the related regulations are adopted by the European Commission.

## 2. Summary of comments and responses

The Agency received 368 comments provided by 26 commentators. The number of commentator categories and the associated amount of comments are presented in Table 1.

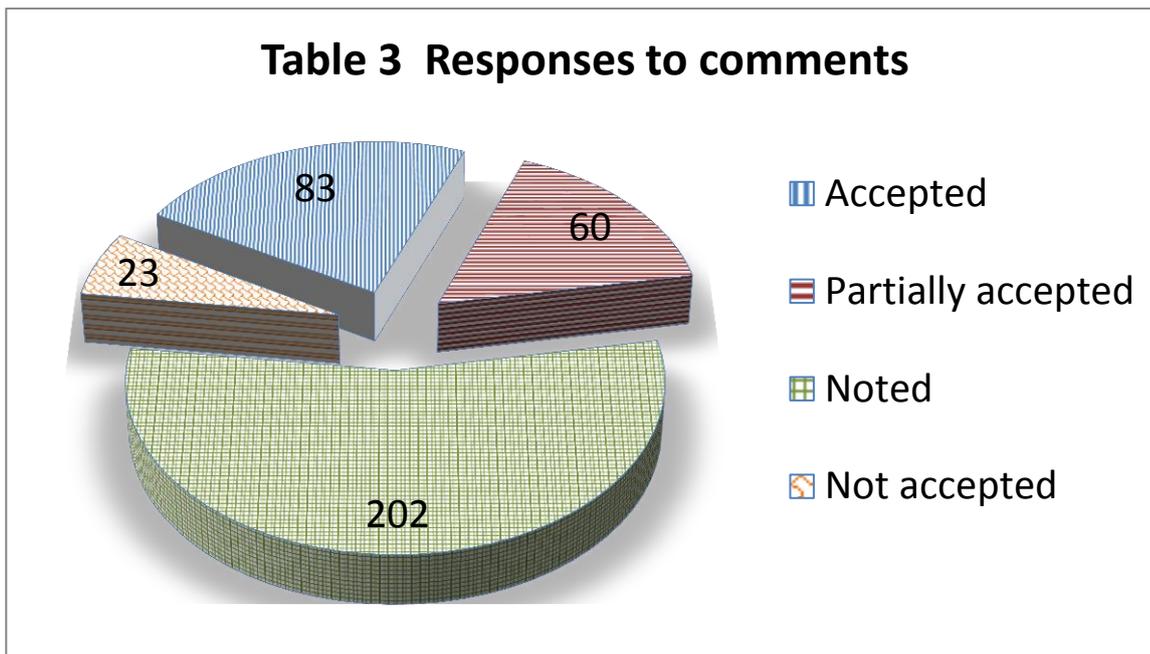
Commentator categories	Comments
8 Authorities	136
8 Operators	110
4 Staff associations	41
1 Private person	34
1 Operator association	27
1 Manufacturer	17
2 Private operators	2
1 Air traffic service provider	1
<b>26</b>	<b>368</b>

The NPA was divided into 25 segments which all received comments. As presented in Table 2, the majority of comments, 323 out of 368, were related to Implementing Regulations (IR), AMC and GM to Part-SPA, the six questions asked in the NPA and IR, AMC and GM to Part-ARO, Part-CAT and Part-NCC.



The comments are published in Chapter 4 of this document. The subsequent responses consist of 83 'Accepted', 60 'Partially accepted', 202 'Noted' and 23 'Not accepted' as presented in Table 3.

The 110 comments to the questions asked in the NPA are classified as 'Noted' and responded to in the summary below. In addition, comments which did not include proposals for changes were classified as 'Noted'. The number of 'Noted' is therefore high.



### 2.1. NPA Question 1

*'Do stakeholders agree with the exclusion of NCO operators from this proposal? If not, which restrictions should be applied to NCO operators and why?'*

16 commentators agreed with the Agency that NCO should be excluded.

3 commentators stated that NCO should be included in the SPA approval since the risk is not related to the complexity of the helicopter used, but to the operating environment. One of them proposed to apply the same rules as for CAT. One commentator proposed to include a prohibition of NCO offshore operations. The Agency regards these proposals as not justified and disproportionate. The risk to third parties is very limited. Also, flights to offshore locations usually require prior permission of the offshore installation operator.

1 commentator highlighted the risk of new corporate operations with non-complex helicopters emerging. On the one hand, the Agency agrees that they would not be subject to any management system, risk assessment or additional safety requirements. On the other hand, as explained in the NPA, these operations do not take place today and it is difficult to regulate theoretical business models. An alternative would be to prohibit such operations. However, as explained above, taking into account present circumstances, this would be disproportionate. The situation could be reviewed in the future if it is identified that such operations do not follow sufficient standards and pose an undue risk to aircraft occupants and third parties.

Consequently, the Agency maintains the view that NCO should be excluded from this proposal.

## 2.2. NPA Question 2

*'Do stakeholders agree that the OPS requirements should stipulate a specific approval (SPA) for helicopter offshore operations whether they are commercial or non-commercial? If not, why not, which types of operations should possibly be excluded from the approval requirement and how can the identified risks and necessary level of oversight be ensured?'*

19 commentators, 6 operators and 5 Member States agree with the Agency that a specific approval for any helicopter offshore operation should be introduced. 1 commentator suggests including additional provisions on the qualification of authority inspectors. Another commentator highlights that if NCC operators were to be excluded, present safety levels would not to be maintained due to a shift to corporate operations.

2 operators and 2 MS are favouring an SPA approval for CAT only.

1 manufacturer suggests having an SPA approval only for CAT in a hostile environment. The commentator argues that *'helicopter CAT offshore operations in a non-hostile environment do not present a risk for the helicopter occupants (safe forced landing is achievable, search and rescue response/capability is provided consistent with the anticipated exposure)'*. Furthermore, the commentator states that *'regarding non-commercial operations with complex motor-powered helicopters and specialised operations the risk is mitigated by having the same instruments/equipment requirements as for CAT operations (e.g. emergency lighting and associated markings, ELT, life jackets, survival suits for all persons on board, ditching certification or emergency floatation equipment, lifesaving equipment and survival equipment)'*. Moreover, the commentator states that *'due to their size, complex motor-powered helicopters are certificated to ditching because they are also sold for CAT offshore operations in a hostile environment'*.

Following the comments received, the Agency gave some further considerations to the type of operations that should be subject to SPA.HOFO and reassessed the related risks and required safety levels. These points were also discussed with the rulemaking group who shares the following conclusions.

### 2.2.1. CAT

In response to the comment made by the manufacturer, stating that CAT offshore operations in a non-hostile environment should not be subject to a specific approval, the Agency notes that the proposal contains partly differing requirements for hostile and non-hostile areas. However, it is the Agency's view that the majority of risks introduced through the NPA are valid also for operations over non-hostile areas, as are the specific operational procedures used at offshore locations.

### 2.2.2. NCC

On the one hand, the Agency considered that two types of NCC operations are associated with operations to offshore installations: operations by private individuals and operations by companies transporting their own employees, i.e. corporate operations. The latter would usually involve transport of passengers who have no choice regarding their transportation means and no influence on how the operation is being conducted. Even if such NCC operations are not common in an offshore environment today, it is generally expected that this sector will increase once harmonised rules are established allowing for free movement. On the other hand, NCC operations, whether they are 'corporate' or not, are very similar to CAT operations; they are conducted in the same operating environment and are exposed to the same risks. As it would not be proportionate to prohibit them, the

Agency believes that a similar safety level has to be provided for these operations by stipulating appropriate rules.

Another aspect to be considered is the level of oversight to be applied. As explained in paragraph 26 of the NPA, the Agency uses generic criteria to determine if an SPA approval is needed or if, in this case, the declaration system should apply. The Agency maintains its position that stricter oversight measures in the form of a prior approval is justified for NCC operations. This does not prevent Member States from determining the most appropriate continuous oversight cycle.

Finally, responding to one of the remarks of the manufacturer, the Agency cannot confirm that complex motor-powered helicopters are per se certificated for ditching.

### 2.2.3. Specialised operations (SPO)

Regulation (EU) 379/2014 includes a number of changes compared to the EASA Opinion on Part-SPO (on which this NPA was based). Below is a brief overview of the regulation of SPO and its applicability.

- Both commercial SPO operators and non-commercial SPO operators with complex motor-powered aircraft will apply Part-SPO and Part-ORO.
- Non-commercial SPO operators with complex motor-powered aircraft and commercial SPO operators must conduct a risk assessment and perform the operation in accordance with standard operating procedures appropriate to the specialised activity, and must submit a declaration to the competent authority before starting operations.
- The Regulation introduces the new concept of high-risk commercial SPO operations. High-risk commercial specialised operation means any commercial specialised aircraft operation carried out over an area where the safety of third parties on the ground is likely to be endangered in the event of an emergency or, as determined by the competent authority of the place where the operation is conducted, any commercial specialised aircraft operation that, due to its specific nature and the local environment in which it is conducted, poses a high risk, in particular to third parties on the ground. High-risk commercial SPO operators will be required to hold an authorisation from the competent authority.
- Non-commercial SPO operators with other-than-complex motor-powered aircraft will be subject to Part-NCO only. These operators must conduct a risk assessment and perform the operation in accordance with a checklist appropriate to the specialised activity.

The above could not be taken into account for the NPA as it was still under debate in the EASA Committee at the time.

Following the EASA Committee's decision and considering the responses to Question 2, the following changes are now made:

#### Non-commercial SPO

Non-commercial SPO with other-than-complex motor-powered helicopters will not be further considered in this RMT as it is already decided not to include NCO in Part-SPA. The additional conditions in Part-NCO for specialised operations are considered appropriate.

Non-commercial SPO with complex motor-powered helicopters may be seldom seen as most operators conduct commercial operations. However, it may be foreseen that such

operations increase once harmonised rules are established and a practical operational concept is in place. These operations do not involve passenger transport but the risks which may be similar to those for NCC operations would also include that to third parties on the ground during, for example, Helicopter External Sling Operations (HESLO). Therefore, the Agency maintains the position that a stricter oversight measures in the form of a prior approval (SPA) is justified.

#### Commercial SPO

Commercial SPO with both complex and other-than-complex motor-powered helicopters is expected to increase in volume. The operations do not involve passenger transport but a high risk to third parties on the ground could be foreseen during, for example, wind turbine construction or maintenance activities on offshore platforms. This might lead in certain cases to the classification as 'high-risk SPO'. However, a uniform application for commercial SPO might not be achieved as only some operators will be required to hold an authorisation. In addition, SOPs/checklists may differ largely for the same type of activity. Taking these elements into consideration, the Agency maintains a position that stricter oversight measures in the form of a prior approval (SPA) is justified.

### 2.3. NPA Question 3

*'Do stakeholders consider it a prerequisite for operators to be issued an AOC to obtain a specific approval (SPA) for helicopter offshore operation?*

*If so, what is the justification for such requirement?'*

10 commentators do not consider an AOC to be a prerequisite.

7 commentators are in favour of an AOC requirement. The justification provided by some commentators is that operators in the offshore environment hold an AOC today, and that it represents the appropriate means to ensure a high level of safety for the transportation of passengers. According to EU legislation, this would only allow CAT operations.

Taking into account the majority view, the Review Group's opinion and also the fact that stakeholders who did not comment on the NPA seem to agree with the Agency's proposal, an AOC will not be required as a prerequisite for an SPA HOFO approval.

### 2.4. NPA Question 4

*'Do stakeholders see a benefit in fitting all helicopters, complex and non-complex, used in CAT with a VHM system? If not, which other mitigation measures are considered suitable to detect early deterioration of components?'*

The Agency realises that the question was not specific enough concerning the scope. The NPA addressed helicopter offshore operations. The question was therefore if complex and non-complex helicopters used by CAT operators in a hostile offshore environment should be equipped with a VHM system. By including this question, the Agency had already disregarded fitment of VHM systems on helicopters used in:

- 1) CAT offshore operations in a non-hostile environment,
- 2) NCC offshore operations, and
- 3) Commercial SPO.

The Agency was also not expecting any answers concerning the fitment of VHM systems on helicopters used in CAT operations in general. This is subject to a separate RMT.

An overwhelming majority is in favour of fitting VHM systems on any helicopter (complex or non-complex). Only 1 commentator would like to see this limited to complex helicopters. Another commentator remarks that retrofit is not possible in all helicopters. 1 commentator is against the installation of VHM systems, stating that there is no cost benefit. He proposes to conduct track and balance flights every 50 hours or at an interval determined by the pilot-in-command whenever abnormal vibrations are detected.

The Agency concludes that complex and non-complex helicopters used in CAT offshore operations in a hostile environment shall be fitted with a VHM system. This was the proposal of the NPA.

## 2.5. NPA Question 5

*'Do stakeholders consider the proposed timeframes appropriate? If not, which timeframes are considered appropriate and why?'*

The overwhelming majority agrees with the proposed time frames.

In addition, 2 commentators from a Member State added that they would prefer to apply the requirement earlier on a case-by-case basis during an opt-out period. However, in order to facilitate harmonised implementation, the Agency prefers the introduction of a defined transition date. This will not prevent operators from voluntarily complying with the rules at an earlier date or from applying stricter procedures going beyond what is required in the rules.

2 commentators, of which one is a major manufacturer, proposed to postpone the dates by one year, explaining that due to certification processes the time frames might be too tight. 1 commentator asked to move the required time for retrofit to a later date due to contractual obligations.

Considering the arguments provided through comments and by the Review Group, the Agency is proposing to postpone the dates for fitment of VHM systems. The compliance dates are now set at 1 January 2019.

## 2.6. NPA Question 6

*'What are considered appropriate implementation timeframes concerning the establishment of a FDM programme?'*

The majority commented that especially for operators not having implemented a FDM system so far, 3 years are needed to set up an appropriate programme. The Agency will, therefore, include a compliance date of 3 years after the applicability date of the IR.

## 2.7. CAA UK offshore review and CAP 1145 Civil Aviation Authority – Safety review of offshore public transport helicopter operations in support of the exploitation of oil and gas

The CRD was delayed awaiting the conclusions and recommendations of the UK offshore review and the publication of the related report, CAP 1145, as it might influence the rules presently under development with this rulemaking task.

CAP 1145 included recommendations to EASA; however, none was related to this rulemaking task. But it included recommended actions for UK CAA. The recommended actions, defined as A5, A6, A7, A8, A9 and A10, are related to operational or equipment requirements, and impose an effect on this rulemaking task. The majority of actions were introduced in UK CAA Safety Directive No SD-2014/001, and the Agency foresees a possible request to maintain them when the new implementing rules for HOFO apply. Therefore, the Agency has assessed the

recommendations for possible inclusion in the regulatory text proposal at this late stage of the process.

CAP 1145 was not available and, therefore, it was not part of the NPA. The Agency invites stakeholders to comment either in general terms or on the specific points in this chapter. Eventual comments will be reviewed and taken into account for the final EASA Opinion.

It should be noted that the different effective dates defined in the recommended actions are valid only for the UK.

**The first recommendation, A5, states:**

'With effect from 01 June 2014, the CAA will prohibit helicopter operators from conducting offshore flights, except in response to an offshore emergency, if the sea state at the offshore location that the helicopter is operating to/from exceeds sea state 6 in order to ensure a good prospect of recovery of survivors.'

Sea state 6 is defined as very rough sea with waves between 4 and 6 metres. To avoid uncertainty related to the actual size of the waves, UK CAA has introduced significant wave height of 6 metres instead of sea state 6 in the Safety Directive. The Agency, with RMT.0120 'Ditching occupant survivability', is considering the same definition for the purpose of helicopter certification.

The allowance or prohibition of operations in an environment with a significant wave height of 6 metres or more is also linked to the search and rescue capabilities available in the area. Therefore, the Agency finds it difficult to propose a harmonised requirement while conditions may differ in the Member States and decisions might be better taken at a local level. It is to be noted that for CAT operations, there is already a requirement in CAT.OP.MPA.135(b) as follows:

'The operator shall ensure that operations are conducted in accordance with any restriction on the routes or the areas of operation specified by the competent authority.'

As this requirement is only applicable to CAT and as SPA.HOFO will also apply to NCC and SPO, the Agency has decided to copy this subparagraph into SPA.HOFO.105.

Moreover, the Agency will include GM to ARO.OPS.200 containing information for the authorities which additional conditions for operations in certain areas might need to be specified via the AIP or by other means.

The Agency thinks that this sufficiently responds to the action A5.

**Recommendation A6 states:**

'With effect from 01 September 2014, the CAA will prohibit helicopter operators from conducting offshore flights, except in response to an offshore emergency, if the sea state at the offshore location that the helicopter is operating to/from exceeds the certificated ditching performance of the helicopter.'

Helicopters are required by CAT.IDE.H.320, NCC.IDE.H.235 and SPO.IDE.H.203 to be certificated for ditching in accordance with the relevant airworthiness code. Moreover, in accordance with Paragraph 4.a of the Essential Requirements for air operations, aircraft must be operated within their certification limits.

The ditching certification basis for the different helicopter types is presently being reviewed by the Agency.

In addition, RMT.0120 'Ditching occupant survivability' is assessing the certification specifications regarding flotation stability.

The Agency considers that the above requirements as well as measures taken sufficiently respond to action A6.

**Recommendation A7 states:**

'With effect from 01 June 2014, the CAA will require helicopter operators to amend their operational procedures to ensure that Emergency Floatation Systems are armed for all overwater departures and arrivals.'

The proposal highlights an important safety element. For CAT operations this is covered in CAT.OP.MPA.220, and the Agency has decided to duplicate the essential parts of the paragraph in SPA.HOFO.105 in order to be applicable also for NCC and SPO in offshore operations.

**Recommendation A8 states:**

'With effect from 01 June 2014, the CAA will prohibit the occupation of passenger seats not adjacent to push-out window emergency exits during offshore helicopter operations, except in response to an offshore emergency, unless the consequences of capsize are mitigated by at least one of the following:

- a. all passengers on offshore flights wearing Emergency Breathing Systems that meet Category 'A' of the specification detailed in CAP 1034 in order to increase underwater survival time;
- b. fitment of the side-floating helicopter scheme in order to remove the time pressure to escape.'

The Agency considers this to be a temporary recommendation which will be substituted by recommendation A10. Please refer to the Agency response to A10.

**Recommendation A9 states:**

'With effect from 01 April 2015, the CAA will prohibit helicopter operators from carrying passengers on offshore flights, except in response to an offshore emergency, whose body size, including required safety and survival equipment, is incompatible with push-out window emergency exit size.'

In the document 'CAA announces changes to timescales for Offshore helicopter safety measures' dated 7 May 2014, it is stated that:

'The CAA said that it also understood workforce concerns about its plans to prevent helicopter operators carrying passengers whose body size means they couldn't escape through push-out window exits in an emergency. The change, which is not due to take effect until 1 April 2015, is to ensure that everyone onboard can escape in the event of a helicopter capsizing after a ditching or water impact. The Offshore Helicopter Safety Action Group has said that the introduction of the requirement will be sensibly managed and the Group's aim is that no one loses their job as a result of the change. Exit sizes vary from one helicopter type to another - and even from one seat row to the next on some helicopters - and there are many options being explored, especially around seat allocation.'

The Agency acknowledges that recommendation A9 is not included in the Safety Directive. Furthermore, it is the Agency's view that such decision should be left to the operators. It is therefore not further considered for this rulemaking task. It should also be noted that CAT.OP.MPA.165 and NCC.OP.165 cover seating arrangements. It is not yet covered for SPO but will be considered with another ongoing rulemaking task.

**Recommendation A10 states:**

'With effect from 01 April 2016, the CAA will prohibit helicopter operators from conducting offshore helicopter operations, except in response to an offshore emergency, unless all occupants wear Emergency Breathing Systems that meet Category 'A' of the specification detailed in CAP 1034 in order to increase underwater survival time. This restriction will not apply when the helicopter is equipped with the side-floating helicopter scheme.'

The Agency supports the recommendation for emergency breathing system (EBS) as specified in A10. It is a tragic fact that due to a limited breath-hold time, especially in cold water, passengers have drowned following capsizing and submersion of the helicopter. The

recommended emergency breathing system is considered an appropriate method to increase the time available for escape.

Consequently, a regulatory text requiring EBS category A for all on board during operations in hostile sea areas is included in SPA.HOFO.155.

A side-floating helicopter scheme is presently discussed in a separate rulemaking task, and the Agency will not introduce a regulatory link between such equipment and EBS.

## 2.8. ICAO Annex 6 – Part III, Paragraph 2.3.4.4

Some comments received refer to the ICAO recommendation 'Offshore alternates should not be used when it is possible to carry enough fuel to have an onshore alternate. Offshore alternates should not be used in a hostile environment.'

The Agency has considered the recommendation once more and does not find it feasible to include it in its original text. To ensure the required operational flexibility and due to the geographical environment, the following text is introduced in SPA.HOFO.115: 'An offshore destination alternate aerodrome shall be used only after the point of no return (PNR) and when an onshore destination alternative aerodrome is not geographically available. Prior to the PNR an onshore destination alternate aerodrome shall be used.' The text is more restrictive than the previous JAR-OPS 3.295 paragraph, and also stricter and more prescriptive than the text in CAT.OP.MPA.181.

## 2.9. Amendments to Annex I and associated GM

### 2.9.1. Annex I Definitions; 'Helideck'

A new GM is included to ensure common understanding that all offshore landing and take-off areas are included in the definition.

### 2.9.2. Annex I Definitions; 'Hostile environment'

The definition is changed to accommodate the different comments received. The open sea areas north of 45N and south of 45S are defined as hostile environment. However, Member States may consider to declare parts of these sea areas as non-hostile if a safe forced landing can be accomplished, the helicopter occupants can be adequately protected from the elements, search and rescue response/capability is provided consistent with anticipated exposure and there is not an unacceptable risk of endangering persons or property on the ground.

The GM is adapted accordingly.

### 2.9.3. Annex I Definitions; 'Open sea area'

A new definition of open sea area and associated GM is included.

### 2.9.4. Annex I Definitions; 'Offshore location'

As the definition was rather detailed, the Agency has decided to move certain parts of more explanatory character into GM. Furthermore, a reference to shipboard heliports and shipboard winching areas, which are addressed in detail in Annex 14, is included in the GM.

### 2.9.5. Annex I Definitions; 'Offshore operation'

Parts of the definition are moved to GM due to their detailed and explanatory character.

The NPA included operations associated with support of offshore oil, gas and mineral exploration, production, storage and transport, and offshore wind turbines and other renewable energy sources. Operations to marine lights and sea-pilot transfer were also included. Other ships, not associated with the former, were not included. The Agency cannot justify maintaining such a regulatory difference as the associated risks are seen to be valid for the entire operational concept. The GM is, therefore, updated according to the definition of offshore operations.

#### 2.10. Amendment to GM to Part-ARO

The Agency accepts the comments on deletion of GM1 ARO.OPS.200 Specific approval procedure.

#### 2.11. Amendments to AMC and GM to Part-CAT

The following AMCs and GM are added to the list of 'Amendment of AMC and GM to Annex IV Part-CAT':

##### 2.11.1. AMC1 CAT.IDE.H.310 Additional requirements for helicopters operating to or from helidecks located in a hostile sea area

The AMC is deleted as it is included in AMC1 SPA.HOFO.155(d).

##### 2.11.2. AMC1 CAT.IDE.H.320(b) All helicopters on flight over water – ditching

The AMC is amended to refer to AMC1 SPA.HOFO.155(d).

##### 2.11.3. AMC3 CAT.IDE.H.145 Radio altimeter

A new AMC3 is introduced following the comments received. The previous AMC3 is re-designated as GM1. In addition, based on the comments received, AMC1 CAT.POOL.H.310(c)(2) Take-off and CAT.POL.H.325(c)(2) Landing, introduced with the NPA, are transferred to Part-SPO as AMC1 SPA.HOFO.145 Performance requirements – take-off and landing at offshore locations.

#### 2.12. Amendments to IR, AMC and GM to SPA.HOFO

##### 2.12.1. SPA.HOFO.100 Helicopter offshore operations

Text changes are made to improve the understanding of the paragraph.

The Agency accepts the comments on the deletion of item (c) and the accompanying AMC.

A new item (c) and associated GM was proposed by the Review Group:

SPA.HOFO.100(c)

The operator shall, prior to performing offshore operations in a Member State (MS) other than the MS that issued the approval under (a), inform the competent authorities of both MS.

GM1 SPA.HOFO.100(c)

The operator shall inform of its intentions to engage in offshore operations in another MS to ensure that this MS and the MS issuing the specific approval could mutually decide on how to exercise their obligations according to ARO.GEN.300 (d) and (e).

The proposal was justified by stating that conditions, especially in a hostile offshore environment, may not be sufficiently known or anticipated by authorities and operators from MS

not normally associated with offshore operations. Operational procedures that do not sufficiently reflect nor mitigate existing safety hazards may therefore be accepted by national authorities as basis for issuing an approval for offshore operations.

The Agency considered the proposal and finally concluded not to insert such a provision. It is the Agency's view that such provision puts in question the mutual acceptance of certificates and might limit the free movement of services. If the operation in a certain area represents particular challenges, nothing precludes a MS from stipulating in its AIP specific operating conditions for this area that must be met by any operator wishing to operate there. Member States are entitled to and responsible for overseeing such activity in accordance with ARO.GEN.300(d). Furthermore, in accordance with ARO.GEN.200(c), MS shall engage into a mutual exchange of information and assistance with other competent authorities. In addition, the certifying authority may limit the approval to certain areas. Therefore, the Agency considers the regulatory provisions as sufficient. However, the Agency is interested in the views of stakeholders and invites comments on the following question:

#### **Question 2.12.1**

Operator XYZ holds an offshore approval from MS A. Operator XYZ has one of its main activities in MS B.

Do stakeholders and NAAs see it as beneficial to introduce a regulatory requirement for operator XYZ to inform MS B before engaging into offshore operations from that MS?

Please justify your answer.

Eventual comments will be reviewed and taken into account when drafting the final EASA Opinion.

#### **2.12.2. SPA.HOFO.105 Operating procedures**

Item (a) is now aligned with similar Part-SPA paragraphs, and item (b) is changed based on comments.

In addition, as explained in 2.7, items are added based on CAP 1145.

AMCs are updated accordingly.

Furthermore, item (a) of AMC1 SPA.HOFO.100(c), which was deleted together with SPA.HOFO.100(c), is included as a new AMC1 SPA.HOFO.105(a).

A new AMC2 SPA.HOFO.105(b)(2) regarding alternative compliance with the passenger briefing is introduced based on the comments received.

Also new AMC1 SPA.HOFO.105(b)(5) regarding Automatic Flight Control Systems (AFCS) is included.

#### **2.12.3. SPA.HOFO.110 Use of offshore locations**

The Agency accepts the proposed amendments.

AMC and GM are updated.

A new GM2 is included related to further guidance material for operations to offshore locations.

#### **2.12.4. SPA.HOFO.115 Selection of aerodromes and operating sites**

The Agency accepts the proposed amendments.

AMC1, AMC2 and GM1 are updated accordingly.

**2.12.5. SPA.HOFO.120 Flight data monitoring (FDM) programme**

See also Chapter 2.6 'NPA Question 6'.

AMC and GM are updated according to the comments received.

**2.12.6. SPA.HOFO.125 Flight following system**

The Agency accepts the proposed amendments.

**2.12.7. SPA.HOFO.130 Airborne radar approaches (ARA) to offshore locations-CAT operations**

The Agency accepts the proposed text changes.

**2.12.8. SPA.HOFO.140 Wind limitations for operations to offshore locations**

The Agency accepts the proposed amendments.

Note that the term 'mean wind' is substituted by 'wind speed' as gusts are included.

**2.12.9. SPA.HOFO.145 Performance requirements at offshore locations**

The Agency decided to maintain the requirement but to simplify the text. The initially introduced AMC1 CAT.POL.H.310(c)(2) and CAT.POL.H.325(c)(2) is reallocated as AMC1 SPA.HOFO.145.

**2.12.10. SPA.HOFO.150 Equipment requirements**

The Agency accepts deletion of item (a)(3) 'Airborne weather detecting equipment'.

Item (b) is amended based on CAP 1145, as explained in chapter 2.7.

GM1 is included related to radio altimeter information.

The Agency accepts the comments received to ensure prevention related to controlled flight into terrain (sea). This corresponds with the recommendation in ICAO Annex 6, Part III, Section II. As there is an uncertainty regarding retro fitment for some helicopter types, a requirement to install terrain awareness and warning system (HTAWS) for helicopters with an individual Certificate of Airworthiness after 31 December 2018 is introduced in item (c).

**2.12.11. SPA.HOFO.155 Additional equipment for operations in a hostile environment**

The Agency has included a requirement for survival suits for passengers and emergency breathing system (initiated by CAP 1145) for all occupants as new items (b) and (c). Associated AMCs are included as well.

Furthermore, the Agency accepts the proposal to include a derogation from the survival suit requirement thereby allowing medically incapacitated passengers to board helicopters on return or inter-rig flights when partly wearing, or not wearing survival suits. The initial IR would prevent CAT operators from accepting such passengers. An associated AMC is included as well.

A reference to CAT.IDE.H.300 is made to clarify the number of life rafts required to be installed.

Item (f), renamed (h), 'Emergency exits and escape hatches' is transposed from CAT.IDE.H.310 and NCC.IDE.H.231. The initial CAT.IDE and NCC.IDE paragraphs had a slightly different wording. The Agency transferred the wording of NCC.IDE.H.231 as it is clearer. An associated GM1 is included.

AMC1 SPA.HOFO.155 is deleted based on the comments received.

A new AMC1 SPA.HOFO.155(d) for installation of life-raft is included.

#### 2.12.12. SPA.HOFO.160 Vibration health monitoring system

The Agency accepts to postpone the dates of VHM implementation to provide for a sufficient installation time frame. Furthermore, only 'older' helicopters with MOPSC greater than 9 are affected.

#### 2.12.13. SPA.HOFO.165 Crew requirements

Based on the comments from 11 stakeholders, the Agency accepted to amend the proposed 28-day recency period as used by some major operators. Paragraph FCL.060 of Regulation (EU) No 1178/2011 defines 90 days as a sufficient recency period, and determines the number of take-offs and landings that need to be conducted during this period. SPA.HOFO specifies, in addition, that these take-offs and landings must be performed at an offshore location. Furthermore, they contain additional requirements for co-pilots flying during night.

The introduced requirements do not deny an operator to maintain an already introduced 28-days recency period.

AMC1 is adjusted accordingly and an associated GM is added.

### 2.13. Performance Indicators

In order to measure the effectiveness of this regulatory activity, the Agency is proposing to set a number of performance indicators. The measurement of these indicators should help to identify certain trends and to facilitate a later review of the rules. As this is a rather new concept in the area of air operations and as the Agency will depend to a certain extent on MS, who are responsible for the implementation of the rules, stakeholders and NAAs are invited to comment specifically on these indicators.

1. Number of accidents or serious incidents in helicopter offshore operations: from the application of the new rule for 7 years compared to the reference period 2010-2015.

While the number of incidents is a retroactive measurement (the incident has happened and could not be prevented – either through a sufficient regulatory environment, oversight or correct application of rules and safety management), this indicator could give an indication if the regulatory framework is sufficient, or has loopholes, or lacks clarity. It should be taken into account that occurrences have several contributing factors and that it is not always easy to determine if the lack of rules was one of the main contributors. 7 years are proposed since FDM and VHM have longer transition periods.

2. Number of newly issued SPA approvals (no offshore activity before the applicability of this new rule).

This indicator measures if the new harmonised SPA approval leads to an increase in helicopter offshore activities, allowing new operators to enter the market. One of the objectives of this proposal is to provide harmonised rules for the EU, including NCC and SPO. Especially the aerial work sector is a relatively new offshore activity where EASA could not obtain much information. Having an overview of the approvals issued may provide a better insight into the activities and demands of this particular sector.

3. Shifts in the operator community – emerging of NCO operations.

This indicator is difficult to measure as NCO operations will not fall under any approval requirement. The Agency will depend on MS observing the activity in their territory and possibly information collected through ramp inspections. Several commentators voiced the concern that with this new proposal operational activity could shift from rather well regulated CAT operations to a non-commercial environment. This indicator should help to

detect such trends and, together with indicator No 1, may provide some information if the regulatory framework is sufficient.

### 3. Draft Rules

#### 3.1. Draft EASA Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) No 965/2012 of 25 October 2012

**(a)** Amendment to the Cover Regulation

(1) Article 5 'Air operations'.

In paragraph 2 a new subparagraph (g) is included:

(g) helicopters used for offshore operations (HOFO).

(2) Article 6 'Derogations'.

Paragraph 4 is deleted.

(3) Article 10 'Entry into force'.

A new paragraph 8 is added:

8 Paragraph SPA.HOFO.120 shall apply from 1 January 2019.

(4) In addition, the amending Regulation to Commission Regulation (EU) No 965/2012 should include the following entry into force requirement:

'This Regulation shall enter into force on the 20<sup>th</sup> day following that of its publication in the Official Journal of the European Union.

It shall apply from [1 year after entry into force].'

**(b)** Amendment to Annex I (Definitions for terms used in Annexes II–VIII<sup>5</sup>)

(1) The definition of 'hostile environment' is amended as follows:

(69) 'hostile environment' means:

(a) An area where a safe forced landing cannot be accomplished because the surface is inadequate;

(b) An area where the helicopter occupants cannot be adequately protected from the elements;

(c) An area where search and rescue response/capability is not provided consistent with anticipated exposure;

(d) An area where there is an unacceptable risk of endangering persons or property on the ground;

(e) A congested area without adequate safe forced landing areas; or

(f) An open sea area north of 45N and south of 45S, except if (a) – (d) do not apply.

(2) The definition of 'offshore location' is inserted:

(85a) 'Offshore location' means a facility intended to be used for helicopter operations on a fixed or floating offshore structure or a vessel.

(3) The definition of 'offshore operations' is amended and renumbered:

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<sup>5</sup> Current status when publishing this NPA being Annexes I to V only; Annexes VI, VII and VIII are expected to be implemented in an updated version of Commission Regulation (EU) No 965/2012 prior to the possible introduction of Subpart K to Annex V.

(86) 'Offshore operation' means a helicopter operation that has a substantial proportion of any flight conducted over open sea areas to or from an offshore location.

- (4) The definition of 'open sea area' is inserted

(86a) 'Open sea area' means the area of water to seaward of the coastline.

**(c)** Amendments to Annex II (Part-ARO Authority Requirements for Air Operations)

- (1) Appendix II 'Operations Specifications'.

Insert below 'Helicopter emergency medical service operations':

Helicopter offshore operations

- (2) Appendix V<sup>6</sup> 'List of specific approvals'.

In footnote No 10 include HOFO as the last acronym as follows:

List in this column any approved operations, e.g., Dangerous goods, LVO, RVSM, RNP, MNPS, NVIS, HHO and HOFO.

**(d)** Amendments to Annex IV (CAT)

- (1) Paragraph CAT.OP.MPA.120 is deleted.

- (2) Paragraph CAT.OP.MPA.181 is amended:

Subparagraphs (b)(1) and (d) are deleted.

Subparagraphs (b)(2), (b)(3) and (e) are renumbered (b)(1), (b)(2) and (d) respectively.

- (3) Paragraph CAT.OP.MPA.247 is amended:

Subparagraph (b) is deleted and (c) is renumbered (b).

- (4) Paragraph CAT.IDE.H.280 is amended:

Subparagraph (b) is deleted.

Subparagraph (c) is renumbered (b).

- (5) Paragraph CAT.IDE.H.295 is amended:

Subparagraph (a) is deleted.

The remaining paragraph reads:

Each crew member shall wear a survival suit when operating in performance class 3 on a flight over water beyond autorotational distance or safe forced landing distance from land, when the weather report or forecasts available to the commander indicate that the sea temperature will be less than plus 10 °C during the flight.

- (6) Paragraph CAT.IDE.H.310 is deleted.

**(e)** Amendments to Annex V (Part-SPA Specific Approvals)

A new Subpart K is inserted:

**Subpart K – Helicopter offshore operations (HOFO)**

**SPA.HOFO.100 Approval for offshore operations**

- (a) Prior to engaging in offshore operations under this Subpart the operator shall have been issued a specific approval by the competent authority.

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<sup>6</sup> Appendix V to Annex II is expected to be published prior to the possible introduction of Subpart K to Annex V with amending Regulation introducing non-commercial operations to Commission Regulation (EU) No 965/2012.

- (b) To obtain such approval, the operator shall submit an application to the competent authority as specified in SPA.GEN.105, and shall also demonstrate compliance with the requirements of this Subpart. In addition, the operator shall comply with one of the following requirements:
- (1) a CAT operator shall hold a valid AOC in accordance with Part-ORO;
  - (2) a non-commercial operator of a complex motor-powered helicopter shall have declared its activity in accordance with Part-ORO; or
  - (3) a specialised operations operator shall have declared its activity in accordance with Part-ORO.

#### **SPA.HOFO.105 Operating procedures**

- (a) The operator shall, as part of its risk analysis and management process, mitigate or minimise risks and hazards specific to helicopter offshore operations by specifying in the operations manual:
- (1) selection, composition and training of crews;
  - (2) duties and responsibilities of crew members and other involved personnel;
  - (3) required equipment and dispatch criteria; and
  - (4) operating procedures and minima, such that normal and likely abnormal operations are described and adequately mitigated.
- (b) The operator shall ensure that:
- (1) an operational flight plan is prepared prior to each flight;
  - (2) the passenger safety briefing also includes any specific information on offshore related items and is given prior to boarding the helicopter;
  - (3) when the weather report or forecasts available to the pilot-in-command/commander indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night in a hostile environment, each member of the flight crew wears a survival suit;
  - (4) where established, the offshore route structure provided by appropriate ATS is used;
  - (5) pilots make optimum use of the automatic flight control systems (AFCS) throughout the flight;
  - (6) specific offshore approach profiles are established, including stable approach parameters and the corrective action to be taken if an approach becomes unstable;
  - (7) for multi-crew operations, procedures are in place for a member of the flight crew to monitor the flight instruments during an offshore flight, especially during approach or departure, to ensure that a safe flight path is maintained; and
  - (8) the flight crew takes immediate and appropriate action when a height alert is activated;
  - (9) all equipment for assistance during emergency landing or evacuation that deploy automatically are armed as appropriate prior to take-off and landing; and
  - (10) operations are conducted in accordance with any restriction on the routes or the areas of operation specified by the competent authority or the appropriate authority responsible for the airspace.

**SPA.HOFO.110 Use of offshore locations**

The operator shall only use offshore locations that are suitable for the type of helicopter and operations concerned.

**SPA.HOFO.115 Selection of aerodromes and operating sites****(a) ONSHORE DESTINATION ALTERNATE AERODROME**

Notwithstanding CAT.OP.MPA.181, NCC.OP.152, and SPO.OP.151, the pilot-in-command/commander does not need to specify a destination alternate aerodrome in the operational flight plan when conducting flights from an offshore location to a land aerodrome when:

- (1) the aerodrome has a published instrument approach; and
- (2) the flight time is less than 3 hours; and
- (3) the published weather forecast (TAF) valid from 1 hour prior to, and 1 hour subsequent to the expected landing time specifies that:
  - i. cloud base is at least 700 feet above the minima associated with the instrument approach, or 1 000 feet above the aerodrome, whichever is the higher; and
  - ii. visibility is at least 2 500 meters.

or

- (4) the aerodrome is defined as a coastal aerodrome.

**(b) OFFSHORE DESTINATION ALTERNATE AERODROME**

The operator may select an offshore destination alternative aerodrome when the following criteria are applied:

- (1) an offshore destination alternate aerodrome shall be used only after the point of no return (PNR) and when an onshore destination alternative aerodrome is not geographically available. Prior to the PNR an onshore destination alternate aerodrome shall be used;
- (2) one engine inoperative (OEI) landing capability shall be attainable at the offshore destination alternate aerodrome;
- (3) to the extent possible, helideck availability shall be guaranteed prior to PNR. The dimensions, configuration and obstacle clearance of individual helidecks or other sites shall be addressed in order to establish operational suitability for use as an alternate aerodrome by each helicopter type proposed to be used;
- (4) weather minima shall be established taking into account the accuracy and reliability of meteorological information;
- (5) the MEL shall contain specific provisions for this type of operation; and
- (6) an offshore destination alternate aerodrome shall only be selected if the operator has established a procedure in the operations manual.

**SPA.HOFO.120 Flight data monitoring (FDM) system**

- (a) When conducting CAT operations with a helicopter equipped with a flight data recorder, the operator shall establish and maintain a flight data monitoring system which shall be integrated in its management system by 1 January 2019.
- (b) The flight data monitoring system shall be non-punitive and contain adequate safeguards to protect the source(s) of the data.

**SPA.HOFO.125 Flight following system**

An operator shall establish and maintain a monitored flight following system for offshore operations in a hostile environment from the time the helicopter departs until it arrives at its final destination.

**SPA.HOFO.130 Airborne radar approaches (ARAs) to offshore locations - CAT operations**

- (a) A CAT operator shall establish operational procedures and ensure that ARAs are only undertaken if:
- (1) the helicopter is equipped with a radar capable of providing information regarding the obstacle environment; and
  - (2) either:
    - (i) the minimum descent height (MDH) is determined from a radio altimeter; or
    - (ii) the minimum descent altitude (MDA) plus an adequate margin is applied.
- (b) ARAs to rigs or vessels in transit shall be conducted as multi-crew operations.
- (c) The decision range shall provide adequate obstacle clearance in the missed approach from any destination for which an ARA is planned.
- (d) The approach shall only be continued beyond decision range or below the minimum descent altitude/height (MDA/H) when visual reference with the destination has been established.
- (e) For single-pilot CAT operations, appropriate increments shall be added to the MDA/H and decision range.

**SPA.HOFO.135 Meteorological conditions**

Notwithstanding CAT.OP.MPA.247, NCC.OP.180 and SPO.OP.170, when flying between offshore locations located in class G airspace where the overwater sector is less than 10 NM, VFR flights may be conducted when the limits are at, or better than, the following:

<b>Minima for flying between offshore locations located in class G airspace</b>				
	<b>Day</b>		<b>Night</b>	
	<b>Height *</b>	<b>Visibility</b>	<b>Height *</b>	<b>Visibility</b>
Single pilot	300 feet	3 km	500 feet	5 km
Two pilots	300 feet	2 km**	500 feet	5 km***

\* The cloud base shall allow flight at the specified height, below and clear of cloud.

\*\* Helicopters may be operated in flight visibility down to 800 m provided the destination or an intermediate structure is continuously visible.

\*\*\* Helicopters may be operated in flight visibility down to 1 500 m provided the destination or an intermediate structure are continuously visible.

**SPA.HOFO.140 Wind limitations for operations to offshore locations**

Operation to an offshore location shall only be performed when the wind speed at the helideck is reported to be not more than 60 knots including gusts.

**SPA.HOFO.145 Performance requirements at offshore locations**

Helicopters taking off and landing at offshore locations shall be operated in accordance with the requirements defined in Annex IV (Part-CAT), Subpart C, Section 2.

**SPA.HOFO.150 Equipment requirements**

- (a) The operator shall comply with the following equipment requirements:
- (1) Public address (PA) system in helicopters used for CAT and NCC operations
    - (i) Helicopters with an MOPSC of more than 9 shall be equipped with a public address (PA) system.
    - (ii) Helicopters with an MOPSC of 9 or less may not need to equip the helicopter with a PA system if the operator can demonstrate that the pilot's voice is understandable at all passengers' seats in flight.
  - (2) Radio altimeter

Helicopters shall be equipped with a radio altimeter capable of emitting an audio warning below a pre-set height and a visual warning at a height selectable by the pilot in accordance with CAT.IDE.H.145.
- (b) Emergency exits
- All emergency exits, including crew emergency exits, and any door, window or other opening that is intended for emergency egress and the means for opening them shall be clearly marked for the guidance of occupants using them in daylight or in the dark. Such markings shall be designed to remain visible if the helicopter is capsized or the cabin is submerged.
- (c) Helicopter terrain awareness warning system (HTAWS)
- Helicopters used in CAT operations with a maximum certificated take-off mass (MCTOM) of more than 3 175 kg or a maximum operational passenger seating configuration (MOPSC) of more than 9 and first issued with an individual Certificate of Airworthiness after 31 December 2018 shall be equipped with an HTAWS that meets the requirements for Class A equipment as specified in an acceptable standard.

**SPA.HOFO.155 Additional procedures and equipment for operations in a hostile environment**

- (a) Life jackets
- Life jackets shall be worn at all times by all persons on board unless integrated survival suits that meet the combined requirement of the survival suit and life jacket are worn.
- (b) Survival suits
- (1) General

When the weather report or forecasts available to the commander/pilot-in-command indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, each passenger on board shall wear a survival suit.
  - (2) Medically incapacitated passengers

Notwithstanding (b)(1), the operator may, based on a risk assessment, allow passengers medically incapacitated at an offshore location to partly wear or not wear survival suits on return flights or flights between offshore locations.
- (c) Emergency Breathing System
- All persons on board shall carry and be instructed on the use of Emergency Breathing Systems.

- (d) Life rafts
- (1) All life rafts carried shall be installed so as to be usable in the sea conditions in which the helicopter's ditching, flotation, and trim characteristics were evaluated for certification.
  - (2) The number of life rafts carried shall be as specified in CAT.IDE.H.300.
- (e) Emergency cabin lighting
- The helicopter shall be equipped with an emergency lighting system with an independent power supply to provide a source of general cabin illumination to facilitate the evacuation of the helicopter.
- (f) Emergency locator transmitter (ELT)
- The helicopter shall be equipped with an automatically deployable ELT (ELT (AD)) capable of transmitting simultaneously on 121,5 and 406 MHz.
- (g) Securing of non-jettisonable doors
- Non-jettisonable doors that are designated as ditching emergency exits shall have a means of securing them in the open position so that they do not interfere with the occupants' egress in all sea conditions up to the maximum required to be evaluated for ditching and flotation.
- (h) Emergency exits and escape hatches
- All emergency exits, including crew emergency exits, and any door, window or other opening intended to be used for the purpose of underwater escape shall be equipped so as to be operable in an emergency.

#### **SPA.HOFO.160 Vibration health monitoring system**

- (a) The following helicopters conducting CAT offshore operations in a hostile environment shall be fitted with a vibration health monitoring (VHM) system capable of monitoring the status of critical rotor and rotor drive systems by 1 January 2019:
- (1) Complex motor-powered helicopters first issued with an individual Certificate of Airworthiness (C of A) after 31 December 2016;
  - (2) All helicopters with a MOPSC of more than 9 and first issued with an individual C of A before 1 January 2017; or
  - (3) All helicopters first issued with an individual C of A after 31 December 2018.
- (b) The operator shall have a system to:
- (1) collect the data including system generated alerts;
  - (2) analyse and determine component serviceability; and
  - (3) respond to detected incipient failures.

#### **SPA.HOFO.165 Crew requirements**

- (a) The operator shall establish:
- (1) criteria for the selection of flight crew members, taking into account flight crew members' previous experience;
  - (2) a minimum experience level for a commander/pilot-in-command intending to conduct offshore operations; and
  - (3) a flight crew training and checking programme that each flight crew member shall complete successfully. Such programme shall be adapted to the offshore

environment and include normal, abnormal and emergency procedures, crew resource management, water entry and sea survival training.

(b) Recency requirements

A pilot conducting offshore operations shall only operate a helicopter:

- (1) as commander/pilot-in-command or co-pilot when he/she has carried out, in the preceding 90 days, at least 3 take-offs, departures, approaches and landings at an offshore location in a helicopter of the same type or a FFS representing that type. The 3 take-offs and landings shall be performed in either multi-pilot or single-pilot operations, depending on the privileges held by the pilot, and;
- (2) as commander/pilot-in-command or co-pilot at night when he/she has carried out, in the preceding 90 days, at least 3 take-offs, departures, approaches and landings at an offshore location in a helicopter of the same type or a FFS representing that type.

(c) Specific requirements for CAT:

- (1) In the case of CAT, the 90-day period presented in subparagraphs (b)(1) and (2) above may be extended to 120 days, as long as the pilot undertakes line flying under the supervision of a type rating instructor or examiner.
- (2) If the pilot does not comply with the requirements in (1), he/she shall complete a training flight in the helicopter or an FFS of the helicopter type to be used, which shall include at least the requirements described in (b)(1) and (2) before he/she can exercise his/her privileges.

**(f)** Amendments to Annex VI (Part-NCC)

- (1) Paragraph NCC.OP.152 Destination alternate aerodromes – helicopters is amended as follows:

Subparagraph (b)(3) is deleted.

- (2) Paragraph NCC.IDE.H.215 Emergency locator transmitter (ELT) is amended as follows:

Subparagraph (b) is deleted.

Subparagraph (c) is renumbered (b).

- (3) Paragraph NCC.IDE.H.226 Crew survival suits is amended as follows:

Subparagraph (a) is deleted.

The remaining paragraph reads:

Each crew member shall wear a survival suit when so determined by the pilot-in-command based on a risk assessment taking into account the following conditions:

- (1) flights over water beyond autorotational distance or safe forced landing distance from land, where in the case of the critical engine failure, the helicopter is not able to sustain level flight; and
  - (2) the weather report or forecasts available to the pilot-in-command indicate that the sea temperature will be less than plus 10 °C during the flight.
- (4) Paragraph NCC.IDE.H.231 Additional requirements for helicopters conducting offshore operations in a hostile sea area is deleted.

**(g)** Amendments to Annex VIII (Part-SPO)

- (1) Paragraph SPO.OP.151 Destination alternate aerodromes – helicopters is amended as follows:

Subparagraph (b)(3) is deleted.

- (2) Paragraph SPO.IDE.H.198 Survival suits – complex motor-powered helicopters is amended as follows:

The last word and the colon (operating:) in the introduction sentence is deleted.

Subparagraph (a) is deleted.

The text in (b) is added to the introduction sentence.

The remaining paragraph reads:

Each person on board shall wear a survival suit when so determined by the pilot-in-command based on a risk assessment taking into account the following conditions:

- (1) flights over water beyond autorotational distance or safe forced-landing distance from land, where in the case of the critical engine failure, the helicopter is not able to sustain level flight; and
  - (2) the weather report or forecasts available to the pilot-in-command indicate that the sea temperature will be less than plus 10 °C during the flight.
- (3) Paragraph SPO.IDE.H.201 Additional requirements for helicopters conducting offshore operations in a hostile sea area – complex motor-powered helicopters is deleted.

### 3.2. Draft Decision amending Decisions 2012/016/R, 2012/018/R, and 2012/019/R of the Executive Director of the European Aviation Safety Agency of 24 and 25 October 2012 on air operations

#### (a) Amendment of GM to Annex I, Definitions of terms used in Annexes II-VII

*Note: To maintain alphabetical order, the numbering is changed for some of the existing GM.*

- (1) A new GM 3 Annex I 'Helideck' is inserted:

HELIDECK

The term 'helideck' includes take-off and landing operations to ships and vessels and includes 'shipboard heliport'.

- (2) GM3 Annex I Definitions 'Helicopter emergency medical services (HEMS) flight' is redefined as GM5.

- (3) GM5 Annex I Definitions 'Hostile environment' is redefined as GM6 and changed as follows:

HOSTILE ENVIRONMENT

When the competent authority defines an open sea area as non-hostile according to item (f) in the definition, it should be so designated in the appropriate Aeronautical Information Publication or other suitable documentation.

- (4) GM6 Annex I Definitions 'Night vision imaging system (NVIS)' is redefined as GM7.

- (5) A new GM8 Annex I 'Offshore location' is inserted:

OFFSHORE LOCATION

Offshore location includes, but is not limited, to:

- (a) helidecks;
- (b) shipboard heliports; and
- (c) winching areas on vessels, renewable energy installations or marine light installations.

- (6) GM7 Annex I Definitions 'Offshore operations' is redefined as GM9 and amended as follows:

OFFSHORE OPERATION

An Offshore operation is considered to be a helicopter flight for the purpose of:

- (a) support of offshore oil, gas and mineral exploration, production, storage and transport;
- (b) support to offshore wind turbines and other renewable energy sources;
- (c) support to marine lights; or
- (d) support to ships including sea-pilot transfer.

- (7) A new GM10 Annex I Definitions 'Open sea area' is inserted:

COASTLINE

The national definition of coastline should be included by the appropriate authority in the Aeronautical Information Publication or other suitable documentation.

- (8) GM8 Annex I Definitions 'Public interest site' is redefined as GM11.

- (9) GM9 Annex I Definitions 'Technical instructions' is redefined as GM12.

- (10) GM10 Annex I Definitions 'V1' is redefined as GM13.

**(b)** Amendment of AMC/GM to Annex II, Part-ARO

- (1) A new AMC3 ARO.OPS.200 is added:

**AMC3 ARO.OPS.200 Specific approval procedure**

## APPROVAL OF HELICOPTER OFFSHORE OPERATIONS

## (a) Approval

When verifying compliance with the applicable requirements of Subpart K of Annex V to Part-SPA, the competent authority should ensure prior to issuing an approval that:

- (1) the hazard identification, risk assessment and risk mitigation processes are in place;
- (2) operating procedures have been established applicable to the area of operation;
- (3) helicopters are appropriately certified and equipped for the area of operation;
- (4) flight crew involved in these operations are trained and checked in accordance with the training and checking programmes established by the operator; and
- (5) all requirements of Part-SPA Subpart K are met.

## (b) Demonstration flight(s)

The final step of the approval process may require a demonstration flight performed in the area of operation. The competent authority may appoint an inspector for a flight to verify that all relevant procedures are applied effectively. If the performance is satisfactory, helicopter offshore operations may be approved.

- (2) A new GM1 ARO.OPS.200 is added:

**GM1 ARO.OPS.200 Specific approval procedure**

## LIMITATIONS FOR HELICOPTER OFFSHORE OPERATIONS

The competent authority may impose limitations related to routes and areas of operation for offshore helicopter operations. Such limitations may be specified in the OPSSPEC or specific approved documents or in the AIP or by other means.

For operations over sea areas, limitations may include a maximum significant wave height under which there is a good prospect of recovery of survivors. This should be linked to the available search and rescue capabilities available in the different sea areas.

**(c)** Amendment of AMC and GM to Annex IV Part-CAT

- (1) AMC2 CAT.OP.MPA.105 is deleted.
- (2) AMC1 CAT.OP.MPA.120 is deleted.
- (3) GM1 CAT.OP.MPA.120 is deleted.
- (4) AMC1 CAT.OP.MPA.181(b)(1) is deleted.
- (5) AMC1 CAT.OP.MPA.181(d) is deleted.
- (6) GM1 CAT.OP.MPA.181 is amended:

Text under the heading OFFSHORE ALTERNATES is deleted.

- (7) AMC1 CAT.IDE.H.310 is deleted.
- (8) AMC1 CAT.IDE.H.320(b) is amended as follows:  
In the text, the reference to 'AMC1 CAT.IDE.H.310' is substituted by 'AMC1 SPA.HOFO.155(d)'.
- (9) A new AMC1 CAT.POL.H.305(a) is added:

**AMC1 CAT.POL.H.305(a) Operations without an assured safe forced landing capability**

VALIDITY OF THE RISK ASSESSMENT

The operator should ensure that the conditions pertaining to the granting of the approval and the associated risk assessment remain valid for the type of operations being conducted.

- (10) New AMC2 CAT.IDE.H.145, AMC3 CAT.IDE.H.145 and AMC4 CAT.IDE.H.145 are added:

**AMC2 CAT.IDE.H.145 Radio altimeters**

RADIO ALTIMETER DISPLAY

The height display should include an analogue presentation such as a dial or strip, and not solely a digital presentation.

**AMC3 CAT.IDE.H.145 Radio altimeters**

AUDIO WARNING

- (a) The audio warning should be a voice warning.
- (b) The audio warning may be provided by a HTAWS.

**AMC4 CAT.IDE.H.145 Radio altimeters**

AUDIO VOICE ALERTING DEVICE

- (a) To be effective, the voice warning alert should be distinguishable from other warnings and should contain a clear and concise voice message.
- (b) The warning format should meet the following conditions:
- (1) the warning should be unique (i.e. voice);
  - (2) it should not be inhibited by any other audio warnings;
  - (3) the urgency of the warning should be adequate to draw attention but not such as to cause undue annoyance during deliberate descents through the datum height.
- (c) The characteristics above can be satisfactorily met if the warning format incorporates all of the following features:
- (1) a unique tone should precede the voice message. A further tone after the voice may enhance uniqueness and attention-getting without causing undue annoyance;
  - (2) the perceived urgency of the tone and voice should be moderately urgent;
  - (3) the message should be compact as opposed to lengthy, provided the meaning is not compromised, e.g. 'One fifty feet' as opposed to 'One hundred and fifty feet';

- (4) an information message is preferable (e.g. 'One hundred feet'). Messages such as 'Low height' do not convey the correct impression during deliberate descents through the datum height;
  - (5) command messages (e.g. 'Pull up, pull up') should not be used unless they relate specifically to height monitoring (e.g. 'Check height');
  - (6) the volume of the warning should be adequate and not variable below an acceptable minimum value.
- (d) Every effort should be made to prevent spurious warnings.
  - (e) The height at which the audio warning is triggered by the radio altimeter should be such as to provide adequate warning for the pilot to take corrective action. It is envisaged that most installations will adopt a height in the range of 100–160 feet. The datum should not be adjustable in flight.
  - (f) The pre-set datum height should not be set in a way that it will coincide with commonly used instrument approach minima (i.e. 200 feet). Once triggered, the message should sound within 0.5 seconds.
  - (g) The voice warning should be triggered only whilst descending through the pre-set datum height and be inhibited whilst ascending.
- (d)** New AMCs and GMs to Annex V Part-SPA, Subpart K are added:

**AMC1 SPA.HOFO.105(a) Operating procedures**

## RISK ASSESSMENT

The operator's risk assessment should include, but not be limited to, the following hazards:

- (a) Collision with vessels and floating structures;
- (b) collision with wind turbines;
- (c) collision with sky sails;
- (d) collision during low level IMC operations;
- (e) collision with obstacles adjacent to helidecks;
- (f) IMC or night offshore approaches; and
- (g) loss of control during operations to small or moving offshore locations.

**AMC1 SPA.HOFO.105(b)(1) Operating procedures**

## OPERATIONAL FLIGHT PLAN

The operational flight plan should contain at least the items listed in AMC1 CAT.OP.MPA.175(a) Flight preparation.

**AMC1 SPA.HOFO.105(b)(2) Operating procedures**

## PASSENGER BRIEFING

The following aspects applicable to the helicopter used should be presented and demonstrated to the passengers by audio-visual electronic means (video, DVD or similar), or the passengers should be informed about them by a crew member, prior to boarding the aircraft for onshore and offshore flights:

- (a) the use of the life jackets and where they are stowed if not in use;

- (b) the proper use of survival suits, including briefing on the need to have suits fully zipped with, if applicable, hoods and gloves on during take-off and landing or when otherwise advised by the pilot-in-command/commander;
- (c) the proper use of emergency breathing equipment. Information should include that the air supply is discharged automatically, making the system usable even if the wearer has not taken a breath before becoming submerged;
- (d) the location and operation of the emergency exits;
- (e) life raft deployment and boarding;
- (f) deployment of all survival equipment; and
- (g) boarding and disembarkation instructions.

When operating in a non-hostile environment, the operator may omit items related to equipment which is not required.

### **AMC1.1 SPA.HOFO.105(b)(2) Operating procedures**

#### PASSENGER BRIEFING

*Note that the Acceptable Means of Compliance as set out in AMC1 SPA.HOFO.105(b)(2) are related to regular passengers being transported between take-off and landing areas. The Acceptable Means of Compliance as set out in AMC1.1 SPA.HOFO.105(b)(2) are related to passengers who may require, or be required, to have more knowledge of the operational concept, such as sea pilots and similar.*

- (a) The operator may replace the passenger briefing as set out in AMC1 SPA.HOFO.105(b)(1) with a passenger training programme covering all safety and emergency procedures for a given helicopter type.
- (b) The operator should in addition specify other offshore-related safety training required for the operation, such as helicopter underwater escape training (HUET).
- (c) Only passengers who have been trained according to this programme and have flown on the helicopter type within the last 90 days may be carried on board without receiving a passenger briefing.

### **AMC1 SPA.HOFO.105(b)(5) Operating procedures**

#### AUTOMATIC FLIGHT CONTROL SYSTEM (AFCS)

To ensure competence in manual handling of the helicopter, the operator should provide instructions to the flight crew in the operations manual under which flight conditions the helicopter may be operated in lower modes of automation.

### **AMC1 SPA.HOFO.110 Use of offshore locations**

#### GENERAL

- (a) The operations manual relating to the specific usage of offshore helicopter landing areas (Part C for CAT operators) should contain both the listing of helideck limitations in a helideck limitations list (HLL) and a pictorial representation of each offshore location and its helicopter landing area recording all necessary information of a permanent nature. The HLL should show, and be amended as necessary to indicate, the most recent status of each helideck concerning non-compliance with applicable standards, ICAO Annex 14, Volume 2, limitations, warnings, cautions or other comments of operational importance. An example of a typical template is shown in figure 1 of GM1 SPA.HOFO.110.

- (b) In order to ensure that the safety of flights is not compromised, the operator should obtain relevant information and details for compilation of the HLL, and the pictorial representation from the owner/operator of the offshore helicopter landing area.
- (c) If more than one name of the offshore location exists, the common name painted on the surface of the landing area should be listed, but other names should also be included in the HLL (e.g. radio call sign if different). After renaming an offshore location, the old name should be included in the HLL for the following 6 months.
- (d) All limitations should be included in the HLL. Offshore locations without limitations should also be listed. With complex installation arrangements including combinations of installations/vessels (e.g. Combined Operations), a separate listing in the HLL, accompanied by diagrams where necessary, may be required.
- (e) Each offshore helicopter landing area should be assessed based on limitations, warnings, instructions and restrictions to determine its acceptability with respect to the following that, as a minimum, should cover the factors listed below:

- (1) The physical characteristics of the landing area including size and load bearing capability.
- (2) The preservation of obstacle-protected surfaces is the most basic safeguard for all flights.

These surfaces are:

- (i) the minimum 210° obstacle-free surface (OFS);
- (ii) the 150° limited obstacle surface (LOS); and
- (iii) the minimum 180° falling '5:1' gradient with respect to significant obstacles.

If these sectors/surfaces are infringed, even on a temporary basis, and/or if an adjacent installation or vessel infringes the obstacle protected surfaces related to the landing area, an assessment should be made to determine whether it is necessary to impose operating limitations and/or restrictions to mitigate any non-compliance with the criteria.

- (3) Marking and lighting:
  - (i) for operations at night, adequate illumination of the perimeter of the landing area, utilising perimeter lighting;
  - (ii) for operations at night, adequate illumination of the location of the touchdown marking by use of a lit touchdown/positioning marking and lit heliport identification marking or by perimeter floodlighting;
  - (iii) status lights (for night and day operations, indicating the status of the helicopter landing area e.g. a red flashing light indicates 'landing area unsafe: do not land');
  - (iv) dominant obstacle paint schemes and lighting;
  - (v) condition of helideck markings; and
  - (vi) adequacy of general installation and structure lighting.

Any limitations in respect to non-compliant lighting arrangements should be annotated 'daylight only operations' in the HLL.

- (4) Deck surface:
  - (i) assessment of surface friction;
  - (ii) adequacy and condition of helideck net (where provided);

- (iii) fit for purpose drainage system;
  - (iv) deck edge safety netting or shelving;
  - (v) a system of tie-down point adequate for the range of helicopters in use; and
  - (vi) ensuring the surface is kept clean of all contaminants e.g. bird guano, sea spray, snow and ice.
- (5) Environment:
- (i) foreign object damage;
  - (ii) an assessment of physical turbulence generators e.g. structure-induced turbulence due to clad derrick;
  - (iii) bird control measures;
  - (iv) air quality degradation due to exhaust emissions, hot gas vents (turbulence and thermal effects) or cold gas vents; and
  - (v) adjacent offshore installations may need to be included in air quality assessment.
- To assess for potential adverse environmental effects described in (ii), (iv) and (v), an offshore location should be subject to appropriate studies e.g. wind tunnel testing, CFD analysis.
- (6) Rescue and firefighting:
- (i) systems for delivery of firefighting media to the landing area e.g. DIFFS;
  - (ii) delivery of primary media types, critical area, application rate and duration;
  - (iii) deliveries of complementary agent(s), media types, capacity and discharge;
  - (iv) personal protective equipment (PPE); and
  - (v) rescue equipment and crash box/cabinet.
- (7) Communications and navigation:
- (i) aeronautical radio(s);
  - (ii) radio-telephone (R/T) call sign to match offshore location name and side identification which should be simple and unique;
  - (iii) non-directional beacon (NDB) or equivalent (as appropriate); and
  - (iv) radio log.
- (8) Fuelling facilities:
- In accordance with the relevant national guidance and regulations.
- (9) Additional operational and handling equipment:
- (i) windsock;
  - (ii) meteorological information including wind, pressure, air temperature and dew point temperature recording displaying mean wind (10 minute wind) and gusts;
  - (iii) deck motion recording and reporting (HMS) where applicable;
  - (iv) passenger briefing system;
  - (v) chocks;

- (vi) tie-down strops/ropes;
  - (vii) weighing scales;
  - (viii) a suitable power source for starting helicopters (GPU) where applicable; and
  - (ix) equipment for clearing the landing area of snow and ice and other contaminants.
- (10) Personnel:
- Trained helicopter landing area staff (e.g. helicopter landing officer/helicopter deck assistant and fire-fighters, etc.).
- Persons required to assess local weather conditions or communicate with helicopter by radio telephony should be appropriately qualified.
- (f) For offshore locations on which there is incomplete information, 'limited' usage based on the information available may be considered by the operator, subject to risk assessment prior to the first helicopter visit. During subsequent operations, and before any restriction on usage is lifted, information should be gathered and the following should apply:
- (1) Pictorial (static) representation:
    - (i) template blanks (see GM1 SPA.HOFO.110) should be available to be filled in during flight preparation on the basis of the information given by the offshore location owner/operator and flight crew observations;
    - (ii) where possible, suitably annotated photographs may be used until the HLL and template have been completed;
    - (iii) until the HLL and template have been completed, conservative operational restrictions (e.g. performance, routing, etc.) may be applied;
    - (iv) any previous inspection reports should be obtained and reviewed by the operator; and
    - (v) an inspection of the offshore helicopter landing area should be carried out to verify the content of the completed HLL and template. Once found suitable, the landing area may be considered authorised for use by the operator.
  - (2) With reference to the above, the HLL should contain at least the following:
    - (i) HLL revision date and number;
    - (ii) generic list of helideck motion limitations;
    - (iii) name of offshore location;
    - (iv) 'D' value; and
    - (v) limitations, warnings, instructions and restrictions.

The content of the helicopter landing area authorisation or certificate (HLAC) should include (iii), (iv) and (v).
  - (3) The template should contain at least the following (see GM1 SPA.HOFO.110 Figure 1):
    - (i) name of offshore location;
    - (ii) R/T call sign;
    - (iii) helicopter landing area identification marking;
    - (iv) side panel identification marking;

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- (v) landing area elevation;
  - (vi) maximum installation/vessel height;
  - (vii) 'D' value;
  - (viii) type of offshore location:
    - (A) fixed permanently manned installation;
    - (B) fixed normally unattended installation;
    - (C) vessel type (e.g. diving support vessel, tanker, etc.);
    - (D) mobile offshore drilling unit: semi-submersible;
    - (E) mobile offshore drilling unit: jack-up;
    - (F) floating production storage offloading (FPSO).
  - (ix) name of owner/operator;
  - (x) geographical position, where appropriate;
  - (xi) communication and navigation (Com/Nav) frequencies and identification;
  - (xii) general drawing of the offshore location showing the helicopter landing area with annotations showing location of derrick, masts, cranes, flare stack, turbine and gas exhausts, side identification panels, windsock, etc.;
  - (xiii) plan view drawing, chart orientation from the general drawing, to show the above. The plan view will also show the 210 degree sector orientation in degrees true;
  - (xiv) type of fuelling:
    - (A) pressure and gravity;
    - (B) pressure only;
    - (C) gravity only;
    - (D) none.
  - (xv) type and nature of fire-fighting equipment;
  - (xvi) availability of ground power unit (GPU);
  - (xvii) deck heading;
  - (xviii) maximum allowable mass (t value);
  - (xix) status light system (Yes/No); and
  - (xx) revision date of publication.



- <sup>2</sup> Latitude and longitude in degrees, minutes and decimals of a minute.  
<sup>3</sup> Name of operator of the installation/vessel  
<sup>4</sup> Pressure/gravity; pressure; gravity; no.  
<sup>5</sup> Yes; no; 28V DC.  
<sup>6</sup> Yes; no.  
<sup>7</sup> Type of foam (e.g. 3 % aqueous film forming foams (3 % AFFF)) and nature of primary media delivery (e.g. deck integrated fire-fighting system (DIFFS)).

### **GM2 SPA.HOFO.110 Use of offshore locations**

Operators should utilise available guidance material provided for operations to offshore locations such as that contained in UK CAA CAP 437 'Standards for Offshore Helicopter Landing Areas' or similar national documentation.

### **AMC1 SPA.HOFO.115 Selection of aerodromes and operating sites**

#### COASTAL AERODROME

- (a) Any alleviation from the requirement to select an alternate aerodrome for a flight to a coastal aerodrome under IFR routing from offshore should be based on an individual safety risk assessment.
- (b) The following should be taken into account:
- (1) suitability of the weather based on the landing forecast for the destination;
  - (2) the fuel required to meet the IFR requirements of CAT.OP.MPA.150, NCC.OP.131 and SPO.OP.131 except for the alternate fuel;
  - (3) where the destination coastal aerodrome is not directly on the coast, it should be:
    - (i) within a distance that, with the fuel specified in (b)(2), the helicopter can, at any time after crossing the coastline, return to the coast, descend safely and carry out an approach under VFR and landing with VFR fuel reserves intact, but in any case the aerodrome datum should be no more than 5 NM from the coast line; and
    - (ii) geographically sited so that the helicopter can, within the rules of the air, and within the landing forecast:
      - (A) proceed inbound from the coast at 500 feet AGL and carry out an approach and landing under VFR; or
      - (B) proceed inbound from the coast on an agreed route and carry out an approach and landing under VFR;
  - (4) procedures for coastal aerodromes should be based on a landing forecast no worse than:
    - (i) by day, a cloud base of DH/MDH + 400 feet, and a visibility of 4 km, or, if descent over the sea is intended, a cloud base of 600 feet and a visibility of 4 km; or
    - (ii) by night, a cloud base of 1 000 feet and a visibility of 5 km;
  - (5) the descent to establish visual contact with the surface should take place over the sea or as part of the instrument approach;
  - (6) routings and procedures for coastal aerodromes nominated as such should be included in the operations manual (Part C for CAT operators);
  - (7) the MEL should reflect the requirement for airborne radar and radio altimeter for this type of operation; and

- (8) operational limitations for each coastal aerodrome should be specified in the operations manual.

### **AMC2 SPA.HOFO.115 Selection of aerodromes and operating sites**

#### **OFFSHORE DESTINATION ALTERNATE AERODROME**

Aerodrome is referred to as helideck in this AMC.

- (a) Offshore destination alternate helideck landing environment

The landing environment at an offshore location proposed for use as an offshore destination alternate helideck should be pre-surveyed as well as the physical characteristics such as the effect of wind direction and strength, and turbulence established. This information, which should be available to the pilot-in-command/commander at the planning stage and in flight, should be published in an appropriate form in the operations manual (including the orientation of the helideck) so that the suitability of the alternate helideck can be assessed. It should meet the criteria for size and obstacle clearance appropriate to the performance requirements of the type of helicopter concerned.

- (b) Performance considerations

The use of an offshore destination alternate helideck is restricted to helicopters which can achieve OEI in ground effect (IGE) hover at an appropriate power rating above the helideck at the offshore location. Where the surface of the helideck or prevailing conditions (especially wind velocity) precludes an OEI IGE, OEI out-of-ground effect (OGE), hover performance at an appropriate power rating should be used to compute the landing mass. The landing mass should be calculated from graphs provided in the operations manual (Part B for CAT operators). When arriving at this landing mass, due account should be taken of helicopter configuration, environmental conditions and the operation of systems that have an adverse effect on performance. The planned landing mass of the helicopter including crew, passengers, baggage, cargo plus 30 minutes final reserve fuel, should not exceed the OEI landing mass at the time of approach to the offshore destination alternate.

- (c) Weather considerations

- (1) Meteorological observations

When the use of an offshore destination alternate helideck is planned, the meteorological observations, both at the offshore destination and alternate, should be taken by an observer acceptable to the authority responsible for the provision of meteorological services. Automatic meteorological observation stations may be used.

- (2) Weather minima

When the use of an offshore destination alternate helideck is planned, the operator should neither select an offshore location as destination nor as alternate unless the weather forecasts for the two offshore locations indicate that, during a period commencing 1 hour before and ending 1 hour after the expected time of arrival at the destination and alternate, the weather conditions will be at or above the planning minima shown in the following table:

Planning minima		
	Day	Night
Cloud base	600 feet	800 feet
Visibility	4 km	5 km

## (3) Conditions of fog

To use an offshore destination alternate helideck, it should be ensured that fog is not forecasted or present within 60 NM of the destination helideck and alternate helideck

## (d) Actions at point of no return

Before passing the point of no return, this should not be more than 30 minutes from the destination; the following actions should have been completed:

- (1) confirmation that navigation to the offshore destination and offshore destination alternate can be assured;
- (2) radio contact with the offshore destination and offshore destination alternate (or master station) has been established;
- (3) the landing forecast at the offshore destination and offshore destination alternate have been obtained and confirmed to be at or above the required minima;
- (4) the requirements for OEI landing (see (b)) have been checked in the light of the latest reported weather conditions to ensure that they can be met; and
- (5) to the extent possible, having regard to information on current and forecast use of the offshore alternate helideck and on conditions prevailing, the availability of the helideck on the offshore location intended as destination alternate should be guaranteed by the duty holder (the rig operator in the case of fixed installations and the owner in the case of mobiles) until the landing at the destination, or the offshore destination alternate, has been achieved or until offshore shuttling has been completed.

**AMC1 SPA.HOFO.120 Flight data monitoring (FDM) programme**

## FLIGHT DATA MONITORING (FDM) PROGRAMME

Refer to AMC1 ORO.AOC.130 except for (c)(1). Appendix 1 to AMC1 ORO.AOC.130 is not valid for helicopters and is substituted by Appendix 1 to AMC SPA.HOFO.120..

**GM1 SPA.HOFO.120 Flight data monitoring (FDM) programme**

## DEFINITION OF A FDM PROGRAMME

Refer to GM1 ORO.AOC.130, except for the examples which are specific to aeroplane operation.

**GM2 SPA.HOFO.120 Flight data monitoring (FDM) programme**

## FLIGHT DATA MONITORING

Additional Guidance Material for the establishment of flight data monitoring can be found in:

- (1) ICAO Doc 10000, Manual on Flight Data Analysis Programmes (FDAP);

- (2) UK Civil Aviation Authority CAP 739 (Flight Data Monitoring), dated June 2013;
- (3) Global HFDM, Helicopter Flight Data Monitoring, Industry Best Practice, dated April 2012.

### Appendix 1 to AMC1 SPA.HOFO.120 Flight data monitoring programme

#### TABLE OF FDM EVENTS

The following table, initiated by Global HFDM, provides examples of FDM events that may be further developed using operator- and helicopter-specific limits. The table is considered illustrative and not exhaustive.

Event Title/Description	Parameters required	Comments
<b>Ground</b>		
<b>OAT High - Operating limits</b>	Outside Air Temperature (OAT)	To identify when the helicopter is operated at the limits of OAT.
<b>Sloping Ground High Pitch Attitude</b>	Pitch Attitude, Ground switch (similar)	To identify when the helicopter is operated at the slope limits.
<b>Sloping Ground High Roll Attitude</b>	Roll Attitude, Ground switch (similar)	To identify when the helicopter is operated at the slope limits.
<b>Rotor Brake on at excessive NR</b>	Rotor Brake discreet, Rotor speed (NR)	To identify when the rotor brake is applied at too high NR.
<b>Ground Taxi Speed - max</b>	Groundspeed Ground switch (similar), (GS)	To identify when the helicopter is ground taxied at high speed (Wheeled helicopter only).
<b>Air Taxi Speed - Max</b>	Ground speed, Ground switch (similar), Radio Altitude (Rad Alt)	To identify when the helicopter is air taxied at high speed .
<b>Excessive power during ground taxi</b>	Total Torque (Tq), Ground switch (similar), GS	To identify when excessive power is used during ground taxi.
<b>Pedal - max LH &amp; RH taxi</b>	Pedal Position, Ground switch (similar), GS or NR	To identify when the helicopter flight controls (pedals) are used to excess on the ground. Ground speed or NR to exclude control test prior to rotor start.
<b>Excessive yaw rate on Ground in taxi</b>	Yaw rate, Ground switch (similar) or Rad Alt	To identify when the helicopter is yawed at a high rate when on the ground
<b>Yaw Rate in Hover or on ground</b>	Yaw Rate, GS, Ground switch (similar)	To identify when the helicopter is yawed at a high rate when in the hover.
<b>High Lateral Acceleration (rapid cornering)</b>	Lateral Acceleration, Ground switch (similar)	To identify high levels of lateral G when ground taxiing indicating high cornering speed.
<b>High Longitudinal Acceleration (rapid braking)</b>	Longitudinal Acceleration, Ground switch (similar)	To identify high levels of longitudinal G when ground taxiing indicating excessive braking.
<b>Cyclic movement limits during taxi (pitch or roll)</b>	Cyclic stick Position, Ground switch (similar), Rad Alt, NR or GS.	To identify excessive movement of rotor disc when running on ground. Ground speed or NR to exclude

		control test prior to rotor start.
<b>Excessive Rate of Movement of Longitudinal &amp; Lateral Cyclic on Ground</b>	Longitudinal Cyclic Pitch Rate, Lateral Cyclic Pitch Rate, NR	To detect an excessive rate of movement of cyclic control when on the ground with rotors running.
<b>Lateral Cyclic - closest to LH &amp; RH Rollover</b>	Lateral Cyclic Position, Pedal Position, Roll Attitude, Elapsed Time, Ground switch (similar)	To detect the risk of a helicopter roll over due to an incorrect combination of tail rotor pedal and lateral cyclic control position when on ground.
<b>Excessive Cyclic Control with Insufficient Collective Pitch on Ground</b>	Collective Pitch, Longitudinal Cyclic Pitch, Lateral cyclic pitch.	To detect incorrect taxi technique likely to cause rotor head damage.
<b>Inadvertent Lift off</b>	Ground switch (similar), autopilot discreet	To detect inadvertent lifting into hover.
<b>Flight - Take off &amp; Landing</b>		
<b>Day or night Landing or take off</b>	Latitude and Longitude (Lat & Long), Local Time or UTC	To provide day/night relevance to detected events.
<b>Landing or take off specific location</b>	Lat & Long, Ground switch (similar), Rad Alt, Total Tq.	To give contextual information concerning departures and destinations.
<b>Gear extension &amp; retraction - Airspeed limit</b>	Indicated airspeed (IAS), Gear Position	To identify when undercarriage airspeed limitations are breached.
<b>Gear extension &amp; retraction - Height limit</b>	Gear Position, Rad Alt	To identify when undercarriage altitude limitations are breached.
<b>Heavy landing</b>	Normal/Vertical acceleration, Ground switch (similar)	To identify when hard/heavy landings take place.
<b>Cabin Heater On (take-off and landing)</b>	Cabin Heater Discreet, Ground switch (similar),	To identify use of engine bleed air during periods of high power demand.
<b>High Groundspeed Prior to TD</b>	GS, Rad Alt, Ground switch (similar), Elapsed Time, Latitude, Longitude.	To assist in identification of 'quick stop' approaches.
<b>Flight -Speed</b>		
<b>Airspeed - Vno speed exceedance</b>	IAS, weight	To identify excessive airspeed in flight.
<b>High Airspeed - Low Altitude</b>	IAS, Rad Alt	To identify excessive airspeed in low level flight.
<b>Low Airspeed at altitude</b>	IAS, Rad Alt	To identify hover out of ground effect.
<b>Airspeed on Departure (&lt;= 300ft)</b>	IAS, Ground switch (similar), Rad Alt	To identify shallow departure .
<b>High Airspeed - Power Off</b>	IAS, Tq1, Tq2 - OR - OEI discreet	To identify power off airspeed limitation exceedance.
<b>Downwind Flight Within 60 seconds of Take-Off</b>	IAS, Ground Speed, elapsed time	To detect early downwind turn after take-off.
<b>Downwind Flight Within 60 seconds of Landing</b>	IAS, Ground Speed, elapsed time	To detect late turn to final shortly before.
<b>Flight - Height</b>		
<b>Altitude Maximum</b>	Pressure Altitude (Palt)	To detect flight outside of published flight envelope.
<b>Climb Rate - max</b>	Vertical Speed - or - Palt - or - Rad Alt, Elapsed Time	Identification of excessive rates of climb (RoC) can be determined from an indication or rate of change of Palt or Rad Alt.
<b>High Rate of Descent</b>	Vertical speed	To identify excessive rates of descent

		(RoD).
<b>High Rate of Descent (Speed or height limit)</b>	Vertical speed, IAS or Rad Alt or elevation	To identify RoD at low level or low speed.
<b>Settling with Power (Vortex ring)</b>	Vertical Speed, IAS, GS, Tq	To detect high-power setting with low speed and excessive rate of descent.
<b>Minimum Altitude in Autorotation</b>	Nr, Total Tq, Rad Alt	To detect late recovery from autorotation.
<b>Low Cruise (Inertial systems)</b>	GS, Vertical Speed, Elevation, Lat & Long	To detect extended low level flight. Ground speed less accurate with more false alarms. Lat & Long for geographical boundaries.
<b>Low Cruise (Integrated systems)</b>	Rad Alt, Elapsed Time, Lat & Long, Ground switch (similar)	To detect extended low level flight.
<b>Flight - Attitude &amp; controls</b>		
<b>Excessive Pitch (height related - T/O, cruise or landing)</b>	Pitch Attitude, Rad Alt Elevation, Lat & Long	To identify inappropriate use of excessive pitch attitude during flight. Height limits may be used (i.e. on take-off & landing or <500'), (Lat & Long required for specific location related limits) Elevation less accurate than RALT. Elevation can be used to identify landing phase in specific location.
<b>Excessive Pitch (speed related - T/O, cruise or landing)</b>	Pitch Attitude, IAS, GS, Lat & Long	To identify inappropriate use of excessive pitch attitude during flight. Speed limits may be used (i.e. on take-off & landing or in cruise), (Lat & Long required for specific location related limits) Ground speed less accurate than IAS.
<b>Excessive Pitch Rate</b>	Pitch Rate, Rad Alt, IAS, Ground switch (similar), Lat & Long	To identify inappropriate use of excessive rate of pitch change during flight. Height limits may be used (i.e. on take-off & landing); IAS only for IAS limit, Ground switch (similar) and Lat & Long required for specific location related limits.
<b>Excessive Roll/bank Attitude (Speed or height related)</b>	Roll Attitude, Rad Alt, IAS/ GS	To identify excessive use of roll attitude. Rad Alt may be used for height limits, IAS/GND Speed may be used for speed limits.
<b>Excessive Roll Rate</b>	Roll Rate, Rad Alt, Lat & Long, Ground switch (similar)	Rad Alt may be used for height limits; Lat & Long and Ground switch (similar) required for specific location related and air/ground limits.
<b>Excessive Yaw rate</b>	Yaw rate	To detect excessive yaw rates in flight.
<b>Excessive Lateral Cyclic Control</b>	Lateral Cyclic Position, Ground switch (similar)	To detect movement of the lateral cyclic control to extreme left or right positions. Ground switch (similar) required for pre or post T/O.
<b>Excessive Longitudinal Cyclic Control</b>	Longitudinal Cyclic Position, Ground switch (similar)	To detect movement of the longitudinal cyclic control to

		extreme forward or aft positions. WOW required for pre or post T/O.
<b>Excessive Collective Pitch Control</b>	Collective Position, Ground switch (similar)	To detect exceedances of the Flight Manual collective pitch limit. WOW required for pre or post T/O.
<b>Excessive Tail Rotor Control</b>	Pedal Position, Ground switch (similar)	To detect movement of the tail rotor pedals to extreme left and right positions. Ground switch (similar) required for pre or post T/O.
<b>Manoeuvre G Loading or turbulence</b>	Lat & Long, Normal Accelerations, Ground switch (similar) or Rad Alt)	To identify excessive 'G' loading of rotor disc both positive and negative. Ground switch (similar) required to determine air/ground, Rad Alt required if height limit required.
<b>Pilot Workload/Turbulence</b>	Collective and /or cyclic and/or T/R Pedal position and change rate (Lat & Long)	To detect high workload and/or turbulence encountered during take-off and landing phases. Lat & Long for specific landing sites. A specific and complicated algorithm for this event is required. See UK CAA Paper 2002/02.
<b>Cross Controlling</b>	Roll Rate, Yaw Rate, Pitch Rate, GS, Accelerations	To detect out of balance flight. Airspeed could be used instead of GS.
<b>Quick Stop</b>	GS (min and max), Vertical Speed, Pitch	To identify inappropriate flight characteristics. Airspeed could be used instead of GS.
<b>Flight - General</b>		
<b>OEI - Air</b>	OEI Discreet, Ground switch (similar)	To detect OEI conditions in flight.
<b>Single Engine flight</b>	No1 Eng Torque, No2 Eng Torque	To detect single engine flight.
<b>Torque Split</b>	No1 Eng Torque, No2 Eng Torque	To identify engine related issues.
<b>Pilot Event</b>	Pilot Event Discreet	To identify when flight crews have depressed the pilot event button.
<b>TCAS Traffic Advisory</b>	TCAS TA Discreet	To identify TCAS alerts.
<b>Training Comp Active</b>	Training Computer/Mode Active Discreet	To identify when helicopter have been on training flights.
<b>High/Low rotor speed - Power On</b>	NR, Tq (Ground switch (similar), IAS, GS)	To identify mishandling of NR. Ground switch (similar), IAS or ground speed to determine airborne.
<b>High/low rotor speed - Power Off</b>	NR, Tq (Ground switch (similar), IAS, GS)	To identify mishandling of NR. Ground switch (similar), IAS or ground speed to determine airborne.
<b>Fuel content low</b>	Fuel contents	To identify low fuel alerts.
<b>EGPWS alert</b>	EGPWS alerts discreet	To identify when EGPWS alerts have been activated.
<b>AVAD alert</b>	AVAD discreet	To identify when AVAD alerts have been activated.
<b>Bleed Air system use during take-off (e.g. Heating)`</b>	Bleed air system discreet, Ground switch (similar), IAS.	To identify use of engine bleed air during periods of high power demand.
<b>Rotors Running Duration</b>	NR, Elapsed Time	To identify rotors running time, for billing purposes.

<b>Flight - Approach</b>		
<b>Stable Approach Heading Change</b>	Magnetic Heading, Rad Alt, Ground switch (similar), Gear Position, Elapsed Time	To identify unstable approaches.
<b>Stable Approach Pitch Attitude</b>	Pitch Attitude, Rad Alt, Ground switch (similar), Gear Position	To identify unstable approaches.
<b>Stable Approach ROD GS</b>	Altitude Rate, Rad Alt, Ground switch (similar), Gear Position	To identify unstable approaches.
<b>Stable Approach Track Change</b>	Track, Rad Alt, Ground switch (similar), Gear Position	To identify unstable approaches.
<b>Stable Approach Angle of Bank</b>	Roll Attitude, Rad Alt, Ground switch (similar), Gear Position	To identify unstable approaches.
<b>Stable Approach - ROD at specified height</b>	Altitude Rate, Rad Alt, Ground switch (similar), Gear Position	To identify unstable approaches.
<b>Stable Approach IAS at specified height</b>	IAS, Rad Alt, Ground switch (similar), Gear Position	To identify unstable approaches.
<b>Glideslope Deviation Above or below</b>	Glideslope Deviation	To identify inaccurately flown ILS approaches.
<b>Localiser Deviation Left &amp; right</b>	Localiser Deviation	To identify inaccurately flown ILS approaches.
<b>Low Turn to Final</b>	Elevation, Ground Speed, Vertical Speed, Heading Change	Airspeed could be used instead of Ground Speed.
<b>Premature Turn to Final</b>	Elevation, Ground Speed, Vertical Speed, Heading Change	Airspeed could be used instead of Ground Speed.
<b>Stable Approach - Climb</b>	IAS (min and max), Vertical Speed (min and max), Elevation	To identify unstable approaches.
<b>Stable Approach - Descent</b>	IAS (min and max), Vertical Speed, Elevation	To identify unstable approaches.
<b>Stable Approach - Bank</b>	IAS (min and max), Vertical Speed, Elevation, Roll	To identify unstable approaches.
<b>Stable Approach - late turn</b>	Heading change, elevation, ground speed	To identify unstable approaches.
<b>Go around</b>	Gear select (Rad Alt)	To identify missed approaches. Rad Alt for height limit.
<b>Rate of descent on Approach</b>	Altitude Rate, Rad Alt, Lat & Long, Ground switch (similar)	To identify high rates of descent when at low level on approach. Rad Alt if below specified height. Lat & Long for specified location.
<b>Flight - Autopilot</b>		
<b>Condition of Autopilot in Flight</b>	Autopilot Discreet	To detect flight without autopilot engaged. Per Channel for multi-channel autopilots.
<b>AP Engaged within 10 Seconds after Take-Off</b>	Autopilot Engaged Discreet, Elapsed Time, Ground switch (similar), Total Tq, Rad Alt	To identify inadvertent lift off without autopilot engaged.
<b>Autopilot Engaged on Ground (post or pre)</b>	Autopilot Engaged Discreet, Elapsed Time, Ground switch (similar), Total Tq, Rad Alt	To identify inappropriate use of autopilot when on ground. Elapsed time required to allow for permissible short periods.
<b>Excessive Pitch Attitude with AP Engaged on Ground (Offshore)</b>	Pitch Attitude, AP Discreet, Ground switch (similar), Lat & Long	To identify potential for low main rotor when helicopter pitching on floating helideck .
<b>Airspeed Hold Engaged - Airspeed (Departure or non-departure)</b>	Autopilot Modes Discreet, IAS, (Ground switch (similar), Total Tq,	To detect early engagement of AP higher modes. Ground switch

	Rad Alt)	(similar), Tq & Rad Alt to determine if flight profile is 'departure'.
<b>Airspeed Hold Engaged - Altitude (Departure or non-departure)</b>	Autopilot Modes Discreet, Rad Alt, (IAS, Ground switch (similar), Total Tq)	To detect early engagement of AP higher modes. IAS, Ground switch (similar), Total Tq to determine if flight profile is 'departure'.
<b>ALT Mode Engaged - Altitude (Departure or non-departure)</b>	Autopilot Modes Discreet, Rad Alt, (Ground switch (similar), Total Tq, IAS)	To detect early engagement of AP higher modes. Ground switch (similar), Tq & Rad Alt to determine if flight profile is 'departure'.
<b>ALT Mode Engaged - Airspeed (Departure or non-departure)</b>	Autopilot Modes Discreet, IAS, (Ground switch (similar), Total Tq, Rad Alt)	To detect early engagement of AP higher modes. IAS, Ground switch (similar), Total Tq to determine if flight profile is 'departure'.
<b>HDG Mode Engaged - Speed</b>	Autopilot Modes Discreet, IAS	To detect engagement of AP higher modes below minimum speed limitations. Ground switch (similar), Tq & Rad Alt to determine if flight profile is 'departure'.
<b>V/S Mode Active - Below spec speed</b>	Autopilot Modes Discreet, IAS	To detect engagement of AP higher modes below minimum speed limitations.
<b>VS Mode Engaged - Altitude (Departure or non-departure)</b>	Autopilot Modes Discreet, IAS, (WOW, Total Tq, Rad Alt)	To detect early engagement of AP higher modes. Ground switch (similar), Tq & Rad Alt to determine if flight profile is 'departure'.
<b>FD Engaged - Speed</b>	Flight Director Discreet, IAS	To detect engagement of AP higher modes below minimum speed limitations.
<b>FD Coupled Approach or take off - Airspeed</b>	Flight Director Discreet, IAS, Ground switch (similar)	To detect engagement of AP higher modes below minimum speed limitations.
<b>Go Around Mode Engaged - Airspeed</b>	Autopilot Modes Discreet, IAS, Ground switch (similar), Total Tq, Rad Alt	To detect engagement of AP higher modes below minimum speed limitations.
<b>Flight without autopilot channels engaged</b>	Autopilot channels	To detect flight without autopilot engaged. Per Channel for multi-channel autopilots.

### AMC1 SPA.HOFO.125 Flight following system

#### GENERAL

The flight following system should provide sufficient and timely information to track the aircraft in flight so that any deviation or anomaly from the planned flight path may be detected as early as possible.

### GM1 SPA.HOFO.125 Flight following system

#### SYSTEMS

A flight following system may consist of any of the following items:

- (a) satellite tracking;
- (b) ATC tracking and information; or

- (c) ADS-B tracking and display.

The system being used should be compatible with systems used by ATC.

### **AMC1 SPA.HOFO.130 Airborne radar approach (ARA) to offshore locations**

#### GENERAL

- (a) Before commencing the final approach, the pilot-in-command/commander should ensure that a clear path exists on the radar screen for the final and missed approach segments. If lateral clearance from any obstacle will be less than 1 NM, the pilot-in-command/commander should:
- (1) approach to a nearby target structure and thereafter proceed visually to the destination structure; or
  - (2) make the approach from another direction leading to a circling manoeuvre.
- (b) The cloud ceiling should be sufficiently clear above the helideck to permit a safe landing.
- (c) Minimum descent height (MDH) should not be less than 50 feet above the elevation of the helideck.
- (1) The MDH for an airborne radar approach should not be lower than:
    - (i) 200 feet by day; or
    - (ii) 300 feet by night.
  - (2) The MDH for an approach leading to a circling manoeuvre should not be lower than:
    - (i) 300 feet by day; or
    - (ii) 500 feet by night.
- (d) Minimum descent altitude (MDA) may only be used if the radio altimeter is unserviceable. The MDA should be a minimum of MDH + 200 feet and should be based on a calibrated barometer at the destination or on the lowest forecast QNH for the region.
- (e) The decision range should not be less than  $\frac{3}{4}$  NM.
- (f) The MDA/H for a single-pilot ARA should be 100 feet higher than that calculated using (c) and (d) above. The decision range should not be less than 1 NM.

### **GM1 SPA.HOFO.130 Airborne radar approach (ARA) to offshore locations**

#### GENERAL

- (a) General
- (1) The helicopter ARA procedure may have as many as five separate segments. These are the arrival, initial, intermediate, final, and missed approach segments. In addition, the specifications of the circling manoeuvre to a landing under visual conditions should be considered. The individual approach segments can begin and end at designated fixes. However, the segments of an ARA may often begin at specified points where no fixes are available.
  - (2) The fixes, or points, are named to coincide with the associated segment. For example, the intermediate segment begins at the intermediate fix (IF) and ends at the final approach fix (FAF). Where no fix is available or appropriate, the segments begin and end at specified points; for example, intermediate point (IP) and final approach point (FAP). The order in which this GM discusses the segments is the order in which the pilot would fly them in a complete procedure:

that is, from the arrival through initial and intermediate to a final approach and, if necessary, the missed approach.

- (3) Only those segments that are required by local conditions applying at the time of the approach need to be included in a procedure. In constructing the procedure, the final approach track, which should be orientated so as to be substantially into wind, should be identified first as it is the least flexible and most critical of all the segments. When the origin and the orientation of the final approach have been determined, the other necessary segments should be integrated with it to produce an orderly manoeuvring pattern that does not generate an unacceptably high workload for the flight crew.
- (4) Examples of ARA procedures, vertical profile and missed approach procedures are contained in figures 1 to 5.

(b) Obstacle environment

- (1) Each segment of the ARA is located in an overwater area that has a flat surface at sea level. However, due to the passage of large vessels which are not required to notify their presence, the exact obstacle environment cannot be determined. As the largest vessels and structures are known to reach elevations exceeding 500 feet above mean sea level (AMSL), the uncontrolled offshore obstacle environment applying to the arrival, initial and intermediate approach segments can reasonably be assumed to be capable of reaching to at least 500 feet AMSL. But, in the case of the final approach and missed approach segments, specific areas are involved within which no radar returns are allowed. In these areas the height of wave crests and the possibility that small obstacles may be present that are not visible on radar results in an uncontrolled surface environment that extends to an elevation of 50 feet AMSL.
- (2) Information of movable obstacles should be requested from the arrival destination or adjacent installations.
- (3) Under normal circumstances the relationship between the approach procedure and the obstacle environment is governed according to the concept that vertical separation is very easy to apply during the arrival, initial and intermediate segments, while horizontal separation, which is much more difficult to guarantee in an uncontrolled environment, is applied only in the final and missed approach segments.

(c) Arrival segment

The arrival segment commences at the last en-route navigation fix, where the aircraft leaves the helicopter route, and it ends either at the initial approach fix (IAF) or, if no course reversal or similar manoeuvre is required, it ends at the IF. Standard en-route obstacle clearance criteria should be applied to the arrival segment.

(d) Initial approach segment

The initial approach segment is only required if a course reversal, race track or arc procedure is necessary to join the intermediate approach track. The segment commences at the IAF and on completion of the manoeuvre ends at the IP. The minimum obstacle clearance (MOC) assigned to the initial approach segment is 1 000 feet.

(e) Intermediate approach segment

The intermediate approach segment commences at the IP, or in the case of straight-in approaches, where there is no initial approach segment it commences at the IF. The segment ends at the FAP and should not be less than 2 NM in length. The purpose of the intermediate segment is to align and prepare the helicopter for the final approach. During the intermediate segment the helicopter should be lined up with the final

approach track, the speed should be stabilised, the destination should be identified on the radar, and the final approach and missed approach areas should be identified and verified to be clear of radar returns. The MOC assigned to the intermediate segment is 500 feet.

(f) Final approach segment

- (1) The final approach segment commences at the FAP and ends at the missed approach point (MAPt). The final approach area, which should be identified on radar, takes the form of a corridor between the FAP and the radar return of the destination. This corridor should not be less than 2 NM wide so that the projected track of the helicopter does not pass closer than 1 NM to the obstacles lying outside the area.
- (2) On passing the FAP the helicopter will descend below the intermediate approach altitude and follow a descent gradient which should not be steeper than 6.5 %. At this stage vertical separation from the offshore obstacle environment will be lost. However, within the final approach area the MDA/H will provide separation from the surface environment. Descent from 1 000 feet AMSL to 200 feet AMSL at a constant 6.5 % gradient will involve a horizontal distance of 2 NM. In order to follow the guideline that the procedure should not generate an unacceptably high workload for the flight crew, the required actions of levelling at MDH, changing heading at the offset initiation point (OIP), and turning away at MAPt, should not be planned to occur at the same time from the destination.
- (3) During the final approach, compensation for drift should be applied and the heading which, if maintained, would take the helicopter directly to the destination, should be identified. It follows that, at an OIP located at a range of 1.5 NM, a heading change of 10° is likely to result in a track offset of 15° at 1 NM, and the extended centre line of the new track can be expected to have a mean position lying some 300–400 m to one side of the destination structure. The safety margin built in to the 0.75 NM decision range (DR) is dependent upon the rate of closure with the destination. Although the airspeed should be in the range of 60–90 KIAS during the final approach, the ground speed, after due allowance for wind velocity, should not be greater than 70 knots.

(g) Missed approach segment

- (1) The missed approach segment commences at the MAPt and ends when the helicopter reaches minimum en-route altitude. The missed approach manoeuvre is a 'turning missed approach' which should be of not less than 30° and should not, normally, be greater than 45°. A turn away of more than 45° does not reduce the collision risk factor any further nor does it permit a closer DR. However, turns of more than 45° may increase the risk of pilot disorientation and by inhibiting the rate of climb (especially in the case of an OEI missed approach procedure) may keep the helicopter at an extremely low level for longer than is desirable.
- (2) The missed approach area to be used should be identified and verified as a clear area on the radar screen during the intermediate approach segment. The base of the missed approach area is a sloping surface at 2.5 % gradient starting from MDH at the MAPt. The concept is that a helicopter executing a turning missed approach will be protected by the horizontal boundaries of the missed approach area until vertical separation of more than 130 feet is achieved between the base of the area and the offshore obstacle environment of 500 feet AMSL which prevails outside the area.
- (3) A missed approach area, taking the form of a 45° sector orientated left or right of the final approach track, originating from a point 5 NM short of the

destination, and terminating on an arc 3 NM beyond the destination, will normally satisfy the specifications of a 30° turning missed approach.

(h) Required visual reference

The visual reference required is that the destination should be in view in order that a safe landing may be carried out.

(i) Radar equipment

During the ARA procedure, colour mapping radar equipment with a 120° sector scan and 2.5 NM range scale selected may result in dynamic errors of the following order:

- (1) bearing/tracking error  $\pm 4.5^\circ$  with 95 % accuracy;
- (2) mean ranging error – 250 m; or
- (3) random ranging error  $\pm 250$  m with 95 % accuracy.

**Figure 1: Arc procedure**

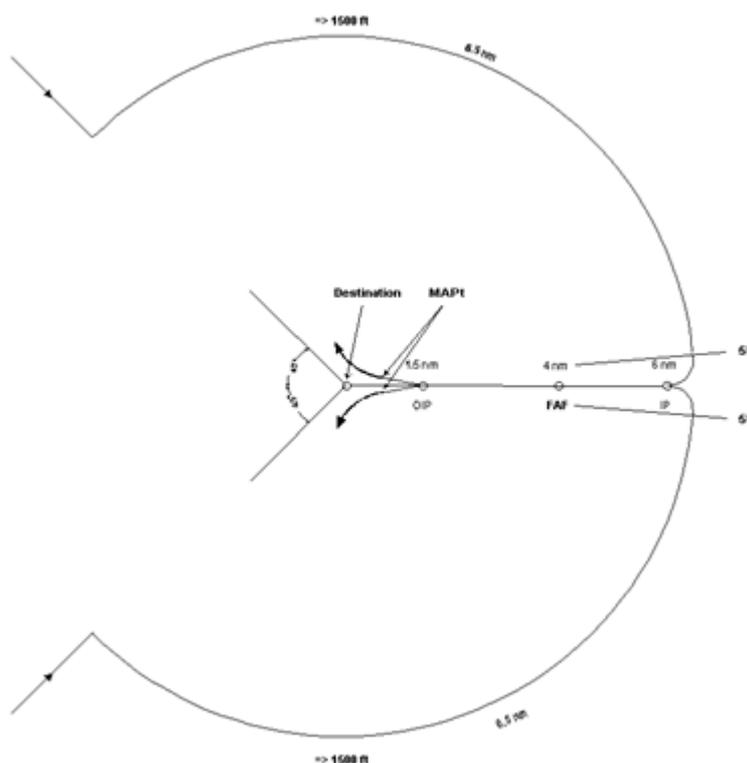


Figure 2: Base turn procedure – direct approach

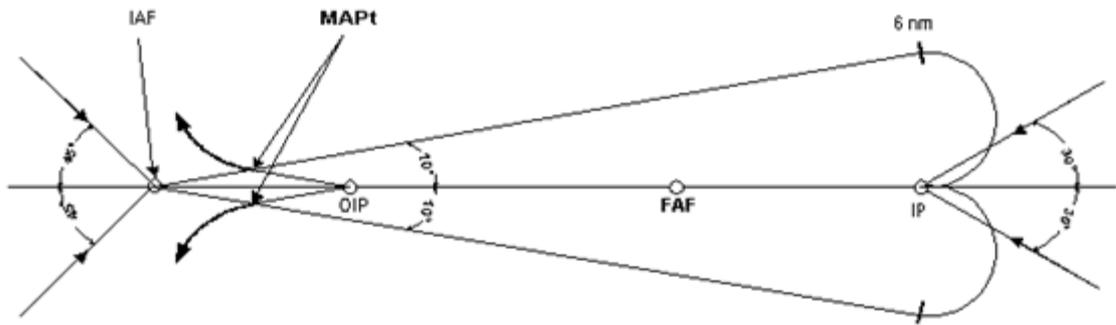


Figure 3: Holding pattern & race track procedure

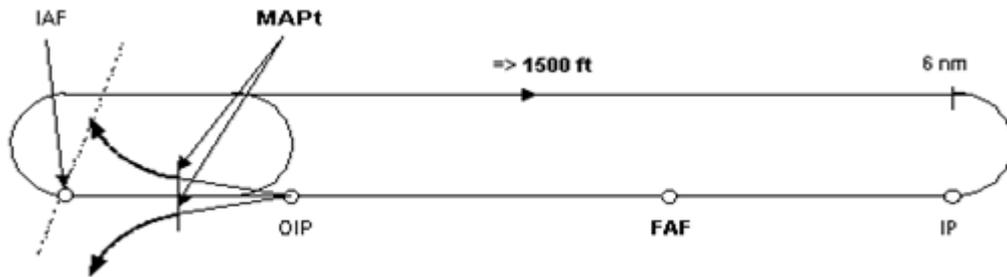


Figure 4: Vertical profile

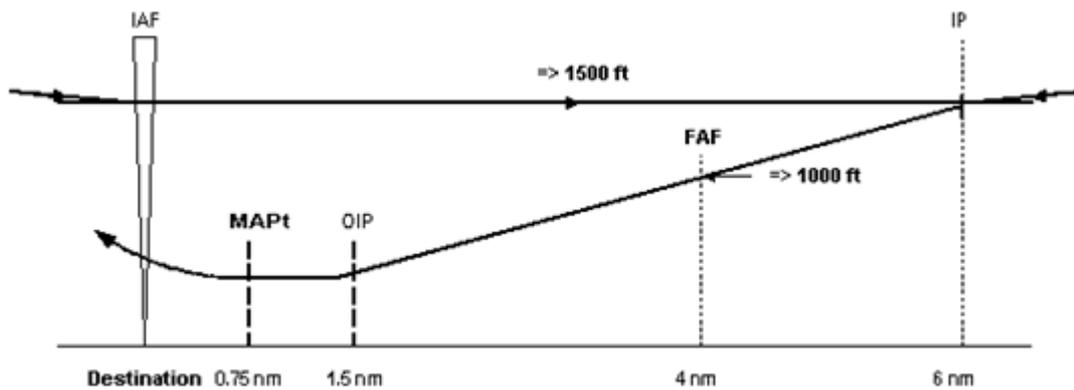
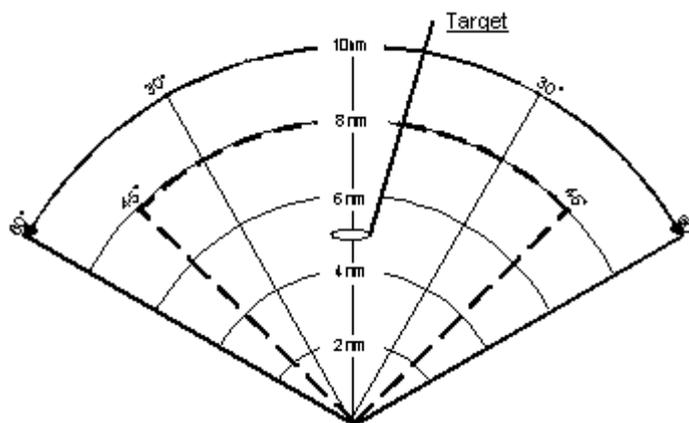


Figure 5: Missed approach area left & right



**AMC1 SPA.HOFO.145 Performance requirements – take-off and landing at offshore locations**

## FACTORS

- (a) To ensure that the necessary factors are taken into account, the operator should:
- (1) use take-off and landing procedures that are appropriate to the circumstances, and that minimise the risks of collision with obstacles at the individual offshore location and under the prevailing conditions;
  - (2) use the Aircraft Flight Manual planning data or, where such data is not available, alternative data approved the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.
- (b) Replanning of offshore location take-off or landing masses during the flight is acceptable, subject to procedures established in the operations manual. These procedures should be simple and safe to carry out, with no significant increase in crew workload during critical phases of flight.

**GM1 SPA.HOFO.145 Performance requirements – take-off and landing at offshore locations**

## FACTORS

The data referred to in (a)(2) is data provided by the manufacturer but it is not part of the AFM.

**GM1 SPA.HOFO.150(a)(1) Equipment requirements**

## PUBLIC ADDRESS (PA) SYSTEM

Helicopters with an MOPSC of 9 or less.

When demonstrating that the pilot's voice is understandable at all passengers' seats in flight, the operator should ensure compatibility with the passengers' use of ear defenders (hearing protection).

**GM1 SPA.HOFO.150(a)(2) Equipment requirements**

## RADIO ALTIMETER

For additional information, refer to AMC1, AMC2 and AMC3 CAT.IDE.H.145 Radio altimeter, and also to GM1 CAT.IDE.H.145 Radio altimeter.

**AMC1 SPA.HOFO.155(b)(1) Additional procedures and equipment for operations in a hostile environment**

## MEDICALLY INCAPACITATED PASSENGER

The customer's medical professional should decide if a medically incapacitated person should not wear or should partially wear a survival suit. The decision should be made available to the pilot-in-command/commander prior to arrival at the offshore installation.

The operator should establish procedures for when the pilot-in-command/commander may accept a medically incapacitated passenger not wearing or partially wearing a survival suit. To ensure proportionate mitigation of the risks associated with an evacuation, the procedures should be based on, but not be limited to, the severity of the incapacitation, sea and air temperature, sea state and number of passengers on board.

In addition the operator should establish the following procedures:

- (1) under which circumstances one or more dedicated persons are required to assist a medically incapacitated passenger during a possible emergency evacuation, and the skills and qualifications required;
- (2) seat allocation for the medically incapacitated passenger and possible assistants in the helicopter types used, to ensure optimum use of emergency exits;
- (3) evacuation procedures related to whether or not the dedicated persons in (1) are present.

#### **AMC1 SPA.HOFO.155(c) Additional procedures and equipment for operations in hostile environment**

##### EMERGENCY BREATHING SYSTEM

The emergency breathing system (EBS) in SPA.HOFO.155(c) should be an approved EBS system suitable for underwater deployment.

#### **AMC1 SPA.HOFO.155(d) Additional procedures and equipment for operations in hostile environment**

##### INSTALLATION OF THE LIFE-RAFT

- (a) Projections on the exterior surface of the helicopter that are located in a zone delineated by boundaries that are 1.22 m (4 feet) above and 0.61 m (2 feet) below the established static water line could cause damage to a deployed life-raft. Examples of projections that need to be considered are aerials, overboard vents, unprotected split-pin tails, guttering and any projection sharper than a three dimensional right angled corner.
- (b) While the boundaries specified in (a) are intended as a guide, the total area that should be considered should also take into account the likely behaviour of the life-raft after deployment in all sea states up to the maximum in which the helicopter is capable of remaining upright.
- (c) Wherever a modification or alteration is made to a helicopter within the boundaries specified, the need to prevent the modification or alteration from causing damage to a deployed life-raft should be taken into account in the design.
- (d) Particular care should also be taken during routine maintenance to ensure that additional hazards are not introduced by, for example, leaving inspection panels with sharp corners proud of the surrounding fuselage surface, or allowing door sills to deteriorate to a point where sharp edges become a hazard.

#### **AMC1 SPA.HOFO.155(h) Additional procedures and equipment for operations in a hostile environment**

##### EMERGENCY EXITS AND ESCAPE HATCHES

- (a) Underwater escape through a rectangular opening of approximately 430mm x 350mm (17" x 14") has been satisfactorily demonstrated by persons of a size believed to cover 95% of male persons wearing representative survival suits and uninflated life jackets.
- (b) In addition to the emergency exits, all suitable openings in the passenger compartment which are of this approximate size or larger should to be considered for use as an additional escape facility in the event of a capsized. The means of opening

should be rapid and obvious. Passenger safety briefing material should include instructions on the use of such escape facilities.

- (c) For windows smaller than approximately 480mm x 430mm (19" x 17"), down to the minimum acceptable size of 430mm x 350mm (17" x 14"), placarding and passenger briefing should ensure that larger persons (mass in excess of 100 kg including survival suit with required safety equipment such as life vest, emergency breathing equipment, etc.) do not occupy the seats adjacent to the windows. It is recommended that placards should be of a pictorial type (fat man/thin man).

### **GM1 SPA.HOFO.155(h) Additional procedures and equipment for operations in a hostile environment**

#### EMERGENCY EXITS AND ESCAPE HATCHES

There is no definition of 'larger' person. The term 'in excess of 100 kg' comes from a recent study in the United Kingdom, defining 98 kg as the mean weight of a male offshore worker wearing required survival suit and required safety equipment. (Reference: CAP 789 chapter 20 paragraph 6.1.) This coincides with the average weight used by Norwegian operators.

### **AMC1 SPA.HOFO.160 Vibration health monitoring system**

#### GENERAL

Any VHM system should meet all of the following criteria:

- (a) VHM system capability

The VHM system should measure vibration characteristics of rotating critical components during flight utilising suitable vibration sensors, techniques, and recording equipment. The frequency and flight phases of data measurement should be established together with the type certificate holder (TCH) during initial entry into service. In order to appropriately manage the generated data and focus upon significant issues, an alerting system should be established; this is normally automatic. Accordingly, alert generation processes should be developed to reliably advise maintenance personnel of the need to intervene and help determine what type of intervention is required.

- (b) Approval of VHM installation

The VHM system, which typically comprises vibration sensors and associated wiring, data acquisition and processing hardware, the means of downloading data from the helicopter, the ground-based system and all associated instructions for operation of the system, should be certified to CS-29 or equivalent established by the Agency. For applications that may also provide maintenance credit (see AC 29 MG15), the level of system integrity required may be higher.

- (c) Operational procedures

The operator should establish procedures to address all necessary VHM subjects.

- (d) Training

The operator should determine which staff will require VHM training, determine appropriate syllabi, and incorporate them into the operator's initial and recurrent training programmes.

**GM1 SPA.HOFO.160 Vibration health monitoring system**

## GENERAL

Operators should utilise available international guidance material provided for the specification and design of VHM systems. Examples of such guidance material are:

CS 29.1465 'Vibration Health Monitoring' and associated AMC;

AC 29 MG15 — 'Airworthiness Approval of Rotorcraft Health Usage Monitoring Systems (HUMS)'; and

UK CAP 753 — 'Helicopter Vibration Health Monitoring'.

**AMC1 SPA.HOFO.165(a) Crew requirements**

## FLIGHT CREW TRAINING AND CHECKING

- (a) Flight crew training and checking programmes should:
- (1) improve knowledge of the offshore operations environment with particular consideration of visual illusions during approach introduced by lighting, motion and weather factors;
  - (2) improve crew cooperation specifically for offshore operations;
  - (3) provide flight crew members with the necessary skills to appropriately manage the risks associated with normal, abnormal and emergency procedures during flights by day and night;
  - (4) if night operations are conducted, give particular consideration to approach, go-around, landing, and take-off phases;
  - (5) include instruction on the optimum use of the helicopter's automatic flight control system (AFCS);
  - (6) for multi-crew operation, emphasise the importance of multi-crew procedures and the role of the pilot monitoring during all phases of the flight; and
  - (7) include standard operating procedures.
- (b) Emergency and safety equipment training and checking should focus on the equipment fitted/carried. Water entry and sea survival training, including operation of all associated safety equipment, should be an element of the recurrent training as described in AMC1 ORO.FC.230(a)(2)(iii)(F).
- (c) The measures referred to above shall be assessed during:
- (1) operator proficiency checks;
  - (2) line checks; and
  - (3) emergency and safety equipment checks.
- (d) Training and checking should make full use of full flight simulators for normal, abnormal, and emergency procedures related to all aspects of HOFO.

**GM1 SPA.HOFO.165(b)&(c) Crew requirements**

## REGENCY

The recency requirements are reflecting FCL.060. However, to ensure an appropriate proficiency and safety level, item (b) includes additional extended and strengthened requirements specific to offshore operations.

**(e) Amendment of AMC/GM to Annex VI, Part-NCC**

AMC1 NCC.OP.152 Destination alternate aerodromes – helicopter is deleted.

AMC1 NCC.IDE.H.231 Additional requirements for helicopters conducting offshore operations in a hostile sea area is deleted.

**(f)** Amendment of AMC/GM to Annex VIII, Part –SPO

AMC1 SPO.OP.156 Destination alternate aerodromes – helicopter is deleted.

AMC1 SPO.IDE.H.201 Additional requirements for helicopters conducting offshore operations in a hostile sea area is deleted.

## 4. 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.

### 4.1. CRD table of comments, responses and resulting text

<b>(General Comments)</b>
---------------------------

comment

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comment by: *Jan Loncke*

First of all, I'd like to express my gratitude in welcoming this long awaited proposition for a set of rules applicable to helicopter offshore operations. In view of the general objectives of the Basic Regulation, to establish and maintain a high uniform level of civil aviation safety in Europe and the additional objective of a safe level playing field, I'd like to see the start of a European database which contains all alternative means of compliance, risk assessments, safety cases and studies that (will) have been approved by the NAA's as well as all the approved Equivalent levels of Safety for all different subjects, so that these can be consulted, used by other NAA's or by other operators in case they have to make and present a (safety) case/assessment for a similar subject for their own NAA or competent authority.

This will not only be helpful to all operators as such, but it will also help the EASA and the NAA's to keep, to maintain the same level of safety of these particular subjects, to have the same qualification of risks (Risk Index) of these subjects, to have the 'same' basis to determine whether a subject has a similar level of safety, for similar subjects, etc., which surely will contribute to ensuring a level playing field among helicopter operators in different European countries. In addition, to include also in a database, the mitigating measures (ref. C. RIA 1.1.3.1 pag. 57 of this NPA) that have been adopted by the different NAA's, and the resulting Risk Indices, for these subjects for which a risk assessment/safety case was made.

All this will help in standardization in general and in establishing a uniform level of safety. But a database like that will also help during future visits of EASA inspection teams with the NAA, to check if all the NAA's work and approve certain items in the same way, to similar standards.

For all operators, it will also improve transparency and build confidence in the work that is done by the competent authorities and the Agency. It will contribute to the perception of the operator that indeed operators of different countries are treated the same way, according to the same standards.

response

*Noted*

Introduction of a database as mentioned is not inside the scope of this rulemaking task.

The implementation of these rules is the responsibility of the MS. It is the MS' task to approve alternative means of compliance. It is agreed that the Agency would share basic information on alternative means of compliance notified by the MS. This, however, does not include the full content. Eventually, such alternative means of compliance will be published as AMCs following an Agency rulemaking process.

Concerning risk assessments and safety cases, this comment will be brought to EHEST for further consideration.

comment

91

comment by: *Andrew ROGNMO-HODGE*COMMENTS:Question 1

Do stakeholders agree with the exclusion of NCO operators from this proposal? If not, which restrictions should be applied to NCO operators and why?

Q1 : Yes the NCO should be included in the regulation.

Question 2

Do stakeholders agree that the OPS requirements should stipulate a specific approval (SPA) for helicopter offshore operations whether they are commercial or non-commercial? If not, why not, which types of operations should possibly be excluded from the approval requirement and how can the identified risks and necessary level of oversight be ensured?

Q2: Agree

Question 3

Do stakeholders consider it a prerequisite for operators to be issued an AOC to obtain a specific approval (SPA) for helicopter offshore operation?

If so, what is the justification for such requirement?

Q3: Nei, there should not be a need for AOC for SPA, as this is not proportional to the operations.

Question 4

Do stakeholders see a benefit in fitting all helicopters, complex and non-complex, used in CAT with a VHM system?

If not, which other mitigation measures are considered suitable to detect early deterioration of components?

Q4. Yes, there are definite benefits in fitting all helicopters with a VHM.

Question 5

Do stakeholders consider the proposed timeframes appropriate? If not, which timeframes are considered appropriate and why?

Q5. The time period for a VHM system is appropriate, for both new and established aircraft. The period should not be any longer than this as 2 years for a retrofit is well within the boundaries of realistic deep maintenance and installation of systems.

Question 6

What are considered appropriate implementation timeframes concerning the establishment of a FDM programme?

Q6. The establishment of a FDM program should be reduced to 1 year; this is due to the 'establishment' statement – the continuous improvement and extrapolation of relevant parameters will take a lot longer depending upon systems, software and quite often union agreements.

**Other Comments:**

**SPA.HOFO.100 Helicopter Offshore operations**

Add the competent authority for the offshore place of business shall be involved in the approval process.

**SPA.HOFO.105 Operating procedures (b)(5)**

**Highest possible mode of AFCS is used throughout the flight**

The use of manual flight shall not be excluded as quite often the skill fade on these critical manual flying situations can be lost if only trained at simulator and training sorties. The OEB for example on the Super puma states:

OEB Super Puma - 8.7 a. The need to retain the ability, when all else fails, to recover the aircraft manually.

So i would recommend a change in text to 'should', or manual flight permitted in VFR conditions. This is acceptable because there is still the text in (b)(6) stating specific offshore approach profiles are established...

**SPA.HOFO.105 op procedures (b) (3) States when the weather report or forecasts available to the pilot-in-command/commander indicate that the seatemperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, the crew wears a survival suit.**

This should be changed to all persons on-board in accordance with today's practice with JO3.

**AMC3 ARO.OPS.200 Specific approval procedure (b) demonstration flights**

Add - This should be demonstrated in the area of operation

**AMC2 CAT.IDE.H.145 Radio Altimeters**

More clarification on what an analogue presentation is i.e is EFIS 'tape' Rad Alt display analogue?

**AMC1 SPA.HOFO.125 Flight following**

Should have more details in the AMC stating 'at least' criteria and tracking frequency, deviation detection criteria; or more text on ATC requirements e.g radio and radar coverage including approach to helideck. This is as the current text could be procedural FF stating radio calls to ATC will be sufficient

response

*Noted*

An analysis of the comments to the questions asked and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

SPA.HOFO.100: This is not harmonised with 'free movement', level-playing field and acceptance of privileges issued by another NAA. However, as similar comments are received from other commentators, a related question will be posted in the CRD for stakeholders to consider.

SPA.HOFO.105(b)(5): Partly supported. The text is transferred from a safety recommendation made subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.

SPA.HOFO.105(b)(3): Partly supported. This is a crew requirement. A similar

requirement for passengers will be included in SPA.HOFO.155.

AMC3 ARO.OPS.200: Supported. Text is changed.

AMC2 CAT.IDE.H.145: Supported. Text is changed.

AMC1 SPA.HOFO.125: Partly supported. The text will be slightly modified in line with other responses. Note that radio calls may be considered as sufficient flight following depending on the circumstances. The proposed text regarding ATC mandatory requirements is not supported.

comment

95

comment by: *NHAF Technical committee*

NHF supports development of strict and fair rules for Helicopter Offshore Operations. HOFO operations are very special, considering the high level of risk, involved in operations in such hostile environment. Therefore we recommend all operations covered by this regulation, to be regulated through an AOC approval, even for Non-commercial operations. Mandatory AOC provide higher requirements for procedures, organization, training, etc., who will affect safety in a positive manner.

The safety impact on operation, are also considered as rising with higher standards of rules and standards given by authorities directly.

In addition, maintenance done by same person on double/critical systems (engines, emergency equipment, flight controls, etc.) must be avoided. As for ETOPS operations, this is important to prevent possibility for critical failure in both systems. Justification: Reports from the operators around the North Sea, shows that maintenance induced errors, causes a major part of all incidents in their operations. Human factors should be considered as a valid element.

response

*Not accepted*

Your support to the development of strict and fair rules for HOFO is appreciated.

As for AOC also to non-commercial operators: this is not possible as AOC is only for commercial air transport operators. See also the answer to your comment to Question 3.

The last part of the comment is supported. The subject of inspections on duplicate/critical systems is currently covered in Part-M (point M.A.402(a)) and in Part-145 (point AMC 145.A.65(b)(3)) and, therefore, outside the scope of the RMT as it is related to operational regulations.

The Agency reviewed these issues with the rulemaking task RMT.0222 (MDM.020), which resulted in the publication of NPA 2012-04, CRD 2012-04 and Opinion 06/2013.

comment

121

comment by: *Norwegian Ministry of Transport and Communications*

The Norwegian Ministry supports the proposal for including requirements for offshore helicopter operations in the implementing rules of the basic regulation. We are on the whole pleased with the requirements for offshore helicopter operations as they are proposed in NPA 2013-10. We support the initiative to establish a level playing field for the offshore helicopter operators, as long as it do not compromise the level of safety in any way.

We support the Norwegian CAA (NCAA) whom considers that the proposal in NPA 2013-10 should include a requirement for ACAS/TCAS to be used onboard helicopters involved in offshore helicopter operations. ACAS/TCAS should also be a MEL item.

response	<p>This equipment is often pre-installed in newer complex helicopters, and is also available for retrofitting. The safety benefit of using such equipment does in the NCAA`s opinion outweigh the economic implications from requiring such equipment.</p> <p><i>Noted</i></p> <p>The support is highly appreciated.</p> <p>As for ACAS/TCAS, the Agency considers that anti-collision systems, such as TCAS II and similar, should be mandated by the airspace authorities. An operational regulation valid only for offshore helicopters is therefore not considered.</p> <p>Presently TCAS II for helicopters is not considered to be regulated by SESAR.</p> <p>Operators that already have ACAS/TCAS installed, or those who decide to install the equipment based on ORO.GEN.200, may include the equipment in the associated MEL provided it is included at MMEL level by TC/STC holder.</p>
comment	<p>170 <span style="float: right;">comment by: <i>Luftfahrt-Bundesamt</i></span></p> <p>The LBA has no comments on NPA 2013-10.</p>
response	<p><i>Noted</i></p> <p>Thank you.</p>
comment	<p>172 <span style="float: right;">comment by: <i>Heli-Union</i></span></p> <p>This NPA has been developed considering North Sea operations and it should take into account that European CAT operators also operate in other parts of the world with their AOC (Asia, Africa,...), which</p> <ul style="list-style-type: none"> <li>• requires specific organisation (longer schedules of crew rotations, longer delays for heavy maintenance operations,...),</li> <li>• means different weather conditions,</li> <li>• makes the operators dependant on local context (ie country development),</li> <li>• ...</li> </ul> <p>At this time, Heli-Union only operates outside Europe (Africa, South America and Asia).</p>
response	<p><i>Noted</i></p> <p>The rules are developed for all offshore operation within the remedy of the regulation for 'Air Ops'.</p> <p>Please also refer to the responses to your specific comments to the different regulatory proposals.</p>
comment	<p>173 <span style="float: right;">comment by: <i>EUROCONTROL</i></span></p> <p>The EUROCONTROL Agency has no comments to make.</p>
response	<p><i>Noted</i></p> <p>Thank you.</p>

**NPA 2013-10 'Helicopter offshore operations' – General comments**

p. 1-4

comment	171	comment by: <i>NATS National Air Traffic Services Limited</i>
	<b>General comment</b>	
	NATS welcomes and supports this consultation, recognising that the document looks to be consistent with our current operation within the UK. An example of this is our Aberdeen Operation which already has an established track structure in place in the Northern and Southern North Sea that " ensures horizontal and vertical separation".	
response	<i>Noted</i>	
	Thank you for the support.	

**A. Explanatory Note – I. Introduction**

p. 5

comment	73	comment by: <i>EUROCOPTER</i>
	At § A.I.4. it is written that Norway and the United Kingdom, together with Denmark and Ireland, consider that the current text of Commission Regulation (EU) No 965/2012 does not allow the maintenance of present safety levels, as additional requirements that are in place in these Member States are not reflected. This is not totally true because Regulation N° 965/2015 allows, under Article 6 (Derogations) § 4, Member States to continue to require a specific approval and additional requirements regarding operational procedures, equipment, crew qualification and training for CAT helicopter offshore operations in accordance with their national law.	
response	<i>Noted</i>	
	Article 6.4 was introduced to allow MS to continue with their present practice. However, this does not ensure a level-playing field. The text is expected to be deleted following the adoption of this proposal.	

**A. Explanatory Note – II. Scope**

p. 6

comment	131	comment by: <i>UK CAA</i>
	<b>Page No:</b> 06	
	<b>Paragraph No:</b> 8	
	<b>Comment:</b> The scope of the NPA is discussed in this section with the mention of Specialised Operations (SPO). SPO can be conducted under commercial (aerial work) or non-commercial auspices and the interpretation throughout the NPA could encompass either. Mention is made later on of non-commercial complex motor powered helicopter SPO so introducing some elements of confusion. Additionally, NCO is excluded from consideration within the NPA but it is not clear if this also excludes SPO by NCO equivalent helicopters.	
	For proportionality and to ensure clarity, it is strongly recommended that the applicability of offshore operations within this NPA be restricted to CAT and commercial SPO; thus excluding NCC and NCO from consideration. As mentioned in the Explanatory Note and the RIA the existence of both SPO and NCC operations offshore (as now defined) is little known but thought to be very	

limited. This would further support exclusion from 'heavy' regulation.

**Justification:** Clarity of intent and appropriate balance of regulation against risk and exposure of operation. The justification for including NCC operations within the scope of the HOFO SPA (Option 2) has not been adequately demonstrated and was not an option identified by the RMT.0409/0410.

response *Noted*

This is linked to question 2.

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

## A. Explanatory Note – IV. General aspects of offshore operations

p. 7-8

comment 74

comment by: *EUROCOPTER*

At § IV item n° 18 (page 8), it is written, regarding the concern of the designation of open sea areas north of 45N and south of 45S that this designation is "*not uniformly implemented*" because some MS do not designate these areas as hostile while others do. It is added that *'It is however clear that the safety risks are the same in all open sea areas north of 45N, whether there is a designation of the State or not. It is therefore proposed to delete the designation aspect from the definition for the purpose of air operations requirements. Any open sea areas north of 45N and south of 45S are therefore considered hostile environment by default'*.

Eurocopter does not agree with this proposal: while we do not question the proposal to consider globally the open seas south of 45S as hostile environment because of the sea state during the year and the presence of large wild zones on the shore, we consider the situation is not the same regarding the northern hemisphere. As written in the 'hostile environment' definition an environment may be hostile when search and rescue response/capability is not provided consistent with the anticipated exposure (condition (a)(3) of the definition). Consequently, for a given Sea State and water temperature, the hostility may vary from one State to another, depending on the search and rescue means provided by the State and available on the shore. This explains why, in principle and according to the 'hostile environment definition', it is possible that some MS designate a same (or similar) sea area as hostile while others don't. Eurocopter consider that the MS are in the best situation to designate which zones of their open sea areas have to be considered as hostile by default, depending on the statistics of the Sea State, water temperature, and search and rescue means available on the shore. Moreover we see a problem in maintaining the threshold of 45N in the definition. This threshold is arbitrary and not justified: in the EU, this 45N crosses France at the level of Bordeaux and, in Italy and in Croatia, at the very northern part of the Adriatic Sea. There is no reason to consider that the French Atlantic sea areas above Bordeaux are more hostile than the ones which are southern either in France or even in Spain and Portugal. Also there is no reason to consider that the upper northern part of the Adriatic sea is more hostile than the southern part.

According to the arguments just presented above Eurocopter proposes, concerning the 'hostile environment' definition, to remove the 45N threshold and to maintain the requirement for the MS to designate which parts of their open sea areas have to be considered as hostile by default.

response *Partially accepted*

The 45N border between hostile and non-hostile is maintained. See also

Amendments to Annex I and associated GM in the explanatory note to the CRD.

comment 126 comment by: *new European Helicopter Association (EHA)*

18. What is a hostile environment?

Comment EHA: Definition of "open sea area" is still missing? For example more than X miles from shore? (10 miles?) Is a large bay/fjord/sea loch considered "open sea area"? Northern part Mediterranean, Black Sea, Caspian Sea?

response *Accepted*

A definition will be included in Annex I.

comment 127 comment by: *new European Helicopter Association (EHA)*

19. Extended overwater flights:

Comment EHA:

Does this mean an over water transit (for example Scotland to Norway) without an offshore landing? What if a refuelling stop is required?

How about landing on an onshore airfield to extend the range → is that first section than also on Offshore flight, f.e. Aberdeen → Sumburgh → Offshore in one flight?

response *Noted*

An over-water transit flight is not covered by this RMT. This RMT only addresses flights landing and taking off from offshore installations. As explained in the explanatory notes of the NPA, extended over water flights may be subject to a separate RMT.

If a refuelling stop is required on an offshore installation, the flight is an offshore flight.

comment 132 comment by: *UK CAA*

**Page No:** 07

**Paragraph No:** 17

**Comment:** The term 'Offshore location' is discussed here but the definition is different from that at page 24. It is assumed that the version at page 24 is the intended definition.

**Justification:** Accuracy and clarity.

response *Noted*

The text on page 24, where subparagraphs are numbered (a), (b), (c) and (d), is the text referred to.

comment 212 comment by: *Le Havre Pilots Association*

Open sea areas:

In the NPA, definition of "open sea areas" is missing.

We suggest to quantify this notion by taking the definition in the Part NCC : NCC.IDE.H.231 : "distance from land corresponding to more than 10 minutes flying time at normal cruise speed".

response	<p><u>Hostile environment :</u>          We do not agree with the definition of hostile environment North of 45N. At the contrary of the South of 45S where areas are without a lot of search and rescue response/capabilities, in our latitude in Le Havre we are flying in ATC controlled area, there are a lot of means to oversight aircrafts and vessels and SAR services are available with very short response.          We consider that it is to MS responsibility to designate which parts of their open sea areas have to be declared as hostiles.          Pilotage Le Havre proposes the following modifications:          (i) For overwater operations, the open sea areas <del>north of 45N and south of 45S</del> and those other open sea areas designated by the authority in the State concerned;</p> <p><i>Partially accepted</i></p> <p>A definition of open sea area will be included in Annex I.</p> <p>The second comment is not supported. 45 degrees North has been the borderline over a very long time period since introduced in JAR-OPS 3. MS have not objected to it.</p> <p>See also Amendments to Annex I and associated GM in the explanatory note to the CRD.</p>
comment	<p>269 <span style="float: right;">comment by: STATION PILOTAGE DUNKERQUE</span></p> <p><u>Open sea areas:</u>          In the NPA, definition of "open sea areas" is missing.          We suggest to quantify this notion by taking the definition in the Part NCC : NCC.IDE.H.231 : "distance from land corresponding to more than 10 minutes flying time at normal cruise speed".</p> <p><u>Hostile environment :</u>          We do not agree with the definition of hostile environment North of 45N. At the contrary of the South of 45S where areas are without a lot of search and rescue response/capabilities, in our latitude in DUNKERQUE we are flying in ATC controlled area, there are a lot of means to oversight aircrafts and vessels and SAR services are available with very short response. Every flight is bound for vessel equipped with SAR equipment according to SOLAS convention. So not only SAR support are available from shore but also from the vessel          We consider that it is to MS responsibility to designate which parts of their open sea areas have to be declared as hostiles.          Pilotage DUNKERQUE proposes the following modifications:          (i) For overwater operations, the open sea areas <del>north of 45N and south of 45S</del> and those other open sea areas designated by the authority in the State concerned;</p>
response	<p><i>Partially accepted</i></p> <p>A definition of open sea area will be included in Annex I.</p> <p>The second comment is not supported. 45 degrees North has been the borderline over a very long time period since introduced in JAR-OPS 3. MS have not objected to it.</p> <p>See also Amendments to Annex I and associated GM in the explanatory note to the CRD.</p>

comment	281	comment by: <i>Heli-Union</i>
	<p><b>Page No : 8</b></p> <p><b>Paragraph No : Question 18</b></p> <p><b>Comment :</b> definition of “<b>open sea areas</b>” is missing. We suggest to quantify this notion by taking the definition in the Part NCC : NCC.IDE.H.231 : “distance from land corresponding to more than 10 minutes flying time at normal cruise speed”.</p>	
response	<p><i>Noted</i></p> <p>A definition will be included in Annex I.</p>	
comment	291	comment by: <i>British International Helicopters</i>
	<p>Definition of 'Offshore location' differs from that on page 24. Justification: Consistency</p>	
response	<p><i>Noted</i></p> <p>The text on page 24, where subparagraphs are numbered (a), (b), (c) and (d), is the text referred to.</p>	
comment	301	comment by: <i>CHC Helicopter</i>
	<p>18. What is a hostile environment?</p> <p>Comments on behalf of:</p> <ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> <li>3. CHC Ireland</li> </ol> <p>Definition of "open sea area" is still missing? For example more than X miles from shore? (10 miles?) Is a large bay/fjord/sea loch considered "open sea area"? Northern part Mediterranean, Black Sea, Caspian Sea?</p>	
response	<p><i>Noted</i></p> <p>A definition will be included in Annex I.</p>	
comment	302	comment by: <i>CHC Helicopter</i>
	<p>19. Extended overwater flights:</p> <p>Comments on behalf of:</p> <ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> <li>3. CHC Ireland</li> </ol> <p>Does this mean an over water transit (for example Scotland to Norway) without an offshore landing? What if a refuelling stop is required? How about landing on an onshore airfield to extend the range → is that first</p>	

response	<p>section than also on Offshore flight, f.e. Aberdeen → Sumburgh → Offshore in one flight?</p> <p><i>Noted</i></p> <p>An over-water transit flight is not covered by this RMT. It only addresses flights landing and taking off from offshore installations. As explained in the explanatory notes of the NPA, extended over water flights may be subject to a separate RMT. If a refuelling stop is required on an offshore installation, the flight is an offshore flight.</p>
comment	<p>334 <span style="float: right;">comment by: <i>ELILOMBARDA</i></span></p> <p>18. What is a hostile environment? Definition of "open sea area" is still missing? For example more than X miles from shore? (10 miles?) Is a large bay/fjord/sea loch considered "open sea area"? Northern part Mediterranean, Black Sea, Caspian Sea?</p>
response	<p><i>Noted</i></p> <p>A definition will be included in Annex I.</p>
comment	<p>343 <span style="float: right;">comment by: <i>ELILOMBARDA</i></span></p> <p>What is a hostile environment? (b) in any case, the following areas: for overwater operations, the open sea areas north of 45N.....etc <b><u>This defintion include the north part of Adriatic sea as hostile environment. In this case the flights with departure from the ENI Base of Marina of Ravenna to helideck a few miles North of 45N would be partly developed in NON hostile environment and partly on HOSTILE environment creating confusion on the type of helicopter to be used and the requested equipment.</u></b> ELILOMBARDA proposed new defintion as follow: What is a hostile environment? b) in any case, the following areas: for overwater operations, the open sea areas north of <b>46N</b>.....etc.<b>or</b> (b) in any case, the following areas: for overwater operations, the open sea areas north of 45N ( <b>except the north part of Adriatic sea</b>).....etc</p>
response	<p><i>Partially accepted</i></p> <p>The 45N border between hostile and non-hostile is maintained. See also Amendments to Annex I and associated GM in the explanatory note to the CRD.</p>

## A. Explanatory Note – V. Summary of the proposed changes (Question 1)

p. 9

comment	<p>2 <span style="float: right;">comment by: <i>Jan Loncke</i></span></p> <p>Question 1 : Although it is assumed that NCO operations mainly cover private owner/pilot operations and that offshore operations typically are not conducted by such operators, it has happened that private owners have flown to offshore windfarms on a kind of 'sight seeing tours'.</p>
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In my opinion it is not necessary to provide any regulation for NCO operators, except for the only one : to prohibit NCO operators of flying to offshore installations/vessels either fixed or under way, unless they fly to their 'mother vessel'. But since not many super yachts operate north of 45°N, these exceptions are really minimal, I believe.

The reason for this proposition is, that mixing NCO-flights with professional flights is not a very good idea, knowing that a lot of offshore operations are done in uncontrolled airspace and since, in general, people flying privately are often not aware of procedures in use by the professional flying community, especially the offshore flying community. So it should be avoided to have NCO-flights mixing with CAT or NCC operators.

Therefore, please include a prohibition for NCO operators.

response *Noted*

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment 34

comment by: CAA-NL

**Question 1**

Yes, but we wonder what the risks are of organisations buying non complex helicopters and start flying as corporate aviation in NCO without fulfilling any of these requirements.

response *Noted*

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment 59

comment by: European Cockpit Association

ECA does not agree with the exclusion of the NCO's.

What makes the North Sea operation special is the environment and the weather circumstances and NOT the helicopter size. Therefore it is important for the crew that he/she/they are capable of handling the complex North Sea operations and the operator has all the facilities to support the crew.

response *Noted*

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment 76

comment by: EUROCOPTER

Answer to Question 1: Eurocopter agrees with the exclusion of NCO operators from this proposal since, as written in the NPA, these ones are mainly private owner/pilot operations or operations within an aero club, so are not concerned by offshore operations as newly defined by this NPA.

response *Noted*

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment	89	comment by: <i>European Private Helicopter Alliance</i>
	Yes, we agree with the exclusion of NCO operators from this regulation. As is stated in the NPA, very few offshore operations (as defined) are carried out by NCO operators, and consequently no additional regulation, or change to the current NCO operations regulations, are necessary.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	90	comment by: <i>Helicopter Club of Great Britain</i>
	The Helicopter Club of Great Britain agrees with the exclusion of NCO operators from this regulation.	
	Very few offshore operations (as defined) are carried out by NCO operators, and the few that are, are very close to the shore.	
	Therefore our opinion is that no additional regulations, or changes to the current NCO operations regulations, are necessary.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	92	comment by: <i>FAA</i>
	Paragraph 25, Question 1. <u>Comment:</u> Agree that Non-Commercial with non-complex aircraft (NCO) operators should be excluded. <u>Reason:</u> If NCO operators were included, would have minimal impact on level of safety due to the few operators in this category. <u>Recommendation:</u> NCO operators should be excluded from the proposal. <u>Safety Impact:</u> Minimal.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	96	comment by: <i>NHAF Technical committee</i>
	Question 1: NHF recommends that NCO operators follow the same sets of rules and restrictions as CAT operators. Justification: Offshore operators (drilling-, exploration- companies, etc.) may operate their own helicopter, as a NCO operation, but still be conducting an operation very similar to a CAT operator.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	107	comment by: <i>CHC Helikopter Service, Norway</i>
	Answer; Yes. NCO operators should either be included in the regulations; or regulations	

response	<p>must reflect that NCO must have approval for these operations.</p> <p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>115 comment by: <i>Norwegian Ministry of Transport and Communications</i></p> <p>The Norwegian Ministry of Transport and Communications agrees that NCO operators should be excluded from the proposed rules on offshore helicopter operations, as offshore operations typically are not conducted by such operators.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>128 comment by: <i>new European Helicopter Association (EHA)</i></p> <p>EHA answer to question 1: Agrees with the exclusion.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>133 comment by: <i>UK CAA</i></p> <p><b>Page No:</b> 09  <b>Paragraph No:</b> 25  <b>Comment:</b> Question 1. The UK CAA fully supports the exclusion of Part-NCO operations from the concept of Offshore Operations as proposed in the NPA.  <b>Justification:</b> The need for a specific approval for NCO operations would be disproportionate and unjustified in terms of any safety benefit and also costly and difficult to manage.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>174 comment by: <i>Tim Glasspool</i></p> <p>Q1 - Yes, NCO operators should be excluded.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>206 comment by: <i>Civil Aviation Authority of Norway</i></p> <p>The NCAA agrees with the proposed exclusion of NCO operators from the proposed rules on offshore helicopter operations.</p>

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	213 <span style="float: right;">comment by: <i>Le Havre Pilots Association</i></span> <u>Answer :</u> Pilotage Le Havre agrees with the exclusion of NCO operators from this proposal. By the way, as written in the NPA, these ones are mainly private owner/pilot operations or operations within an aero club, so are not concerned by offshore operations as newly defined by this NPA.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	270 <span style="float: right;">comment by: <i>STATION PILOTAGE DUNKERQUE</i></span> <u>Answer :</u> Pilotage DUNKERQUE agrees with the exclusion of NCO operators from this proposal. By the way, as written in the NPA, these ones are mainly private owner/pilot operations or operations within an aero club, so are not concerned by offshore operations as newly defined by this NPA.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	282 <span style="float: right;">comment by: <i>Heli-Union</i></span> Yes
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	292 <span style="float: right;">comment by: <i>British International Helicopters</i></span> Question 1 - Yes, BIHS agrees with the exclusion of NCO operators from this proposal
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	304 <span style="float: right;">comment by: <i>CHC Helicopter</i></span> Answer on behalf of:  <ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> </ol>

	3. CHC Ireland	
	Question 1: Agrees with the exclusion.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	335	comment by: <i>ELILOMBARDA</i>
	Question 1: Yes, ELILOMBARDA agree with the exclusion of NCO operators from this proposal.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	361	comment by: <i>DGAC France</i>
	DGAC France supports the exclusion of NCO operators from this proposal. If needed, specific and adapted requirements should be implemented in the future NCO.SPEC. The need for SPA approval seems disproportionate and not justified considering the cost versus safety benefits, bearing in mind this is a non commercial operation.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	

**A. Explanatory Note – V. Summary of the proposed changes (Question 2)**

p. 9-11

comment	3	comment by: <i>Jan Loncke</i>
	<p>I support the preferred option : Option 2 since it contains the requirement for a specific approval for offshore operators and this with no exception or exemptions. This means that not only CAT, but also NCC or SPO operators, should fulfill to that requirement.</p> <p>In at least one of the accidents I've mentioned under my remark on the EASA accident data (see further: C. RIA 1.3.2.1) it is obvious that there was no effective, no efficient oversight, nor self-regulation in a non-commercial helicopter hoist operation in the context of sea-pilot transfer activities, performed by a NCC-operator, the maritime pilotage service itself.</p> <p>Referring to the disproportional accidents (in relation to the flight hours), it is only sensible to state that also NCC- (&amp; SPO-) operators, should have a specific approval in order to put, at least some, authority oversight over them.</p> <p>No operations should be excluded. Of all offshore operations, I would even dare to state that deck landings on fixed offshore installations are the safest of all offshore operations, where helicopter hoist operations over moving targets are probably the least safe.</p> <p>In my opinion it is unthinkable that helicopter hoist operations, when performed by NCC or SPO operators e.g. during a pollution control flight, should be</p>	

	exempted, whether it is over vessels or fixed structures, or during construction works flights e.g. to offshore windmills.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	35 <span style="float: right;">comment by: CAA-NL</span> <b>Question 2</b> Yes we do agree.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	60 <span style="float: right;">comment by: European Cockpit Association</span> SPA for commercial and non-commercial
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	77 <span style="float: right;">comment by: EUROCOPTER</span> <u>Answer to question 2:</u> Eurocopter agrees that the OPS requirements should <u>only</u> mandate a specific approval (SPA) for <u>CAT</u> helicopter offshore operations <u>in a hostile environment</u> . As a matter of fact: - helicopter CAT offshore operations in a non-hostile environment do not present a risk for the helicopter occupants (safe forced landing is achievable, search and rescue reponse/capability is provided consistent with the anticipated exposure), - regarding non-commercial operations with complex motor-powered helicopters and specialised operations, risk is mitigated by the following. Part OPS requires for these operations/helicopters most of the same instruments/equipment as for CAT operations (Emergency lighting and associated markings, ELT, Life jackets, survival suits for all persons on board, ditching certification or emergency floatation equipment, life saving equipment, survival equipment). Moreover, due to their size, complex motor-powered helicopters are certificated to ditching because they are also sold for CAT offshore operations in a hostile environment.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	93 <span style="float: right;">comment by: FAA</span> Paragraph 26, Question 2. <u>Comment:</u> Agree that the OPS requirement should stipulate a Specific Approval (SPA) for commercial and non-commercial operators. <u>Reason:</u> To maintain a standardized level of compliance for all operators. <u>Recommendation:</u> OPS requirement should stipulate a SPA for commercial and non-commercial operators. <u>Safety Impact:</u> Ensure a standardized level of safety.

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	97 <span style="float: right;">comment by: <i>NHAF Technical committee</i></span> Question 2: SPA should be mandatory for operators offshore. Helicopter offshore operations are a very special type of operations, who require the operator to comply with a large set of special rules before starting operations. To be able to control, monitor and secure proper compliance, an SPA should be mandatory for these operators. The major countries operating in the North Sea, already have established SPA as a mandatory requirement. The competent authority, who will issue the SPA, should be approved and properly qualified to control and monitor such SPA operations. Requirements for the competent authority capability to issue HOFO SPA, should be established and controlled by EASA prior to approving the competent authority.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	108 <span style="float: right;">comment by: <i>CHC Helikopter Service, Norway</i></span> Answer: Yes
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	116 <span style="float: right;">comment by: <i>Norwegian Ministry of Transport and Communications</i></span> As offshore helicopter operations involves a higher risk than comparable helicopter operations performed over land, the Norwegian Ministry agrees that both commercial operators and NCC operators should be subject to a specific approval for offshore helicopter operations. If the proposed requirements were not to apply to NCC-operators, we fear that that a substantial part of today's offshore operations would be performed by NCC-operators in the future, in order to avoid the new requirements. The safety benefit for both operators and passengers which lies in this proposal would then be missed. We therefore find it important that a SPA for offshore operations is made applicable for NCC-operators in order not to steer the market in such a direction.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	129 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span> EHA answer to question 2: Yes.

response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	134	comment by: UK CAA
	<p><b>Page No:</b> 11  <b>Paragraph No:</b> 26  <b>Comment:</b> Question 2. Not entirely. The UK CAA fully supports inclusion of Part-CAT operations in the concept of the Offshore Operations SPA and in fact was one of the original proposers for this.  However, the argument for NCC and commercial SPO is less clear. As highlighted in the Explanatory Note and RIA, the exposure of these sectors to the <i>newly defined</i> offshore activities is not considered high and therefore it is not reasonable to mandate increased levels of requirements and expense on such operations for a limited number of events. Such limited operations have been conducted without close oversight and stringent requirements and it is not thought that this has raised an unacceptable safety situation. Additionally, requiring a specific approval for limited events will impose an undue burden on NAAs and the operators.  It is considered that in the same way as NCO is excluded, NCC should also be excluded but suitable and proportionate requirements should be placed within those Parts to cover overwater flight. This was the preferred option of the RMT.0409/0410.  For commercial SPO, an approval may be acceptable but will require stronger justification within the RIA. This has not yet been demonstrated and was also not a preferred option of the RMT.  <b>Justification:</b> The need for a SPA for NCC has not been fully justified and its inclusion is considered disproportionate in terms of any safety benefit and the added costs as previously determined by RMT.0409/0410. It will be burdensome for NAAs to manage and possibly liable to abuse due to limited oversight of such operations. The inclusion of SPO with the expected limited amount of commercial activity requires stronger justification.</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	175	comment by: Tim Glasspool
	<p>Q2 - Yes.</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	207	comment by: Civil Aviation Authority of Norway
	<p>The NCAA agrees that both commercial and non-commercial (NCC) operators should be subject to a specific approval (SPA) for offshore helicopter operations. Such offshore helicopter operations involves a higher risk than comparable helicopter operations performed over land, and should therefore be subject to the more stringent authority oversight attained by an SPA. If the proposed</p>	

	<p>requirements were not to apply to NCC-operators, we fear that that a substantial part of today's offshore operations would be performed by NCC-operators in the future, in order to avoid the new requirements. The safety benefit for both operators and passengers which lies in this proposal would then be missed. We therefore find it important that a SPA for offshore operations is made applicable for NCC-operators in order not to steer the market in such a direction.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>214 <span style="float: right;">comment by: <i>Le Havre Pilots Association</i></span></p> <p><u>Answer:</u>  Pilotage Le Havre agrees that the OPS requirements should stipulate a specific approval (SPA) for helicopter offshore operations <u>only</u> for commercial (CAT). Non-commercial offshore operations with complex motor-powered helicopters are very specific and specialized operations and concern very few operators. In France, the 3 Pilots Associations perform sea pilot transfers since 1976 with NCC and NCO. Risks are very well identified and the level of oversight is high, helicopters very well equipped close to what is done in CAT.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>273 <span style="float: right;">comment by: <i>STATION PILOTAGE DUNKERQUE</i></span></p> <p><u>Answer:</u>  Pilotage DUNKERQUE agrees that the OPS requirements should stipulate a specific approval (SPA) for helicopter offshore operations <u>only</u> for commercial (CAT). Non-commercial offshore operations with other than complex motor-powered helicopters are very specific and specialized operations and concern very few operators. In France, the 3 Pilots Associations perform sea pilot transfers since 1976 with NCC and NCO. Risks are very well identified and the level of oversight is high, helicopters very well equipped close to what is done in CAT</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>283 <span style="float: right;">comment by: <i>Heli-Union</i></span></p> <p>Yes</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>

comment	293	comment by: <i>British International Helicopters</i>
	Question 2 - Yes	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	305	comment by: <i>CHC Helicopter</i>
	Answer on behalf of:	
	<ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> <li>3. CHC Ireland</li> </ol>	
	Question 2: Yes.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	336	comment by: <i>ELILOMBARDA</i>
	Question 2: Yes	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	362	comment by: <i>DGAC France</i>
	<p>DGAC France supports that the OPS requirements should stipulate a specific approval (SPA) for helicopter offshore operations as long as they are <u>commercial</u>. However the need for such approval concerning NCC operators is not supported. First, adapted requirements already exist in Part-NCC for such operations. Secondly, even though these operations represent a small portion of offshore operations, the new rules impose an important burden on the operators concerned : the average and overall impact for CAT, SPO and NCC operators might be limited indeed, but this is not the case considering specifically NCC operators for which there are far more consequences.</p> <p>Eventually, one should remember that RMT has been mainly initiated based on the fact that "Some Member States currently impose additional conditions for commercial air transport helicopter offshore operations and issue a separate approval for operators" as stated in the NPA. It seems that the group composition reflects this main concern (which is normal as commercial activities represent more than 95% of offshore operations), and may not have fully assessed consequences on NCC operators.</p> <p>Thus, it is considered that NCC should also be excluded from the approval requirement.</p> <p>This may have to be considered at a later stage if implemented new NCC requirements are not sufficient.</p>	

response *Noted*

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

### A. Explanatory Note – V. Summary of the proposed changes (Question 3)

p. 11

comment 4

comment by: *Jan Loncke*

Article 5 of EU 965/2012, is only about CAT and paragraph 2 of that article is about CAT operators needing specific approvals, it does not mention NCC or SPO operators. This, as I understand it, means that NCC & SPO operators are exempt of this regulation.

Reading EU 965/2012 Annex V Part-SPA (SPA.GEN.100 & SPA.GEN.110) , it is not really clear to me if it is possible to grant an approval to SPO and NCC operators, since Annex V, Part-SPA, SPA.GEN.100 states that the competent authority issues specific approvals for commercial air transport operators (only), and SPA.GEN.110 states that 'the scope of the activity that an operator, holding an air operator certificate is approved to conduct, shall be documented and specified in the operations specifications in the AOC'.

I did not find in this NPA a proposition to amend the text in EU 965/2012 Article 5 (except for the addition of the new subparagraph (g) HOFO) that will include NCC and SPO operators, in order to have those operators to comply to regulations formulated under commercial air transport, as is meant by this article 5.

I did not find in this NPA a proposition to amend the text in EU 965/2012 Annex V Part-SPA (SPA.GEN.100 & SPA.GEN.110) so that the competent authority may issue specific approvals not only for CAT, but also for NCC and SPO operators.

I would suggest to change the text of EU 965/2012 Annex V Part-SPA (SPA.GEN.100) as follows : "The competent authority for issuing a specific approval ~~for the commercial air transport operator~~ shall be the authority of the Member State in which the operator has its principal place of business."

In omitting the words "for the commercial air transport operator" the 'door is being opened' to include NCC & SPO operators.

So my question is, is it sufficient to introduce the in this NPA proposed textual amendments to ensure that NCC & SPO operators are included in the proposed SPA subpart HOFO as is the idea of the proposed option 2, I believe. I don't think so, since in my opinion it is discussible if NCC and SPO operators are (will be) obliged to comply to the proposed SPA Subpart HOFO, only by mentioning in it under SPA.HOFO.100 (b)(2) & (3).

I would suggest to amend the text of article 5, to make sure that such discussion should not arise.

From an administrative, or editorial point of view if you like, the easiest or most simple solution would be to say that NCC and SPO operators should have an AOC, just as CAT operators do. On the other hand I understand the argumentation under point 27. of the Explanatory Note, but as indicated above in this comment, I'm not convinced that adding SPA.HOFO.100 (b)(2) & (3) in the Part-SPA, is sufficient.

So, in short, I do support the intention to introduce and maintain a stringent set of rules, introducing a higher safety level than required by the present regulations for NCC and SPO operators, but I'm not convinced that without changing some (of the) wording (especially in art. 5 of EU 962/2012), the text is unequivocal.

Anyway, referring to point 23. of the Explanatory Note of this NPA : 'it was not considered an option to leave SPO and NCC operations aside'...

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	36 <span style="float: right;">comment by: CAA-NL</span> <b>Question 3</b> No we do not consider an AOC as a prerequisite.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	61 <span style="float: right;">comment by: European Cockpit Association</span> No requirement
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	79 <span style="float: right;">comment by: EUROCOPTER</span> <u>Answer to Question 3</u> : due to our answer to question 2 (we consider that a specific approval should be only required for CAT offshore operations in a hostile environment) our answer to Question 3 becomes in principle useless because CAT operators are already required by Part OPS to be issued an AOC. Nevertheless in any case Eurocopter does not agree to request an AOC to NCC or SPO operators as a pre-requisite to perform offshore operations. As a matter of fact, requesting an AOC for specialised operators would mean compliance with Performance Class 2 requirements, thus would forbid performing offshore Aerial Work with single-engined helicopters without any established safety case and in contradiction with Part SPO (SPO.POL.120 only requests not to cause undue hazard to person and property on the ground). Requesting an AOC to NCC operators would highly increase the administrative burden with very little safety benefit (same instruments/equipment as for CAT are requested by Part OPS for offshore operations, these helicopters being also sold for CAT offshore operations in a hostile environment, the adequate Performance Class 2 is available as well on these helicopters).
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	94 <span style="float: right;">comment by: FAA</span> Paragraph 27, Question 3. <u>Comment</u> : Do not consider it a prerequisite for operators to be issued an Air Operator Certificate to obtain a SPA for helicopter offshore operation. <u>Reason</u> : Will streamline process for non-commercial operators while still ensuring compliance with standard. <u>Recommendation</u> : Do not require operators to be issued an Air Operator Certificate to obtain a SPA for helicopter offshore operation. <u>Safety Impact</u> : None.

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	98 comment by: <i>NHAF Technical committee</i> AOC should be mandatory for all HOFO operations. See general comments for justification.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	109 comment by: <i>CHC Helikopter Service, Norway</i> Question 3 No, There should be no requirement for NCC/NCO to have AOCs. However, some of the organizational flight safety requirements are applicable for CAT having an AOC. Covered by SPA HOFO 100.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	117 comment by: <i>Norwegian Ministry of Transport and Communications</i> The Norwegian Ministry will recommend that any helicopter operator to offshore oil and gas installations should hold an AOC before obtaining a specific approval for helicopter offshore operations . Norway requires this today as these are highly complex operations which includes transport of passengers. The expected safety level should be the same for both commercial and non-commercial operators.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD. It should also be noted that an AOC can only be issued to a CAT-operator. The same safety level for different operators is achieved through the Specific Approval (SPA).
comment	130 comment by: <i>new European Helicopter Association (EHA)</i> EHA comment; Yes, EHA consider it a prerequisite for operators to be issued an AOC to obtain a specific approval (SPA) for helicopter offshore operation?
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment	135	comment by: UK CAA
	<p><b>Page No:</b> 11  <b>Paragraph No:</b> 27  <b>Comment:</b> Question 3. No, if Commercial SPO remains within the scope of the SPA. The UK CAA fully supports inclusion of Part-CAT operations in the concept of the Offshore Operations SPA and in fact was one of the original proposers for this. This was the only sector that was originally considered appropriate by the UK CAA and therefore justified such an approval and thus attracted an AOC.  <b>Justification:</b> Part-CAT operators will have an AOC and this is deemed to be a proportionate approach. RMT.0409/0410 did not consider it appropriate to include SPO or NCC in the approval process.</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	176	comment by: Tim Glasspool
	<p>Q3 - Yes. All current operators have an AOC, and to not require future operators to have an AOC is a lowering of safety standards.</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	208	comment by: Civil Aviation Authority of Norway
	<p>The NCAA is of the opinion that an AOC should be a prerequisite to obtain a specific approval (SPA) with regards to HOFO operations to oil and gas installations. These are complex operations, involving transport of passengers, and demanding high standards on the operator side in order to be performed safely. An AOC would to a certain degree ensure the public and the competent authority that the operator is able to meet these standards before commencing operations.</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.  It should also be noted that an AOC can only be issued to a CAT-operator.</p>	
comment	215	comment by: Le Havre Pilots Association
	<p>Answer:  Pilotage Le Havre consider that logically it is prerequisite for CAT operators to be issued an AOC to obtain a specific approval (SPA), but not in any case this should be applied to NCC.  Requesting an AOC to NCC operators would highly increase the administrative burden with negligible benefit.</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	

comment	268	comment by: <i>STATION PILOTAGE DUNKERQUE</i>
	<p><u>Answer:</u>  Pilotage DUNKERQUE consider that logically it is prerequisite for CAT operators to be issued an AOC to obtain a specific approval (SPA), but not in any case this should be applied to NCC, NCO or SPO.  Requesting an AOC to NCC, NCO or SPO operators would highly increase the administrative burden with negligible benefit</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	277	comment by: <i>Heli-Union</i>
	<p>No requirement</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	294	comment by: <i>British International Helicopters</i>
	<p>Question 3 - Yes</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	337	comment by: <i>ELILOMBARDA</i>
	<p>Question 3: Yes</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	363	comment by: <i>DGAC France</i>
	<p>DGAC France does not consider it a prerequisite for operators to be issued an AOC to obtain a specific approval (SPA) for helicopter offshore operation if commercial SPO and NCC were to be included in the scope of this proposal.  This AOC requirement does not seem consistent with the intent of regulation 216/2008 nor regulation 965/2012.</p>	
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	

**A. Explanatory Note – V. Summary of the proposed changes (Question 4)**

p. 11-12

comment

5

comment by: *Jan Loncke*

For sure it may be considered, at least, as a best practice to have all helicopters involved in CAT equipped with a VHM system. But the same goes for helicopters involved in NCC and SPO. So, in the context of this NPA, especially considering the argumentation in point 27 of the Explanatory Note, I would have liked to see the first question of "Question 4" to be rephrased as follows : "Do stakeholders see a benefit in fitting all helicopters engaging in offshore operations with a VHM system ?"

My answer would be yes, without making a differentiation between CAT, NCC or SPO on the one hand, and without making any differentiation between complex or non-complex helicopters on the other hand, but with a focus on the operations offshore itself.

Furthermore, I believe that regulations may be stimulating the research, development & introduction of new technologies serving, or striving to, a higher level of safety.

Since VHM technology exists and matured already for some time,

1) it may be considered a trustworthy mitigator

2) the extra cost for the system should become more & more 'democratic' especially if the helicopter manufacturers would anticipate the installation of a VHM system by including the necessary provisions in the standard aircraft

3) it is considered a 'standard requirement' within the OGP.

If the cost of such a system is still an issue for the operator, I would suggest he should do a proper risk assessment and business plan and I'm sure he will see that he will 'earn back' his investment already during the period he operates the aircraft himself, but also if he would decide to sell the aircraft. I'm sure a potential buyer is willing to pay a 'correct' price for an aircraft equipped with, and that has been kept in top condition, by means of, a VHM system. This may also be an argumentation for SPO or NCC operators to use helicopters equipped with VHM.

response

*Noted*

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment

37

comment by: *CAA-NL***Question 4**

Para 29 speaks of the fitment of VHM systems to all helicopters operating in a hostile environment as commercial air transport operations. The proposed text for SPA.HOFO.160 on page 30 of 99 of this NPA Limits this to all CAT helicopters used for Offshore operations. The question itself suggests fitting **all** helicopters, complex and non-complex, used in CAT with a VHM system. This seems somewhat confusing, however we will give the following answer to the question:

Yes we see a benefit in fitting all helicopters operating in a hostile environment used in CAT with a VHM system, however such a proposal is outside the remits of the ToR for this task, as this task is confined to Helicopter Offshore Operations only and not for CAT in general.

response

*Noted*

An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment	62	comment by: <i>European Cockpit Association</i>
	VHM must be installed in all CAT operators, or even better for all operators with a SPA for offshore operations.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	87	comment by: <i>EUROCOPTER</i>
	<u>Answer to Question 4:</u> Since its introduction on helicopters in the early 90s, VHM has shown some ability to warn about incipient failures in the rotor or rotor drive systems. It may thus help prevent accidents. However it is still a maturing technique which requires an efficient management of the system outputs. Mandating it on some aircraft may hasten its maturation. Helicopters operating in a hostile environment in commercial air transport are good candidates for such a requirement.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	99	comment by: <i>NHAF Technical committee</i>
	VHM should be mandatory for all HOFO operations. VHM provide both preventive maintenance possibilities and gives the possibility to investigate incidents and accidents in a wider perspective.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	110	comment by: <i>CHC Helikopter Service, Norway</i>
	Question 4 Yes. HUMS or equivalent systems must be a requirement, (ref AC 29-2C, Section MG-15, is the only FAA Advisory Circular (AC) providing guidance for HUMS airworthiness approval). VHM system must be defined, and the purpose of the systems must be clarified. The system must record other parameters than vibration.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	118	comment by: <i>Norwegian Ministry of Transport and Communications</i>
	The Norwegian Ministry finds that a VHM system should be fitted in all helicopters when used in offshore operations, both CAT and NCC operations.	

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	136 <span style="float: right;">comment by: UK CAA</span>  <b>Page No: 11</b> <b>Paragraph No: 28</b> <b>Comment:</b> This paragraph discusses the mandating of Performance Class 2 on operations other than Part-CAT. This is not appropriate as operation in Performance Classes is only applicable to CAT. Such impositions would be completely unsuitable and unjustified for other operations which should continue to apply their relevant performance requirements from each Part. Indeed, this would impose a restriction on the type of helicopter able to be flown offshore and exclude the use of single-engine helicopters where appropriate. <b>Justification:</b> Operations in Performance Classes have only been adopted for CAT and to go beyond this will impose unreasonable limitations and burdens on non-CAT operations for which these performance requirements were not designed. Insufficient justification has been provided to introduce such performance requirements for other than CAT and the consequences of such a requirement have not been sufficiently considered.
response	<i>Noted</i> This comment is answered with the responses provided to comments received for SPA.HOFO.145.
comment	137 <span style="float: right;">comment by: UK CAA</span>  <b>Page No: 12</b> <b>Paragraph No: 29</b> <b>Comment:</b> Question 4. Yes. The current UK requirements call for complex helicopters conducting CAT in a hostile environment to be fitted with VHM. Whilst there would be benefits for wider utilisation of such equipment the availability and justification has not yet been fully established. This measure would seem to go beyond the scope of this NPA as it should cover flight other than offshore. The CAA would recommend that this proposal forms the basis of a new study where the costs, benefits and feasibility can be properly reviewed. <b>Justification:</b> The benefits of VHM have been well demonstrated within the current UK offshore sector and wider application would be supported given appropriate impact assessment.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	177 <span style="float: right;">comment by: Tim Glasspool</span> Q4 Yes, tremendous benefit.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment	183	comment by: <i>new European Helicopter Association (EHA)</i>
	Answer from EHA: Yes, EHA see a benefit in fitting all helicopters, complex and non-complex, used in CAT with a VHM system.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	209	comment by: <i>Civil Aviation Authority of Norway</i>
	The NCAA considers that all helicopters used in offshore operations under the proposed new rules (both CAT and NCC operations), should be equipped with a VHM (vibration health monitoring) system.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	284	comment by: <i>Heli-Union</i>
	Yes, but it has to be considered that some particular helicopters could not be retrofitted. For an example non initially built AS365 Dolphin N3, for which - no manufacturer retrofit SB does exist nor STC, - the implementation of a VHM retrofit	
	<ul style="list-style-type: none"> <li>• needs a long downtime (several months) and has to be planned during next overhauls (due after 2018)</li> <li>• has no guarantee of finalisation within acceptable cost estimate</li> </ul>	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	295	comment by: <i>British International Helicopters</i>
	Question 4 - Yes, as VHM has proven to detect potential component failures before occurring.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	307	comment by: <i>CHC Helicopter</i>
	Answer on behalf of:	
	<ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> </ol>	

	<p>3. CHC Ireland</p> <p>Yes, we sees a benefit in fitting all helicopters, complex and non-complex, used in HOFA - CAT with a VHM system.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>338 <span style="float: right;">comment by: <i>ELILOMBARDA</i></span></p> <p>Question 4: Yes, as VHM has proven to detect potential component failures before occurring.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>357 <span style="float: right;">comment by: <i>HeliService International GmbH</i></span></p> <p>As an operator of Sikorsky S76 and Eurocopter BO105 helicopter (2 of them on the Research Vessel "Polarstern", we don't necessarily see a benefit or advantage in retrofitting VHM-systems into our helicopters.</p> <p>Explanation:</p> <p>The maintenance records of these types of helicopters and the experience of many maintenance organizations indicates that the S76 and BO105 are very reliable helicopters which are not subject to fatal incidents due to vibration issues. The cost-benefit-analysis in conjunction with the above statement lead to our conclusion.</p> <p>Furthermore introduction of all equipment required according to the NPA into the BO105 is uneconomical due to the age and value of the helicopters. The Polar-Research operations of the Alfred-Wegener-Institute in Arctic and Antarctic have been conducted for more than 20 years with 2 BO105 stationed on the vessel. Introduction of newer or different helicopters on RV "Polarstern" is nearly impossible due to the size of the helicopter hangar.</p> <p>The safety of the complete expeditions in Arctic and Antarctic with only one helicopter on the RV would be highly impaired.</p> <p>According to the Institute and the shipowning company "Reederei Lleisz" the RV "Polarstern" will be decommissioned and the new RV Polarstern II commissioned in June 2019.</p> <p>As of right now, HeliService International conducts negotiations to introduce more sophisticated and much newer helicopters (including NPA required equipment) on the RV Polarstern II.</p> <p>Therefore HeliService International GmbH requests either the implementation to be postponed until June 2019 <u>or the helicopters involved in flight operations from RV "Polarstern" to be exempt from this NPA.</u></p>

	However, in order to improve the safety we suggest to perform track and balance flights every 50hours of flight ops or upon pilots discretion, if any abnormal vibration situation arises.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	<i>364</i> <span style="float: right;">comment by: <i>DGAC France</i></span> Comment on paragraph 28 : Performance classes shall only apply to CAT operations. Impact on other operators than those performing CAT operations being uncertain, such requirement should not be included for them.
response	<i>Noted</i> This comment is answered with the responses provided to comments received for SPA.HOFO.145.
comment	<i>365</i> <span style="float: right;">comment by: <i>DGAC France</i></span> DGAC France supports the fitting of all helicopters, complex and non-complex, operated for CAT in a hostile environment, with a VHM system.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

**A. Explanatory Note – V. Summary of the proposed changes (Question 5)**

p. 12

comment	<i>6</i> <span style="float: right;">comment by: <i>Jan Loncke</i></span> The time frame for new helicopters seems acceptable. Since most new helicopters coming into service over the north sea in the oil & gas industry, are equipped with a VHM system anyway (the client wants it). Since this is the majority of offshore operating helicopters, I would even suggest to build VHM systems in all the aircraft (as basic outfit), even for operators engaging in SPO or NCC. The numbers of production for these (NCC & SPO) operators should be a relative small percentage of all the produced aircraft anyway. So production wise, for the manufacturer, there may be some benefits as well. For existing helicopters, two years may be tight, but on the other hand as mentioned in my response on Question 4, regulation may be a stimulant to introduce (new) technology serving a higher level of safety. (also taking into consideration point 33. of this Explanatory Note.)
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

comment	63	comment by: <i>European Cockpit Association</i>
	ECA agrees with the proposed timeframes.	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	81	comment by: <i>EUROCOPTER</i>
	<p><u>Answer to Question 5:</u>  Eurocopter considers that the proposed date for forward fit (= 31 December 2015 according to SPA.HOFO.160, this assuming an entry into force of the modified Part OPS Regulation on 31.12.2014) is not enough considering new types/versions to be certificated from now on until 31.12.2014 and proposes to postpone one year more this deadline. Eurocopter agrees with EASA to maintain 2 years between the applicable date for forward fit and the latest date for retrofit. Consequently Eurocopter proposes the following dates:</p> <ul style="list-style-type: none"> <li>- <b>VHM in forward fit (newly produced helicopters): from 01.01.2017 or + 2 years from entry into force, whichever is the latest,</b></li> <li>- <b>VHM in retrofit: implementation before 01.01.2019 or + 4 years from entry into force, whichever is the latest.</b></li> </ul>	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	100	comment by: <i>NHAF Technical committee</i>
	Question 5: Timeframe is appropriate	
response	<i>Noted</i>	
	An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.	
comment	111	comment by: <i>CHC Helikopter Service, Norway</i>
	<p>Question 5  FDM system must be a requirement. The purpose of the system must be clearly defined.  The suggested implementation period should be reduced to 1-2 years.</p>	
response	<i>Noted</i>	
	<p>The comment is noted for question 6 (not 5).  An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	119	comment by: <i>Norwegian Ministry of Transport and Communications</i>
	The Norwegian Ministry agrees on the proposed time frame. We suggest that the time frame is set as an opt-out periode, as this enables the states, which currently already require VHM, to apply the requirement as soon as it is adopted.	

response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p> <p>Regarding an opt-out period; if this is introduced but not utilised by a MS, all operators from that MS are required to have the equipment once the rule is in force. Operators from another MS where the opt-out period is used can, during the opt-out period, operate in the first MS without this equipment.</p>
comment	<p>138 <span style="float: right;">comment by: UK CAA</span></p> <p style="text-align: center;"><b>Page No: 12</b> <b>Paragraph No: 30</b></p> <p><b>Comment:</b> Question 5. The retrofitting of VHM equipment could be extremely expensive and complicated especially for aircraft types that have not already been schemed for such programmes. To contain those aircraft that have been fitted to date in accordance with national requirements and to address new aircraft in the future it is recommended that the applicability be adjusted as shown below. "VHM must be fitted to helicopters conducting CAT offshore operations over a hostile environment with either: a) a MOPSC of more than 9 and first issued with an individual C of A before 1 January 2016 by 1 January 2018; or b) a maximum certificated take-off mass of more than 3175 kg and first issued with an individual C of A after 31 December 2015"</p> <p><b>Justification:</b> Capturing current UK and Norwegian national requirements and applying reasonable future requirements confined to offshore CAT operations in a hostile environment would not unduly or disproportionately affect operators and safety will not be compromised. Wider fitment should be the topic of a separate study.</p> <p><b>Proposed Text:</b> See UK CAA proposal for SPA.HOFO.160.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>178 <span style="float: right;">comment by: Tim Glasspool</span></p> <p>Q5 - The timeframes are appropriate.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>184 <span style="float: right;">comment by: new European Helicopter Association (EHA)</span></p> <p>Comment EHA: EHA agrees with the time frame as proposed:</p> <ul style="list-style-type: none"> <li>• 1 year from the date of applicability of the Regulation for new helicopters, and</li> <li>• 2 years for retrofit into existing helicopters</li> </ul>

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	210 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span> The NCAA considers the proposed implementation timeframes for VHM-systems to be appropriate. However, states that already today require the use of VHM systems should be allowed to apply the VHM-requirements as soon as the rules are adopted. We therefore propose to draft the implementation time-frames for VHM systems as opt-out provisions, thus allowing states to apply these requirements as soon as they are adopted. These requirements should then be applicable to all HOFO operations in that state.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.  Regarding an opt-out period; if this is introduced but not utilised by a MS, all operators from that MS are required to have the equipment once the rule is in force. Operators from another MS where the opt-out period is used can, during the opt-out period, operate in the first MS without this equipment.
comment	275 <span style="float: right;">comment by: <i>Heli-Union</i></span> We agree with the years <u>except for particular helicopters</u> (for an example non initially built AS365 Dolphin N3) for which - no manufacturer retrofit SB does exist nor STC, - the implementation of a VHM retrofit <ul style="list-style-type: none"><li>• needs a long downtime (several months) and has to be planned during next overhauls due after 2018</li><li>• has no guarantee of finalisation within acceptable cost estimate</li></ul>
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	296 <span style="float: right;">comment by: <i>British International Helicopters</i></span> Question 5 - Yes, BIHS considers the timeframes appropriate.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	308 <span style="float: right;">comment by: <i>CHC Helicopter</i></span> Answer on behalf of:  1. CHC Helicopters Netherlands

	<p>2. CHC Scotia 3. CHC Ireland</p> <p>We agree with the time frame as proposed:</p> <ul style="list-style-type: none"> <li>• 1 year from the date of applicability of the Regulation for new helicopters, and</li> <li>• 2 years for retrofit into existing helicopters</li> </ul>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>339 <span style="float: right;">comment by: <i>ELILOMBARDA</i></span></p> <p>Question 5: ELILOMBARDA agrees with the time frame as proposed: · 1 year from the date of applicability of the Regulation for new helicopters, and 2 years for retrofit into existing helicopters</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>358 <span style="float: right;">comment by: <i>HeliService International GmbH</i></span></p> <p>In order to fulfil present contracts we suggest the implementation to take place after June 2019.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>366 <span style="float: right;">comment by: <i>DGAC France</i></span></p> <p>DGAC France considers that the timeframes should be adapted. One year after entry into force of this regulation for the forward fit seems not enough for new types being certified and considering the retrofit, there are some helicopters for which no manufacturers retrofit SB nor STC exist today. Such implementation requires grounding of the aircraft for a consequent time and thus needs to be done during an overhaul. DGAC France would recommend postponing the timeframes of at least one year. For certain types of helicopters for which there is not foreseeable possibility to retrofit VHM systems within acceptable timeframes/financial constraints, DGAC France may have to ask for derogations. Eventhough the basic regulation n° 216/2008 clearly offers such a possibility, it would be clearer if a legal hook for such derogations was introduced in SPA.HOFO.160.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>

<b>A. Explanatory Note – V. Summary of the proposed changes (Question 6)</b>	p. 12-16
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comment	8	<p style="text-align: right;">comment by: <i>Jan Loncke</i></p> <p>Similarly to my response on Question 5, a transitional period to set up a FDM programme of 2 years may be tight, but taking into account the time frame after bringing a new regulation into force (1 year) and considering the fact that the leading, the majority of, offshore operators already started their FDM programme, a 2 year period is reasonable. (also taking into consideration point 33. of this Explanatory Note.)</p>
response	<i>Noted</i>	<p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	64	<p style="text-align: right;">comment by: <i>European Cockpit Association</i></p> <p>3 years is an appropriate time.</p>
response	<i>Noted</i>	<p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	80	<p style="text-align: right;">comment by: <i>EUROCOPTER</i></p> <p><u>Answer to Question 6:</u> Eurocopter considers that an implementation period of <u>three years</u> is necessary for the establishment of a FDM programme. This 3-years period is necessary for both the operator and the industrial supplier (e.g. Eurocopter). As a matter of fact:</p> <ul style="list-style-type: none"> <li>- for operators, implementing a FDM could represent a major structural and philosophical change to be made in the framework of their SMS. The FDM function will need to be appropriated by pilots, with the necessary level of social and human protection (to be negotiated with trade unions). For some operators the integration of such a new function may need the recruitment of people or at least a new internal structure. The FDM environment will need to be adapted to the operator's specific operational context. Also a close link with the local airworthiness authorities and specific information with the end user (oil companies for example) will be necessary for a good implementation.</li> <li>- for industry (e.g. Eurocopter), an HFDM function requires a strong ground post-flight analysis, with an appropriate software tool. Currently, suppliers able to provide such product are limited and not necessary consolidated. Therefore, a 3-years period would allow to identify all potential industrial partnerships and to determine the good level of involvement for each party.</li> </ul>
response	<i>Noted</i>	<p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	101	<p style="text-align: right;">comment by: <i>NHAF Technical committee</i></p> <p>Question 6: Timeframe should be max 2 years, as technology is currently easy available for most of the helicopters operated offshore today.</p>

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	112 <span style="float: right;">comment by: <i>CHC Helikopter Service, Norway</i></span> Answer; The suggested implementation period of FDM system should be reduced to 1-2 years.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	120 <span style="float: right;">comment by: <i>Norwegian Ministry of Transport and Communications</i></span> The Norwegian Ministry considers a three year timeframe as appropriate concerning the establishment of a FDM-programme.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	139 <span style="float: right;">comment by: <i>UK CAA</i></span>  <b>Page No:</b> 12 <b>Paragraph No:</b> 31 <b>Comment:</b> Question 6. Flight Data Monitoring is not a mandated requirement for CAT helicopter operations although in the North Sea arena most offshore operators have been conducting such programmes as required by their clients. The benefits of such programmes are fully understood and the continued use of FDM is strongly supported. Indeed it could be extended to wider applicability as demonstrated by EHEST analysis. Where an offshore operator with the appropriate equipment fit does not have a FDM programme, a period of 2-3 years would be suitable to allow that operator to become compliant. <b>Justification:</b> Complexity of organising the appropriate FDM programme and establishing the resources to manage it.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	140 <span style="float: right;">comment by: <i>UK CAA</i></span>  <b>Page No:</b> 13 <b>Paragraph No:</b> 34 (last paragraph) <b>Comment:</b> This section discusses the need for adequate height warning for crews arising from the findings of various accident investigations including that of G-REDU. Whilst elements of the UK CAA Leaflet dealing with the nature of such audio warnings have been included as AMC and GM, it was recognised following the response to the UK AAIB Safety Recommendation 2011-060 that this type of

	<p>system would not be effective in providing appropriate warnings in all foreseeable scenarios. The CAA believes that the best way to ensure that crews are provided with adequate warning to take corrective action would be through the terrain awareness and warning system (TAWS). The CAA has developed modified offshore helicopter TAWS warning envelopes that will provide significantly greater warning times for a wide range of scenarios without incurring unacceptable nuisance alert rates. Work is now starting on examining the nature and content of the associated flight crew warnings, leading to simulator trials to validate the complete scheme. This project forms part of a research programme managed by the CAA-run joint industry Helicopter Safety Research Management Committee (HSRMC). If this development work proves effective it would be the intention that the HSRMC recommends to EASA the replacement of the AVAD requirement by enhanced HTAWS.</p>
response	<p><i>Accepted</i></p> <p>The Agency proposes to include a regulatory requirement for terrain awareness and warning system.</p>
comment	<p>179 <span style="float: right;">comment by: <i>Tim Glasspool</i></span></p> <p>Q6 - 2-3 years is a reasonable implementation period for a company that does not already have an FDM programme.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>185 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span></p> <p>Comment EHA: 1 year from the date of applicability of the Regulation for new helicopters, and 3 years for retrofit into existing helicopters.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>211 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>The NCAA considers the suggested implementation timeframe of 3 years for a FDM (flight data monitoring) program to be appropriate. The regulation should however require the FDM program to be fully up and running by the end of the implementation time. The purpose of a FDM program and use of the FDM program should also be described in guidance material in order to utilize the safety benefits of such a program. One should here look to the already developed AMC and GM for the provision on FDP for aeroplanes in ORO.AOC.130.</p>
response	<p><i>Noted</i></p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p> <p>As to the second part of the comment, it is considered that by the end of a transition period the FDM-programme has to be fully operational. Otherwise, rule compliance is not ensured. GM1 SPA.HOFO.120 refers to existing materials. Text</p>

proposals for aeroplane text avoidance are made.

comment	285	comment by: <i>Heli-Union</i>
	<p>1 year from the date of applicability of the Regulation for new helicopters, and 3 years for retrofit into existing helicopters, except for some particular helicopters that could not be retrofitted.</p> <p>For an example non initially built AS365 Dolphin N3, for which</p> <ul style="list-style-type: none"> <li>- no manufacturer retrofit SB does exist nor STC,</li> <li>- the implementation of a VHM retrofit</li> </ul> <ul style="list-style-type: none"> <li>• needs a long downtime (several months) and has to be planned during next overhauls (due after 2018)</li> <li>• has no guarantee of finalisation within acceptable cost estimate</li> </ul>	
response	<i>Noted</i>	
	<p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	297	comment by: <i>British International Helicopters</i>
	<p>Question 6 - BIHS considers appropriate timeframes for the impementation of FDM as:</p> <p>1 year for new helicopters and 3 years for existing helicopters to be retrofitted.</p>	
response	<i>Noted</i>	
	<p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	309	comment by: <i>CHC Helicopter</i>
	<p>Answers on behalf of:</p> <ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> <li>3. CHC Ireland</li> </ol> <p>Question 6: 1 year from the date of applicability of the Regulation for new helicopters, and 3 years for retrofit into existing helicopters.</p>	
response	<i>Noted</i>	
	<p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	340	comment by: <i>ELILOMBARDA</i>
	<p>Question 6: ELILOMBARDA agrees with the time frame as proposed:</p> <ul style="list-style-type: none"> <li>· 1 year from the date of applicability of the Regulation for new helicopters, and</li> <li>2 years for retrofit into existing helicopters</li> </ul>	

response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	359 <span style="float: right;">comment by: <i>HeliService International GmbH</i></span> In order to fulfil present contracts we suggest the implementation to take place after June 2019.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.
comment	367 <span style="float: right;">comment by: <i>DGAC France</i></span> DGAC France believes 3 years is an appropriate implementation timeframe concerning the establishment of a FDM programme.
response	<i>Noted</i> An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.

**A. Explanatory Note – VI. Summary of the Regulatory Impact Assessment**

p. 16-22

comment	38 <span style="float: right;">comment by: <i>CAA-NL</i></span> <b>Safety Impact (page 20 of 99)</b> Minimum safety requirements applicable to all operators will have apposite impact on those operators who now not have to follow these requirements. The only way that this option can have a negative safety impact is on the presumption that current operators with an approval will not comply with these safety requirements when the need for prior approval is deleted and their own SMS will let them lower their safety standards. We find this hard to believe. We think this will always have a positive impact. With a prior approval it is possible that operators now not approved will be up to standards earlier than without the prior approval process. Option 1 +, Option 2 ++.
response	<i>Accepted</i> Your comment is coherent with the majority of responses. Hence option 2 is accepted and chosen.
comment	65 <span style="float: right;">comment by: <i>European Cockpit Association</i></span> We fully agree that option 2 is the best option.
response	<i>Accepted</i> Your comment is coherent with the majority of responses. Hence option 2 is accepted and chosen.

comment	102	comment by: <i>NHAF Technical committee</i>
	<p>Page 17:</p> <p>Rules for CAT helicopter offshore flights Paragraph 4 of Article 6 (Derogations) of the OPS cover regulation should still be available for the Member States even after implementation of HOFO regulations. This is justified by the need for issue of supplementary regulations, regarding special requirements in certain Member States. Justification: In Norway, "Samarbeidsforum for helikoptersikkerhet på norsk kontinentalsokkel", and the safety studies (HSS-1, 2 and 3), have been used for amending the regulations, and providing practical solutions to problems pinpointed in the safety studies.</p> <p>Page 20: NHF support use of Option 2, as this will enable the authorities for control the operations, and make the operators to be in compliance with this regulations.</p>	
response	<p><i>Noted</i></p> <p>Your first comment is not supported. The mentioned paragraph 4 was introduced to allow MS to continue offshore operations also according to national regulations. The paragraph, however, did not introduce a level-playing field, which was a major requirement for this RMT. The paragraph is therefore deleted following approval of the proposed regulations. If a MS identifies a safety issue, it could use Art 14.1 of the BR to put in place additional requirements.</p> <p>Your second comment is coherent with the majority of responses. Hence Option 2 is accepted and chosen.</p>	
comment	186	comment by: <i>new European Helicopter Association (EHA)</i>
	<p>EHA comment: We fully agree that option 2 is the best option.</p>	
response	<p><i>Accepted</i></p> <p>Your comment is coherent with the majority of responses. Hence Option 2 is accepted and chosen.</p>	
comment	267	comment by: <i>Civil Aviation Authority of Norway</i>
	<p>Comment on Conclusion and Preferred option: The overall conclusion that Option 2 gives a neutral to positive impact appears not to be valid, as some the premises are not valid. The premise that a specific approval "will provide a higher certainty that safety risks are mitigated and properly overseen" is only true for those states were such an approval did not exist. Ergo is the safety impact 0 in the states that already did this. The premise that a regulatory coordination and harmonization "will ensure that the NAAs oversight is being conducted in accordance with a standard set of regulations" cannot be assessed as giving a positive safety impact in itself. When the regulations are harmonized, at a less strict level, it is more likely that the safety impact in the state which previously had stricter regulations is negative. This has not been adequately addressed in the RIA and needs to be revisited to avoid unintended consequences.</p>	

response	<p><i>Noted</i></p> <p>The two comments to support the initial statement would be correct for a MS were an already established specific approval includes what is proposed in the NPA. For a considerable number of MS, the proposed regulations will provide a higher certainty that safety risks are mitigated and properly overseen. A change to neutral (0) safety impact is therefore not seen as appropriate.</p> <p>The Agency considers that the RIA adequately addressed the point of differing requirements in MS and harmonisation aspects.</p> <p>The Agency maintains its position that Option 2 gives a neutral to positive overall impact, and is the preferred option.</p>
comment	<p>310 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p>Answer on behalf of:</p> <ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> <li>3. CHC Ireland</li> </ol> <p>We fully agree that option 2 is the best option.</p>
response	<p><i>Accepted</i></p> <p>Your comment is coherent with the majority of responses. Hence option 2 is accepted and chosen.</p>
comment	<p>341 <span style="float: right;">comment by: <i>ELILOMBARDA</i></span></p> <p>Preferred option: ELILOMBARDA agree that option 2 is the best option.</p>
response	<p><i>Accepted</i></p> <p>Your comment is coherent with the majority of responses. Hence option 2 is accepted and chosen.</p>

**B. Draft Opinion and Decision – I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) No 965/2012 of 25 October 2012 – Amendment to the Cover Regulation**

p. 23-24

comment	<p>15 <span style="float: right;">comment by: <i>Jan Loncke</i></span></p> <p><b>I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) No 965/2012 of 25 October 2012</b></p> <p>(b) Amendment to Annex I (Definitions for terms used in Annexes II-III)</p> <p>(1) The definition of 'hostile environment' is amended as follows :</p> <p>(66) 'hostile environment' means :</p> <p>(a) ...</p> <p>(b) in any case, the following areas :</p> <p>(i) for overwater operations, the open sea areas north of 45N and south of 45S <del>designated by the authority in the State concerned;</del></p> <p>(ii) ...</p> <p>Since the words 'designated by the authority in the State concerned' are being</p>
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deleted, I believe that the text in Decision n° 2012/015/R should be amended as well.

In Decision n° 2012/015/R dd. 24/10/2012 on AMC & GM on EU 965/2012, with as subject : Guidance Material to Annex I - Definitions (Definitions for terms used in Annexes II to V of EU 965/2012) it mentions under :

GM5 Annex I Definitions : Hostile environments : The open sea areas considered to constitute a hostile environment should be designated by the appropriate authority in the appropriate Aeronautical Information Publication or other suitable documentation.

The question is if this GM5 is still correct (and useful) if the amended definition as being proposed in this NPA 2013-10 is accepted ? My suggestion is to delete this GM5 Annex I Definitions in ED Decision 2012/015/R.

response *Not accepted*

GM5 is maintained, but changed in relation to the definition.

comment 16

comment by: Jan Loncke

**I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) No 965/2012 of 25 October 2012**

(b) Amendment to Annex I (Definitions for terms used in Annexes II-III)

(3) The definition of 'offshore operations' is amended as follows :

(85) 'offshore operations' means ...

In Decision n° 2012/015/R dd. 24/10/2012 on AMC & GM on EU 965/2012, with as subject : Guidance Material to Annex I - Definitions (Definitions for terms used in Annexes II to V of EU 965/2012) it mentions under :

GM7 Annex I Definitions : Offshore operations : offshore operations include, but are not limited to, support of offshore oil, gas and mineral exploitation and sea-pilot transfer.

The question is if it is sensible or useful to keep this GM7 in ED 2012/015/R if the amended definition (which I believe is pretty complete) as being proposed in this NPA 2013-10 is accepted ? My suggestion is to delete this GM7 Annex I Definitions in ED Decision 2012/015/R.

response *Not accepted*

GM7 is maintained as it contains guidance to what is considered 'offshore operations'.

comment 75

comment by: EUROCOPTER

Taking into account the arguments developed in our previous comment to § A.IV, item n° 18, concerning the 'hostile environment' definition (comment n° 74), Eurocopter proposes the following modifications:

(b) in any case, the following areas:

(i) for overwater operations, the open sea areas ~~north of 45N and south of 45S~~ **and those other open sea areas designated by the authority in the State concerned;**

response *Noted*

The comment is noted.  
See response to the referred comment.

comment	103	comment by: <i>NHAF Technical committee</i>
	<p>Page 23: I. (b) (1) NHF support the new definition of "Hostile environment" Page 24: I (b) (2): Modify the text to include ...helicopter hoist operations areas and operation sites within the territory.</p>	
response	<i>Not accepted</i>	
	<p>The comment on the definition of hostile environment is noted. For the second comment, the term used in the operations regulation is 'operating site'. Justification or benefit for of the proposed change is not given.</p>	
comment	122	comment by: <i>Norwegian Ministry of Transport and Communications</i>
	<p>The definition of "offshore operations" uses the wording "over open sea areas". The understanding of "open sea areas" should in our opinion be further described in guidance material in order to avoid uncertainty regarding the application of the requirements.</p>	
response	<i>Partially accepted</i>	
	<p>A definition will be introduced in Annex I to Regulation (EU) No 965/2012.</p>	
comment	181	comment by: <i>Tim Glasspool</i>
	<p>For the purpose of clarity a definition of 'open sea area' is required. Could a large lake, The English Channel etc. qualify?</p>	
response	<i>Accepted</i>	
	<p>A definition will be introduced in Annex I.</p>	
comment	196	comment by: <i>EUROCOPTER</i>
	<p><u>Comment on Annex I to the Cover Regulation (Definitions for terms used in Annex II-VIII):</u> It is proposed to add: <b>(4) The following definition is inserted:</b> <b>(86) 'Open sea areas' means those sea areas located at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed.'</b> <u>Rationale:</u> such a definition is missing and the terms 'open sea areas' are used in the definition of 'offshore operations' as proposed by this NPA. Requirements concerning offshore operations currently existing in Regulation n° 965/2012 are limited to flights at a distance of land corresponding to more than 10 minutes flying time at the normal cruising speed (examples: CAT.IDE.H.310, NCC.IDE.H.231).</p>	
response	<i>Accepted</i>	
	<p>A definition will be introduced.</p>	
comment	219	comment by: <i>Civil Aviation Authority of Norway</i>
	<p>General comment on NPA 2013-10:</p>	

The NCAA is in general pleased with the proposed requirements for offshore helicopter operations in NPA 2013-10, and strongly supports this initiative to complement Regulation 965/2012 with specific rules for offshore helicopter operations.

The NCAA does however believe that this proposal fails in several respects to achieve what we believe was the intention of this RM task; namely to establish a common set of rules for HOFO operations based on best practice in Europe.

It appears that this proposal is based mainly on the JAR-OPS 3 requirements which were left out initially with some minor additions and ends up as a middle of the road solution, not as a best practice.

The NCAA therefore misses a list of the additional requirements in each member state that have been reviewed, assessed and included or rejected. As it is now there is very difficult to get an overview of the situation.

response *Noted*

The RMG and the Agency are under the impression that the proposed requirements in the NPA are based also on best practice. They are also based on an established risk matrix, the requirement for a level-playing field, the 'free movement' requirement and the mutual acceptance of privileges given by a NAAs. If CAA NO feels that the proposal is not sufficient to mitigate identified risks or has additional requirements or best practices which it wishes to be considered, it is invited to forward this information to the Agency.

comment 220

comment by: *Civil Aviation Authority of Norway*

General comment on risk terminology:

Throughout the NPA various terms are used for hazard, risk, assessment etc. It appears that there is no common standard for terminology, let alone the process itself.

E.g.: "Risk mitigation" should generally be avoided, as it implies that risk cannot be eliminated (the preferred solution regarding safety risk in aviation). We recommend to use the internationally recognized term "Risk treatment" (ISO 31000-2009 Risk management - Principles and guidelines).

response *Noted*

The term 'risk treatment' is so far not used in the regulatory documents. The Agency therefore prefers to stick to the common terminology. Consistent use of terminology will be ensured.

comment 221

comment by: *Civil Aviation Authority of Norway*

General comment on TCAS:

The NCAA considers that the proposal in NPA 2013-10 should include a requirement for ACAS/TCAS to be used onboard helicopters involved in offshore helicopter operations. ACAS/TCAS should also be a MEL item.

This equipment is often pre-installed in newer complex helicopters, and is also available for retrofitting. The safety benefit of using such equipment does in our opinion outweigh the economic implications from requiring such equipment.

response *Noted*

Such a requirement has been discussed in the RMG and review group. The Agency supports their decision that anti-collision systems, such as TCAS II and similar, should be mandated by the airspace authorities. An operational regulation valid only for offshore helicopters is therefore not considered.

Presently TCAS II for helicopters is not considered to be regulated by SESAR.

Operators that already have ACAS/TCAS installed, or those who decide to install the equipment based on ORO.GEN.200, may include the equipment in the associated MEL provided it is included at MMEL level by TC/STC holder.

comment 222 comment by: *Civil Aviation Authority of Norway*

Definition of offshore operations:

The definition of "offshore operations" uses the wording "over open sea areas to and from an offshore location...". The NCAA finds this wording to be too vague. The term should be defined in order to avoid uncertainty regarding the application of the requirements. The question would be if the requirements for offshore helicopter operations would apply to sea pilot transfer flights to a vessel located in a fjord, an archipelago, a river-mouth etc.

response *Noted*

A definition will be introduced in Annex I.

comment 368 comment by: *DGAC France*

Definition of "Hostile environment":

With the suppression of the terms "designated by the authority in the State concerned" in (b)(i), it seems necessary to add a precise definition of an "open sea area" in terms of distance from the shore, search and rescue availabilities,... Indeed this notion is too vague especially with the inclusion of "sea-pilot transfer" in the scope of offshore operations. Furthermore, different important requirements are linked to this notion: VHM, Flight following system and Additional equipment.

Proposed definition for "open sea area": Sea area located at a distance from land corresponding to more than 10 minutes flying time at normal cruise speed and where the average search and rescue response/capability is superior to the estimated survival time.

response *Noted*

A definition will be introduced in Annex I.

**B. Draft Opinion and Decision – I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) No 965/2012 of 25 October 2012 – Amendments to Annex II (Part-ARO Authority Requirements for Air Operations)**

p. 24-25

comment 39 comment by: *CAA-NL*

**Page 24 of 99, amendments to part ARO, (c)(2)**

To be amended to the latest changes accepted with the introduction of NCC/NCO and SPO.

response *Accepted*

comment	40	comment by: CAA-NL
	<p><b>Page 24 of 99, amendments to part CAT, (d)(1)</b>          We disagree with the deletion of CAT.OP.MPA.120 because when transferred to HOFO, it is only applicable to the newly defined Offshore operations. Now it's applicability is wider, also to other transportation at sea e.g. Cruise vessels.</p>	
response	<p><i>Noted</i></p> <p>The regulation under SPA.HOFO will also cover cruise vessels as defined in GM7 and GM8 to Annex I.</p>	
comment	41	comment by: CAA-NL
	<p><b>Page 24 of 99, amendments to part CAT, (d)(2)</b>          We disagree with the deletion of CAT.OP.MPA.181 because when transferred to HOFO, it is only applicable to the newly defined Offshore operations. Now it's applicability is wider, also to other transportation at sea e.g. Cruise vessels.</p>	
response	<p><i>Noted</i></p> <p>The regulation under SPA.HOFO will also cover cruise vessels as defined in GM7 and GM8 to Annex I.</p>	
comment	42	comment by: CAA-NL
	<p><b>Page 25 of 99, amendments to Part CAT, (d)(3)</b>          CAT.OP.MPA.247 Subparagraph (c) is to be renumbered (b).</p>	
response	<p><i>Accepted</i></p>	
comment	43	comment by: CAA-NL
	<p><b>Page 25 of 99, amendments to Part CAT, (d)(5)</b>          CAT.OP.MPA.247 Subparagraph (b) will be added without prefix to the initial sentence.</p>	
response	<p><i>Accepted</i></p> <p>The comment is understood to be for CAT.IDE.H.295, and the text is changed.</p>	
comment	141	comment by: UK CAA
	<p><b>Page No: 25</b>  <b>Paragraph No: (d)(5)</b>  <b>Comment:</b> This paragraph details the change to CAT.IDE.H.295 in that subparagraph (a) of that rule is deleted. This is on the presumption that it will be included in Part-HOFO but this has not happened. The requirement for the crew to wear survival suits in the prescribed conditions needs to be reinstated. This comment links to the UK CAA comment on SPO.HOFO.155.  <b>Justification:</b> Correcting omission of essential requirement.</p>	
response	<p><i>Accepted</i></p> <p>Text will be changed.</p>	

comment	<p>360</p> <p style="text-align: right;">comment by: <i>ELILOMBARDA</i></p> <p>The definition of 'hostile environment' is amended as follows:</p> <p>.....</p> <p>(b) in any case, the following areas: for overwater operations, the open sea areas north of 45N.....etc</p> <p><b><u>This definition include the north part of Adriatic sea as hostile environment. In this case the flights with departure from the ENI Base of Marina of Ravenna to helideck a few miles North of 45N would be partly developed in NON hostile environment and partly on HOSTILE environment creating confusion on the type of helicopter to be used and the requested equipment.</u></b></p> <p>ELILOMBARDA proposed new defintion as follow: The definition of 'hostile enverionment' is amended as follows:</p> <p>.....</p> <p>b) in any case, the following areas: for overwater operations, the open sea areas north of <b>46N</b>.....etc.<b>or</b></p> <p>(b) in any case, the following areas: for overwater operations, the open sea areas north of 45N ( <b>except the north part of Adriatic sea</b>)....etc</p>
response	<p><i>Partially accepted</i></p> <p>The 45N border between hostile and non-hostile is maintained. See also Amendments to Annex I and associated GM in the explanatory note to the CRD.</p>

**B. Draft Opinion and Decision – I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) No 965/2012 of 25 October 2012 – Amendments to Annex V (Part-SPA Specific Approvals)**

p. 25-30

comment	<p>11</p> <p style="text-align: right;">comment by: <i>Jan Loncke</i></p> <p><b>SPA.HOFO.115 (b)</b></p> <p>I have a problem with the fact that I didn't find in the NPA proposed Part-SPA HOFO text, that an offshore alternate, only shall be selected if the operator has established a procedure in the operations manual. Or is it supposed to be covered by the content of paragraph SPA.HOFO.105 (a), stating, in general terms, that "the operator shall establish procedures and instructions for normal and abnormal operations and including emergency procedures to be used for HOFO. These procedures and instructions shall be included in the operations manual ..." ? If the latter is the case, I would have liked to see the text that originates from Part-CAT.OP.MPA.181 (d)(6), to have it more explicitly written in this Part-SPA.HOFO.115, the way it was in Part-CAT.</p> <p>Therefore I suggest to add the text : "an offshore alternate aerodrome shall only be selected if the operator has established a procedure in the operations manual" in SPA.HOFO.115 (b) as an additional item (6).</p>
response	<p><i>Noted</i></p> <p>The understanding of the commentator is correct. However, it is not necessary to repeat in every paragraph that the operator is required to establish procedures in the operations manual.</p>

comment	<p>18</p> <p><b>SPA.HOFO.105 Operating procedures</b> SPA.HOFO.105(b)(8) It is desirable that flight crew take appropriate action immediately when a height warning is activated. Therefore the sentence stating that action should be immediate <b>or</b> appropriate is not reflecting the purpose it should serve. I suggest to rephrase the text as follows : "SPA.HOFO.105(b)(8) the flight crew takes immediate, appropriate action when a height warning is activated."</p>	comment by: Jan Loncke
response	<p><i>Partially accepted</i></p> <p>Text will be changed from 'or' to 'and' which addresses your concern.</p>	
comment	<p>20</p> <p><b>SPA.HOFO.145 Performance requirements – take-off and landing at offshore locations</b> Helicopters taking off and landing at offshore locations shall be operated in accordance with the performance requirements of Annex IV (Part-CAT), Subpart C, Section 2, and comply with the requirements for operations without an assured safe forced landing capability. Considering my remark (Comment n°4) on the applicability of 'SPA-HOFO rules' based on CAT operations in relation to NCC- and SPO-operators, it is not really clear to me if this SPA.HOFO.145 rule is applicable to (all) helicopters, including those operating under ANNEX VI Part-NCC and under ANNEX VIII Part-SPO. For this specific implementing rule, the text might be made more univocal in adding explicitly the types of operations concerned. In that case I would suggest to change the text as follows : "Helicopters, operating under CAT, as well as under NCC or SPO, taking off and landing at offshore locations shall be operated in accordance with the performance requirements of Annex IV (Part-CAT), Subpart C, Section 2, and comply with the requirements for operations without an assured safe forced landing capability." I do support the intention of having NCC and SPO operators to comply equally with the performance requirements for operations without an assured forced landing capability, as described in Part-CAT. Since there is no AMC/GM provided for SPA.HOFO.145 I assume that the relevant AMC &amp; GM from CAT.POL.H.305 Operations without an assured safe forced landing capability remain applicable (also for NCC &amp; SPO operators) ?</p>	comment by: Jan Loncke
response	<p><i>Partially accepted</i></p> <p>The text will be changed to a version close to the proposed version.</p>	
comment	<p>23</p> <p><b>SPA.HOFO.115 &amp; AMC2.SPA.HOFO.115</b> NCC.OP.152(b)(3) and SPO.OP.151(b)(3), which are to be deleted after implementation of this NPA, mentioned explicitly that a point of no return is to be determined in case of an isolated place to land. In CAT.OP.MPA.181(b)(3) (which will become CAT.OP.MPA.181(b)(2) after implementation of this NPA) mentions also explicitly that a PNR shall be determined. SPA.HOFO.115 does not specify explicitly that a PNR will have to be determined, but only implicitly in (a) and (b)(4).</p>	comment by: Jan Loncke

response	<p>Equally, in AMC2.SPA.HOFO.115(d) 'actions at point of no return', the text is implicitly referring to the fact that a PNR is to be determined. I would have preferred to see in the text of SPA.HOFO.115 that the requirement for the determination of a PNR is mentioned explicitly and not 'indirectly', especially since the text will be deleted in NCC.OP.152(b)(3) and SPO.OP.151(b)(3).</p> <p><i>Not accepted</i></p> <p>The implicit reference to PNR is considered sufficient.</p>
comment	<p>25 <span style="float: right;">comment by: Jan Loncke</span></p> <p><b>SPA.HOFO.125 Flight following system</b></p> <p>I support the idea of introducing a flight following system as an implementing rule in offshore operations. But I believe that the way it is presently written, is not sufficiently adequate.</p> <p>To 'have available a monitored flight following system' is just not good enough I believe. To have a flight following system available is useless without an implemented flight following process up and running, and adequately described in a procedure. The procedure which should then be followed conscientiously.</p> <p>Therefore, I propose to replace the words "shall have available", with : "shall use".</p> <p>Additionally I don't see why NCC operators are exempted (in the proposed text). So I propose to replace the words "A commercial air transport operator or specialised operator" with : "A commercial air transport operator, non-commercial operator with complex motor-powered helicopters or specialised operator", or alternatively (more generic) with : "Any operator involved in helicopter offshore operations"</p> <p>Considering both suggestions made here above, the text of SPA.HOFO.125 may read for example :</p> <p>"Any operator involved in helicopter offshore operations shall use a monitored flight following system for offshore operations in a hostile environment from the time the helicopter departs until it arrives at its final destination."</p> <p>I also suggest to write GM in order to describe how a flight following system is to be used.</p>
response	<p><i>Partially accepted</i></p> <p>The first parts of the comment are accepted. Text is changed approximately as suggested.</p> <p>Concerning additional GM, the Agency would welcome proposals.</p>
comment	<p>26 <span style="float: right;">comment by: Jan Loncke</span></p> <p><b>SPA.HOFO.130 Airborne radar approaches (ARAs) to offshore locations – CAT operations</b></p> <p>The fact that CAT operations is mentioned in the title and in (a) as "A <b>CAT</b> operator shall ...", as is in (b) as " ARAs to rigs or vessels in transit shall only be conducted in multi-crew <b>CAT</b> operations", as is in (e) as "For single-pilot <b>CAT</b> operations ...", gives the impression that ARAs that are being conducted under CAT, are the only ones that are being covered by this regulation.</p> <p>I do not support this text. Actually it is not clear to me, if either NCC and SPO operators are prohibited to perform ARAs, or on the other hand whether those operators (NCC &amp; SPO) are exempted from this rule.</p>

NCC as well as SPO operators may be able to execute ARAs and may, actually, even be doing them. So NCC and SPO operators should not be exempted from rules on ARAs, nor should it be forbidden for those operators to perform them. Especially considering one of the accidents I mention in my comment on the RIA (1.3.2.1) of this NPA (see further on) where a (I think NCC) operator had a fatal accident in conditions where an ARA would have been appropriate, I propose to make this rule about ARAs applicable to all offshore helicopter operators and to the same standards.

I suggest to remove the words "CAT operations" out of the title of SPA.HOFO.130 and to remove "CAT" out of (a), (b) and (e) of this rule.

response *Not accepted*

The regulation for ARA was transposed from JAR-OPS 3 to Part-CAT of Regulation (EU) 965/2912 (Air Ops). It was always intended for CAT operators. The Agency supports such regulatory continuation and NCC and SPO operators are thereby not covered by the regulation. This does not prohibit these operators from performing radar approaches. But the operator must determine conditions and establish procedures under which such approaches are conducted.

comment 28

comment by: *Jan Loncke*

**SPA.HOFO.130 ARA**

The text in SPA.HOFO.130 (b) is limited to ARAs to rigs or vessels in transit. I don't understand why wind turbines, marine lights and lighthouses, and vessels not in transit but at anchor in an (offshore) anchorage area are not included. It is, for instance, not unthinkable that an ARA is performed to a (fixed) structure at the edge of a windmill park and thereafter is continued visually to a next structure (destination).

Or does the text in SPA.HOFO.130(b) mean that ARAs done to other fixed structures (other than rigs) or vessels not in transit are exempted from the rule to perform ARAs in multicrew ? So, does it allow a single pilot, without any assistance of another crew member, to perform an ARA to such [other fixed structures (other than rigs) or vessels not in transit] destinations ?

I believe that the present text in SPA.HOFO.130 (b) is leaving too much room for interpretation, especially to the 'unsafe side' :

1. since I believe that an ARA performed in a single pilot operation has a higher risk (index) than one performed in multi-crew, actually I mean : multi-pilot operation.
2. since I believe that an ARA performed to an nearby target on the borders of e.g. a windmill park or an anchorage area, after which is continued visually, low level in 'marginal' visibility (otherwise an ARA wouldn't have been necessary in the first place) from intermediate target to intermediate target until arriving at the destination target, has a higher risk than an ARA to a 'single' destination target.

Therefore I suggest to delete the words "to rigs or vessels in transit" in SPA.HOFO.130 (b), to provide for the possibility that ARAs may be performed to fixed structures not being rigs and to vessels not being in transit.  
(for the safety issue multi-crew versus single pilot : see next comment)

response *Not accepted*

The heading to SPA.HOFO.130 is 'Airborne radar approaches (ARAs) to offshore locations - CAT operations'. This indicates that ARAs can be done to what is defined as offshore locations.

To rigs and vessels in transit multi-crew is required, otherwise not. Hence the proposed suggestion is not accepted.

It is obvious that single pilot and multi-crew ARAs will be performed in the future as they are today.

And ARAs will in the future be flown to a nearby target and the flight will proceed to destination under VFR as is the case today. This is also in relation to the associated AMC.

comment 29

comment by: Jan Loncke

### **SPA.HOFO.130(b) & SPA.HOFO.130(e)**

Multi-crew versus single pilot

The word multi-crew in SPA.HOFO.130(b) and the fact that SPA.HOFO.130(e) mentions the possibility to perform an ARA single pilot, implies, that another crew member should be on board. In HHO, this other crew member may be the hoist operator. In other offshore operations (other than HHO), it is unclear who that crew member might be. Basically, I don't like the idea of allowing single pilot ARAs for obvious reasons. On the other hand the proposed rules (incl. AMC/GM) don't give a single clue as to what tasks, responsibilities are attributed to that other crew member (not being, not acting as a pilot).

Therefore, if the possibility to perform single pilot ARAs remains in the proposed rules, I suggest to provide as a minimum some guidance material describing :

- how this should be done in a multi-crew concept,
- elaborating on the responsibilities and tasks to be done by the additional crew member and where he should be seated performing those tasks during the ARA procedure e.g. next to the pilot in the co-pilot seat so that he is able to manipulate the radar if necessary. If this additional crew member is the hoist operator that may present some practical problems, such as changing seats from up front next to the pilot, to the cabin climbing over the mid-console ...,
- elaborating on the required training this additional crew member should receive, how this should be checked, etc.

I would also like to suggest that if single pilot ARAs are to remain in the text, that at least a thorough risk assessment should be done by each operator aspiring to include single-pilot ARAs in its normal offshore operations. This risk assessment to be presented to and approved by the competent authority before a special (HOFO-)approval should be granted to this operator.

Referring to my comment about the availability of a European database (see one of my general comments on this NPA), this is what I mean with the kind of risk assessments as basis for an approval, that I would like to find, listed in a European database, so that other operators should be able to consult it, so that they can see what is acceptable and so that the authorities of other European countries may have something to refer to in case they are confronted with a request to approve a similar operation from an operator in their own country. In my opinion this is from a practical point of view, what is meant by striving to create & maintain a level playing field and striving to establish and maintain a high uniform level of civil aviation safety in Europe.

Another point that should be addressed in additional acceptable means of compliance or guidance material, concerning single-pilot ARAs, is about additional mitigation of the risks. In the proposed text there is already some mitigation provided under the form of appropriate increments added to the MDA/H (+100ft) and the decision range (+0,25NM) according to AMC1 SPA.HOFO.130(f). But I prefer some additional mitigation measures, to be translated in AMC, such as the serviceability of the autopilot and the obligation to use all appropriate and

response	<p>possible higher modes available when performing an ARA single-pilot. Consequently, the serviceability of the autopilot in relation to single-pilot ARAs should be included in the operator's MEL. There should be appropriate operational procedures established, and indicated as such in the MEL, e.g. : to not perform single-pilot ARAs when the autopilot is not (completely, including the higher modes) serviceable. Those established operational procedures should be scrupulously applied by the flying crews, should the flight be performed with inoperative equipment.</p> <p><i>Noted</i></p> <p>There are very strong requirements for risk assessment and mitigation specified in ORO.GEN.200 which are valid for the concerns mentioned in the comment.</p> <p>Single-pilot operations have been conducted over a long period of time, and arguments against it are not substantiated.</p> <p>A multi-crew shall be understood as two pilots qualified for MCC operations, flying as a crew.</p>
comment	<p>31 <span style="float: right;">comment by: Jan Loncke</span></p> <p><b>SPA.HOFO.105</b> (page 26) &amp; <b>SPA.HOFO.155</b> (page 29)</p> <p>SPA.HOFO.105(b)(3) states that the crew has to wear a survival suit when the weather report or forecasts available to the PIC/commander indicate that the sea temperature will be less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night.</p> <p>For this SPA.HOFO.105(b)(3) rule, reference is being made to CAT.IDE.H.295(a) which is going to be deleted according to <b>B. Draft Opinion and Decision, I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) 965/2012 of 25 October 2012</b>, (d)(5) on page 25 of this NPA.</p> <p>CAT.IDE.H.310(a) mentions that <b>all persons on board</b> have to wear a survival suit when the weather report or forecasts available to the commander indicate that the sea temperature will be less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night.</p> <p>According to <b>B. Draft Opinion and Decision, I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) 965/2012 of 25 October 2012</b>, (d)(6) on page 25 of this NPA, CAT.IDE.H.310 is going to be deleted completely*.</p> <p>This makes me conclude, since I didn't read anywhere else** in this NPA, that the requirement to wear survival suits when the weather report or forecasts available to the commander indicate that the sea temperature will be less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, is only applicable to the crew [SPA.HOFO.105(b)(3)]. And what about the passengers ? Are the passengers exempted of the rule to wear survival suits ?</p> <p>Since in my opinion CAT.IDE.H.310 has insufficiently or incompletely been transposed into SPA.HOFO.155, I suggest to 'pick-up' CAT.IDE.H.310(a) and add it in SPA.HOFO.155, so that passengers would also be included in the rule to wear a survival suit when the weather report or forecasts available to the commander indicate that the sea temperature will be less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, for operations in a hostile environment. Or I</p>

suggest to replace in SPA.HOFO.105(b)(3) the words "the crew wears" by "all on board are wearing". The text in SPA.HOFO.105(b)(3) would then read : "(3) when the weather report or forecasts available to the pilot-in-command/commander indicate that the sea temperature will be less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, ~~the crew wears~~ **all on board are wearing** a survival suit;"

\* As is the case with NCC.IDE.H.231, which is to be deleted completely (see NPA page 31), where NCC.IDE.H.231(a) mentioned "when the weather report or forecasts available to the pilot-in-command/commander indicate that the sea temperature will be less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, all persons on board are wearing a survival suit.

And as is the case with SPO.IDE.H.198(a), which is to be deleted as well (see NPA page 31), where SPO.IDE.H.198(a) mentioned "Each person on board shall wear a survival suit when operating : ...".

\*\* except that **AMC1 SPA.HOFO.105(b)(2) Operating procedures PASSENGER BRIEFING (b)**, implicitly indicates the use of survival suits by passengers, since the use of survival suits has to be presented by audiovisual means or to be demonstrated by a crew member prior to boarding.

response *Partially accepted*

The SPA.HOFO.105 will remain as is for crew.  
Text will be changed to include survival suits for passengers in SPA.HOFO.155.

comment 44

comment by: CAA-NL

**Page 26 of 99 new SPA.HOFO.105 (b) (3)**

We suggest to expand the obligation to wear survival suits from 'crew' to 'all on board'. In current CAT/SPO rules this is an obligation thru CAT.IDE.H.310 (a) or thru SPO.IDE.H.198 (a).

response *Partially accepted*

The SPA.HOFO.105 will remain as is for crew.  
Text will be changed to include survival suits for passengers in SPA.HOFO.155.

comment 45

comment by: CAA-NL

**Page 26 of 99 new SPA.HOFO.105 (b) (7)**

Does this mean that a minimum crew of two is required, so a Complex helicopter which is complex by is MTOM or its seating capacity could not be used by NCC operators?

response *Noted*

Based also on another comment, the text will be changed to:

'where appropriate, procedures are in place for a member of the flight crew to monitor the flight instruments during an offshore approach or departure to ensure that a safe flight path is maintained'.

comment 46

comment by: CAA-NL

**Page 29 of 99 new SPA.HOFO.150 (a) (1) (i)**

response	<p>This requirement is already included in Part CAT, but not in Part SPO, so we suggest to change CAT into SPO.</p> <p><i>Partially accepted</i></p> <p>A requirement for both will be included in Part-SPA.</p>
comment	<p>47 <span style="float: right;">comment by: CAA-NL</span></p> <p><b>Page 30 of 99 new SPA.HOFO.165 (a) (4)/(5)</b>          We do not see the need to copy this OGP contractual requirement in an even stricter form into the EU regulations. Please delete.</p>
response	<p><i>Partly accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.</p>
comment	<p>66 <span style="float: right;">comment by: European Cockpit Association</span></p> <p>SPA.HOFO.105(b)(5)Segment states <i>'The operator shall ensure that; The highest possible use of the automatic flight control systems (AFCS) is used throughout the flight;'</i>          The fixed wing fraternity went down this road some years ago – the result is a basic skill fade which is best exemplified in the AF447 accident. As a result of the concern on the downgrading of piloting manual skills, both the FAA and EASA have released Safety Information Bulletins encouraging operators to emphasise more manual flight operations (reference EASA SIB 2013-05 and FAA SAFO 13002). A flight academy formally encourages crews to handle the aircraft at appropriate times in all phases of flight in order to retain 'stick &amp; rudder' skills. Propose delete SPA.HOFO.105 (b) (5)</p>
response	<p><i>Not accepted</i></p> <p>The text is transferred from a safety recommendation made subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.</p>
comment	<p>67 <span style="float: right;">comment by: European Cockpit Association</span></p> <p>SPA.HOFO.115          Segment states <i>'Notwithstanding CAT.OP.MPA.181, NCC.OP.152 and SPO.OP.151, the pilot-in-command/commander does not need to specify an alternate aerodrome in the operational flight plan when conducting a flight from an offshore location to a land destination being defined as a coastal aerodrome.'</i> Is this acceptable whatever the weather? Weather on the coast of the NS can create fog and heavy precipitation with low visibility and crew need to plan accordingly. Why should a crew flying on an IFR flight plan towards a coastal aerodrome, which can have rapidly changing weather, without alternate fuel reserve. This can lead crews into dangerous situations. Coastal aerodromes are not any safer than inland aerodromes, cancelling IFR and fly low level VFR does not improve the situation. There is a lot of obstacles on the coastline, i.e. : power-lines, ships and antennas. Suggest the current minima be inserted.</p>

response	<p><i>Noted</i></p> <p>AMC1 to the regulation specifies individual safety case assessment, fuel and weather requirements.</p> <p>It should, however, not be considered a requirement to utilise the coastal aerodrome procedure instead of selecting an alternative aerodrome.</p>
comment	<p>68 <span style="float: right;">comment by: <i>European Cockpit Association</i></span></p> <p>SPA.HOFO.120</p> <p>In this chapter it is stated that you need a flight data monitoring programme whenever the helicopter is fitted with Flight data monitoring equipment. EA is of the opinion that flight data monitoring must be mandatory when operating off-shore and should not depend on the fact if FDM-equipment is available in the aircraft. First consideration is the safety of the crew and the passengers, but as FDM is a huge investment it also increases the level playing field for off-shore operators.</p> <p>For installing FDM equipment in the helicopters ECA proposes to use the same time frame as mentioned in bullet 30 on page 12 for installing VHM equipment in the helicopter.</p>
response	<p><i>Noted</i></p> <p>The comment is seen in relation to comments to question 6.</p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>69 <span style="float: right;">comment by: <i>European Cockpit Association</i></span></p> <p>SPA.HOFO.125</p> <p>It should be made dependable on the systems available in the state of operation and there should be a time frame of 2 years for retrofitting the required equipment.</p>
response	<p><i>Noted</i></p> <p>The timeframe is noted.</p>
comment	<p>70 <span style="float: right;">comment by: <i>European Cockpit Association</i></span></p> <p>SPA.HOFO.150(a)(1)(ii) PA should be mandatory for all helicopters transporting passengers</p>
response	<p><i>Noted</i></p> <p>Text updated to include PA for CAT and NCC operations. It is justified due to passenger safety.</p>
comment	<p>71 <span style="float: right;">comment by: <i>European Cockpit Association</i></span></p> <p>SPA.HOFO.150(a)(3)</p> <p>All helicopters should be equipped with airborne weather detecting equipment if they operate IFR offshore</p>

response	<p><i>Partly accepted</i></p> <p>This is already defined in Parts CAT, NCC and SPO.</p>	
comment	72	comment by: <i>European Cockpit Association</i>
	<p>SPA.HOFO.160</p> <p>All helicopter flying offshore should have VHM, not only helicopters operating in hostile environment.</p> <p>Retrofit of VHM on all CAT helicopters, will address the following Risk and mitigation measures on page 18: "introduction of newest helicopter design and technology;" and "use of VHM;"</p>	
response	<p><i>Noted</i></p> <p>The comment is seen in relation to comments to question 4.</p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>	
comment	78	comment by: <i>Jan Loncke</i>
	<p>Attachment <a href="#">#1</a></p> <p><b>SPA.HOFO.145</b></p> <p>GM1 ARO.OPS.200 AMC1 CAT.POL.H.305(a) AMC1 CAT.POL.H.310(c)(2) &amp; CAT.POL.H.325(c)(2)</p> <p>Concerning the requirements for operations without an assured safe forced landing capability, it is not clear to me how a level playing field in the regulatory and certification process is achieved with this NPA (and the already existing text in Annex IV (Part-CAT) and its associated AMC/GM).</p> <p>I'll try to explain my point of view, my concern, making use of an example.</p> <p>If one NAA has authorised an operator to perform offshore operations in a hostile environment in accordance with JAR-OPS 3.517(a) (+ Appendix 1) or CAT.POL.H.305 for a specific helicopter type, based on a risk assessment taking into account a maximum allowed exposure time of 0,5 seconds respecting the safety target of 15 ft deck edge clearance and a 35 ft obstacle clearance, another NAA may have granted an operator in their own country (operating the same type of helicopter) an authorisation based on a risk assessment taking into account a maximum allowed exposure time of several seconds. That may result in a significant available payload difference between those two operators using the same helicopter type.</p> <p>In annex I'm adding some examples. The examples indicate the difference in maximum allowed take-off mass for a difference of 1 second exposure time for AS365N3, EC155 &amp; AS332L2. It shows a difference of payload of approximately 200 to 300 kg. This makes a significant difference for the operator's client. The client, who is always looking for as much useful payload as possible, within the limits of safety - to understand : authorized limits.</p> <p>Presently an authorisation is granted based on a risk assessment made by the operator. The risk assessment based on and supported by data from the helicopter (&amp; engine) manufacturer(s), and is applicable only on operations with that specific type of helicopter.</p> <p>The proposed text in this NPA GM1 ARO.OPS.200 Specific Approval Procedure, states that such an approval of operations without an assured safe forced landing capability should be an integral part of the offshore operations approval.</p>	

This implies that it is not necessary to issue a specific approval or authorisation by the NAA per helicopter type, in the future. So, just 'any' risk assessment will do for the operator, since there is no specific approval needed anymore to be allowed to perform in performance class 2, once an offshore operations approval has been granted. There is only the requirement for the operator to ensure that the risk assessment remains valid (AMC1 CAT.POL.H.305(a)).

Each NAA may at present approve the operation in performance class 2 based on a risk assessment from the operator.

Unless there exists a database on European level (see also my general remark on this NPA) which can be consulted to see how different NAA's have rated or evaluated different risk assessments of different operators in different countries, it is unclear to me, how an equal playing field is being achieved.

For the same type of helicopter in use by different operators of different countries, different accepted exposure times (with a maximum of 9") may apply to operate these aircraft in conditions without an assured safe forced landing capability, based on risk assessments that have been evaluated differently. For example one NAA may approve an operation taking into account a total theoretical exposure time of 1 second, and another authority may accept a risk assessment of another operator based on an exposure time of a few seconds more. This may result in a difference of payload for the different operators using the same type of helicopter. I don't see how an equal playing field will be achieved, if no database exists with the information on the approvals of different NAA's and the different risk assessments on which these approvals have been based on.

Therefore I plead for a database that includes all the relevant data (the risk assessments made) of different operators and the NAA's approvals for operations without an assured safe forced landing capability. So that operators looking for an approval may find some reference in the database and so that NAA's may treat applications on an equal basis.

Finally, a common agreement between competent authorities on the maximum accepted exposure time, per type, is desirable, at least where operations in the North Sea are concerned.

response

*Noted*

The comments and examples are noted.

An answer regarding the data base is given to comment 12.

For the other comments, the Agency welcomes proposals for rules or procedures.

comment

82

comment by: *EUROCOPTER*

Due to our answer to Question 2, Eurocopter proposes the following modification:  
SPA.HOFO.100 Helicopter offshore operations  
(a) Helicopters shall only be operated for the purpose of **CAT** offshore operations **in a hostile environment** if the operator has been approved by the competent authority;  
(b) To obtain such approval by the competent authority, the operator shall demonstrate compliance with the requirements of this Subpart and **shall comply with one of the following:**  
~~(1) shall be a CAT operator holding a valid AOC in accordance with Part-ORO and Part-CAT;~~  
~~(2) shall be a non commercial operator of a complex motor powered helicopter having declared its activity in accordance with Part-ORO and Part-NCC; or~~  
~~(3) shall be a specialised operator having shown compliance with Part-~~

	<b><del>ORO and Part SPO, as applicable.</del></b>
response	<p><i>Not accepted</i></p> <p>As stated in the NPA, risks are defined for operations in hostile and non-hostile areas, and they are not limited to CAT operations.</p>
comment	<p>83 <span style="float: right;">comment by: <i>EUROCOPTER</i></span></p> <p>Considering our answer to Question 5, Eurocopter proposes the following modifications on the dates: SPA.HOFO.160 Vibration health monitoring system (a) The following helicopters operating in a hostile environment in commercial air transport operations shall be fitted with a vibration health monitoring (VHM) system capable of monitoring the status of critical rotor and rotor drive systems: (1) helicopters first issued with an individual Certificate of Airworthiness (CoA) after 31 December <del>2015</del> <b>2016 (or + 2 years from date of entry into force, whichever is the latest)</b>; and (2) helicopters first issued with an individual CoA before 1 January <del>2016</del> <b>2017</b> by 1 January <del>2018</del> <b>2019 (or + 4 years from date of entry into force, whichever is the latest)</b>.</p>
response	<p><i>Noted</i></p> <p>The comment is seen in relation to comments to question 5.</p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>104 <span style="float: right;">comment by: <i>NHAF Technical committee</i></span></p> <p>SPA.HOFO.100 (b)(2-3) please delete. AOC should be required for all operations offshore to ensure a high level of safety. (Higher requirements for procedures, organization, etc)</p>
response	<p><i>Not accepted</i></p> <p>An AOC can only be submitted to a CAT operator.</p> <p>By requiring all operators to hold and AOC it would require non-commercial operators and commercial SPO operators to become CAT operators. This is not the intention of the RMT.</p>
comment	<p>105 <span style="float: right;">comment by: <i>NHAF Technical committee</i></span></p> <p>Page 26: SPA.HOFO.105 (b) (3): High-vis survival suit should be a mandatory requirement both for crew and passengers during offshore operations at all times. Justification: Weather conditions en-route may vary. Page 27: SPA.HOFO.125 NHF recommend mandatory flight following, for all offshore operations available to ATC. This flight following system should be of the ADS-B 1090ES standard, for flight separation by ATC. In addition to this operators may install additional flight</p>

following systems for extra optimization.

Justification: Raised level of safety, environmental effect and route planning.

Page 28:

SPA.HOFO.135

Table: Single pilot operations should not be approved for offshore operations.

Justification: Safety statistics shows that single pilot operations have a higher rate of incidents and accidents, than multi crew operations.

Page 29:

SPA.HOFO.150 (a) (1) (i)

Text should include: ... public address (PA) system, which shall be easily readable for all pax, during all phases of flight.

(a)(1)(ii) Please delete this bullet point

Justification: Operational variations may cause pilots voice to become weak or even not understandable during critical situations.

SPA.HOFO.155

(a) Life jackets to be replaced by survival suits approved in accordance with offshore industrial standard, including requirements for High-vis.

(b) Manual release should be available at strategic points even after capsizing.

(c) Personal contained beacon in survival suit, of the non-smart type in addition to ELT for the helicopter.

Add following equipment to list:

(g) EGWPS/TAWS

(h) AVAD

(i) TCAS 2 or higher

Page 30:

SPA.HOFO.160 (b)

Add:

(4) Ensure VHM backup of downloaded data (Ground Station backup)

Justification: Important historical data are stored on the VHM Ground Station.

(5) Control and monitor VHM data, minimum once, every day of operation. Control and monitoring must be classified as maintenance, requiring CRS through a Part-145 organization.

Justification: To be able to monitor VHM data at a level, who provide safe operation. The VHM systems are often complex and special training is needed to interpret the collected data.

response *Noted*

SPA.HOFO.105: The existing regulatory requirements based on water temperature and light conditions are considered sufficient. Operators may decide on additional equipment requirement based on their risk assessment. Note also ETSO-2C503 requirements for new suits.

SPA.HOFO.125: Mandatory flight following equipment is defined by airspace categories (and ATC). When not mandated, it is required by SPA.HOFO.125 to use a system appropriate to the operator's requirements.

SPA.HOFO.135: Single-pilot operation was not considered a safety hazard and, therefore, not included in the risk matrix which is attached to the NPA. If the safety statistics mentioned are related to offshore operations, the Agency is unaware of their existence.

SPA.HOFO.150: Text will be changed, but the requirement is already a regulatory requirement. The reason presented in the comment for removing it is not substantiated but based on an assumption.

SPA.HOFO.155:

a) The standards are different in the different MS as some require survival suits with integrated life vest, others require life vest. Hence the regulation cannot be changed.

'High-vis' requirements are not further explained and therefore not commented upon.

b) This is an aircraft certification or airworthiness item. It is presently validated in another RMT regarding ditching survivability, and therefore outside the scope of this RMT.

c) This is not considered a prerequisite by all MS and members of the offshore industry.

g)&h) The Agency proposes to include a regulatory requirement for terrain awareness and warning system.

i) The Agency considers that anti-collision systems, such as TCAS II and similar, should be mandated by the airspace authorities. An operational regulation valid only for offshore helicopters is therefore not considered.

Presently TCAS II for helicopters is not considered to be regulated by SESAR.

SPA.HOFO.160: These are technical requirements and outside the remedy of this RMT.

comment

113

comment by: CHC Helikopter Service, Norway

**SPA.HOFO.100 Helicopter offshore operations**

*(a) Helicopters shall only be operated for the purpose of offshore operations if the operator has been approved by the competent authority.*

*(b) To obtain such approval by the competent authority, the operator shall demonstrate compliance with the requirements of this Subpart and shall comply with one of the following:*

*(1) shall be a CAT operator holding a valid AOC in accordance with Part-ORO and Part-CAT;*

*(2) shall be a non-commercial operator of a complex motor-powered helicopter having declared its activity in accordance with Part-ORO and Part-NCC; or*

*(3) shall be a specialised operator having shown compliance with Part-ORO and Part-SPO, as applicable.*

The competent authority in the country in which operations are conducted **must** be involved in the approval process.

The Safety statistics on the Continental Shelf is presently very good compared to the industry standard. The competence of the "competent authority" is vital to ensure that all factors are considered when approval for operations are given.

A competent authority in the Southern part of Europe may not have the same background to evaluate risk factors in the Northern part of Europe.

The high Flight Safety standards on the Norwegian Continental shelf must not be jeopardized by the suggested regulation.

**SPA.HOFO.105 Operating procedures**

*(3) when the weather report or forecasts available to the pilot-in-command/commander indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, the crew wears a*

survival suit;

All persons on board must be wearing a survival suit. This is the requirement in present regulations.

**SPA.HOFO.110 Use of offshore locations**

The operator shall only use offshore locations that are adequate for the helicopter operated in relation to size, facilities, lighting, fire fighting, and manning.

The N-CAA requirement of helicopter deck size of 1,25 D value (as stated in the Norwegian BSL 5-1) must be maintained. This is a Flight Safety initiative to ensure a future "push" in the industry to improve better landing conditions.

**SPA.HOFO.115 Selection of aerodromes and operating sites<sup>20</sup>**

*ONSHORE DESTINATION ALTERNATE AERODROME*

*Notwithstanding CAT.OP.MPA.181, NCC.OP.152, and SPO.OP.151, the pilot-in-command/commander does not need to specify a destination alternate aerodrome in the operational flight plan when conducting flights from an offshore location to a land destination being defined as a coastal aerodrome.*

The requirements in the Norwegian BSL D 2-2 must be included in the regulation. This requirement is used by several operators, and ensures a IFR planning within safe criteria. The use of Coastal Aerodromes requires descend to low level, and a VMC transition to the aerodrome. This may involve some risk to do this in Norway during the winter time (in periods of darkness and snowshowers). The regulations in the BSL D 2-2 ensures that planning can be done safely using the criteria established. There is significant experience using the planning criteria. BSL D 2-2 (Norwegian text).

6.2 For IFR-flyging skal det medføres tilstrekkelig drivstoff til at helikoptre kan:

- a) Fullføre flygingen til bestemmelsesstedet
- b) Fly fra bestemmelsesstedet til den alternative landingsplass
- c) Fly deretter i 30 minutter med normal marsjhastighet.

Krav til alternativ landingsplass under 6.2 b) kan frafalles for flyging under 3 timers varighet, hvis værvarslet for bestemmelsesstedet i minst en time før og en time etter den antatte ankomsttid viser at:

- a) Skydekkehøyden vil være minst 700 fot over den OCL som er angitt for vedkommende instrumentinnflygingsprosedyre, eller 1000 fot over plassens høyde over havet, hvorav høyeste verdi gjelder.
- b) Sikten er varslet til å være minst 2500 m.

*OFFSHORE DESTINATION ALTERNATE AERODROME*

*(a) An offshore destination alternate aerodrome shall be used only after the point of no return (PNR). Prior to the PNR an onshore alternate aerodrome shall be used*

*(b) If the operator selects to use an offshore destination alternate aerodrome, the following criteria shall be taken into account:*

- (1) one engine inoperative (OEI) landing capability performance at the offshore destination alternate aerodrome;*
- (2) weather minima taking into account accuracy and reliability of meteorological information;*
- (3) assessment of the suitability of the offshore destination alternate aerodrome under the expected conditions;*
- (4) helideck availability shall be guaranteed prior to PNR; and*
- (5) the MEL shall contain specific provisions for this type of operation.*

The comment from CHC Helikopter Service is that Offshore alternates must only be used if onshore alternates is not available (ICAO Annex 6, Part III, 2.3.4.4.).

response *Partially accepted*

SPA.HOFO.100: Please refer to the explanatory note. As similar comments are received from other commentators, a related question is posted in the CRD for

stakeholders to consider.

SPA.HOFO.105: The comment is similar to comments from other commentators. SPA.HOFO.105 is operating procedures in which passenger requirements are not included. SPA.HOFO.155 will, however, be changed to include survival suits for all on board.

SPA.HOFO.110: Proposal is in harmony with proposed redrafted text.

The 1,25 D-value from BSL-D will not be included as regulation of helideck is not within the remit of the Basic Regulation.

SPA.HOFO.115: The proposed text will be included with minor changes. EASA will translate it into English language.

Regarding offshore alternate: Please note that the ICAO reference is a recommendation only, not a standard. The comment will be included in the revised text: 'shall be used only after PNR and when an onshore destination alternative aerodrome is not geographically available'.

comment

123

comment by: *Norwegian Ministry of Transport and Communications*

SPA.HOFO.100:

The Norwegian Ministry of Transport and Communications strongly supports the requirement of a SPA approval for offshore helicopter operators. We would nevertheless like to point out that with regard to cross border operations, the operating conditions in the state which the operations are to take place may vary greatly from the conditions in the state of which the operator resides. The authority in the state of the operator may hence not be aware of these different conditions when approving the operator's procedures.

In order to maintain an adequate level of safety, the operator's operational procedures should thus be assessed and accepted by the state in which the operation is to be taking place, before the start of the operations. This would be in line with the agreed solution for cross border high risk special operations in the proposal for Part-SPO (ARO.OPS.150).

SPA.HOFO.100(c)

We support the NCAA's position that the requirements for the operator to identify, assess and mitigate risk should ideally be supported by additional AMC and GM on how to perform such risk analysis. As a minimum this AMC and GM should refer to the AMC and GM already in place for ORO.GEN.200(a)(3).

SPA.HOFO.105 (b)(2)

We would like to point out that the safety briefing, and any following safety information during the flight, should be given in a language that is understood by all passengers.

SPA.HOFO.105 (b)(3)

In JAR-OPS 3.837(a) and in CAT.IDE.H.310(a) it is a requirement that all persons onboard, both crew and passengers, use survival suits onboard the aircraft when operating under the same conditions as indicated in SPA.HOFO.105 (b)(3). The Norwegian Ministry must insist that the proposed requirement regarding use of survival suits is amended to include all persons onboard, not just the crew.

SPA.HOFO.105 (b)(5)

We support the NCAA whom considers the requirement for the use of the highest mode of AFSC to be unnecessary. The NCAA does not believe that this is in line with the need for pilots to maintain manual flying skills.

SPA.HOFO.110

The Ministry considers that the suggested provision do not take into consideration all relevant factors, such as surface and movement of the helideck. Hence, we

suggest that this provision is altered to not include the proposed list of items to be considered regarding use of offshore locations. The list should instead be transferred to, and complemented in, guidance material.

SPA.HOFO.115

This provision should be limited to allow use of off-shore alternates *only* when it is not possible to carry enough fuel to have an on-shore alternate, as the use of off-shore alternates involves extra risk compared to the use of on-shore alternates. This would correspond to the requirement in ICAO Annex 6, Part III, 2.3.4.3.

SPA.HOFO.125

We support the suggested requirements for a flight following system. The Ministry appreciate to a certain extent that the draft requirement only specifies the functionality and not the technical solutions to be used by the operators. This flexibility may however be challenging in terms of ATC service providers and any systems that they employ to monitor traffic over sea areas. A harmonization of the systems used by both operators and ATC service providers in the area of operations is desirable. This interface should thus be addressed in the regulation.

SPA.HOFO.140

The term "mean wind" needs to be defined more precisely, as it is open for several interpretations.

SPA.HOFO.160

The Norwegian Ministry supports the NCAA`s view that the provision on VHM should include a requirement for the operator to develop procedures on the use of VHM, and require that VHM is used on any flight in accordance with these procedures.

response

*Noted*

SPA.HOFO.100: The support is appreciated. Please refer to explanations in the explanatory note. As similar comments are received from other commentators, a related question is posted in the CRD for stakeholders to consider.

SPA.HOFO.100(c): ORO.GEN.200 is in effect, valid and familiar to the operators. Hence a reference is not required.

SPA.HOFO.105(b)(2); How should it be verified that all passengers understood the briefings mentioned? It is not possible to introduce such proposal as a regulation.

SPA.HOFO.105(b)(3): SPA.HOFO.105 is operating procedures in which passenger requirements are not included. SPA.HOFO.155 will, however, be changed to include survival suits for all on board.

SPA.HOFO.105(b)(5): The text is transferred from a safety recommendation made subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.

SPA.HOFO.110: Text is proposed modified to 'The operator shall only use offshore locations that are adequate for the type of helicopter and operations concerned'. Associated AMC is considered sufficient.

SPA.HOFO.115: Please note that the ICAO reference is a recommendation only, not a standard. The mentioned additional risk related to offshore alternate is not substantiated. The proposed limitation is partly included in the revised text 'shall be used only after PNR and when an onshore destination alternative aerodrome is not geographically available' is considered sufficient.

SPA.HOFO.125: The ATC service provider defines required equipment in a certain airspace. It is then regulatory required, and CS-29 describes technical solutions.

When not required by the service provider, the operator shall use a flight following system of his preference as long as the requirement in SPA.HOFO.125 is maintained.

SPA.HOFO.140: 'Mean wind' is recommended to be removed from the text and substituted by wind-speed with gusts included. Therefore, 'mean wind' is no longer used.

SPA.HOFO.160; VHM equipment and associated procedures are recommended required for all helicopters in hostile areas after a given date.

Operational procedures and use of equipment are retained in AMC.

As the equipment is regulatory required, a similar regulatory requirement for using it is considered over-regulating.

comment 142

comment by: UK CAA

**Page No:** 25

**Paragraph No:** SPA.HOFO.100(b) Helicopter Offshore Operations

**Comment:** Sub-paragraph (2). As explained elsewhere, the UK CAA does not support the inclusion of Part-NCC helicopters in this SPA.

Delete sub-paragraph (2).

Sub-paragraph (3). As explained elsewhere, the UK CAA does not fully support the inclusion of Part-SPO helicopters in this SPA but considers that it would be more appropriate for commercial SPO.

Amend sub-paragraph (3) as shown.

**Justification:** Proportionality and correct applicability.

**Proposed Text:** "(3) shall be a **commercial** specialised **operations** operator having shown compliance with Part-ORO and Part-SPO, as applicable."

response Noted

During discussions in the review group it was clear that NCO operators would not be included in Part-SPA. As NCC operators were already included for SPA approval, it would be reasonable also to include them in SPA as SPO operators.

As part of the review group the commentator's representative changed the comment to: 'a specialised operations operator shall have declared its activity in accordance with Part-ORO and Part-SPO'.

The same text is proposed in the redrafted paragraph.

comment 143

comment by: UK CAA

**Page No:** 25

**Paragraph No:** SPA.HOFO.100(c) Helicopter Offshore Operations

**Comment:** The content of this paragraph is effectively covered by ORO.GEN.200 Management System with which HOFO operators would be required to comply.

Delete sub-paragraph (c).

**Justification:** Reduction of duplication.

response Accepted

Text will be deleted.

comment	145	comment by: UK CAA
	<p><b>Page No:</b> 26  <b>Paragraph No:</b> SPA.HOFO.105(b)(4) Operating procedures  <b>Comment:</b> It is not clear how the commander of the flight can ensure appropriate lateral and vertical separation from other aircraft is maintained if a route structure is not provided. See proposed text.  <b>Justification:</b> In class G airspace, or where there is no ATS service, this separation cannot be assured.  <b>Proposed Text:</b> "(4) <i>where established</i>, the offshore route structure provided by appropriate ATS is used. <del>or, if not established, appropriate lateral and vertical separation from other aircraft is maintained</del>"</p>	
response	<p>Accepted</p> <p>Text will be updated.</p>	
comment	146	comment by: UK CAA
	<p><b>Page No:</b> 26  <b>Paragraph No:</b> SPA.HOFO.105(b)(5) Operating procedures  <b>Comment:</b> On reviewing the original UK AAIB safety recommendation aligned with this requirement (SR 2011-050) it is recommended that the text be changed as shown. This will also provide for a more appropriate solution with wider acceptability.  <b>Justification:</b> Simplification and wider applicability.  <b>Proposed Text:</b> "(5) the highest possible mode <i>optimum use</i> of the automatic flight control systems (AFCS) is used throughout the flight."</p>	
response	<p>Accepted</p> <p>Text will be updated.</p>	
comment	147	comment by: UK CAA
	<p><b>Page No:</b> 26  <b>Paragraph No:</b> SPA.HOFO.105(b)(7) Operating procedures  <b>Comment:</b> Although this is not a HOFO specific requirement (all IFR operations need this) it is recognised that it stems from an AAIB recommendation. However, in the case of single pilot operations it would not be so appropriate. As originally drafted, the sentence started with "where appropriate" and it is recommended that this is reinstated as shown with additional suggestions.  <b>Justification:</b> Clarity.  <b>Proposed Text:</b> "(7) <i>where appropriate, procedures are in place for</i> a member of the flight crew <i>to</i> monitors the flight instruments during <del>the</del> <i>a helideck</i> approach <i>or departure</i> to ensure that a safe flight path is maintained; and"</p>	
response	<p>Accepted</p> <p>Text will be updated.</p>	
comment	148	comment by: UK CAA
	<p><b>Page No:</b> 26  <b>Paragraph No:</b> SPA.HOFO.110 Use of offshore locations</p>	

response	<p><b>Comment:</b> Not all offshore locations will provide all of these facilities; wind turbines for example. It is suggested that the text be amended as shown.</p> <p><b>Justification:</b> Clarity.</p> <p><b>Proposed Text:</b> "The operator shall only use offshore locations that are adequate for the <b>type of helicopter and operations concerned</b>. <del>operated in relation to size, facilities, lighting, fire fighting, and manning"</del></p> <p>Accepted</p> <p>Text will be updated.</p>
comment	<p>149 <span style="float: right;">comment by: UK CAA</span></p> <p><b>Page No:</b> 27  <b>Paragraph No:</b> SPA.HOFO.120(a) FDM</p> <p><b>Comment:</b> For clarity, it is suggested that the text be amended as proposed.</p> <p><b>Justification:</b> Clarity.</p> <p><b>Proposed Text:</b> "(a) <del>Whenever operating a helicopter equipped with a flight data recorder in commercial air transport operations,</del> <b>When conducting CAT offshore operations with a helicopter fitted with a flight data recording system</b>, the operator shall establish and maintain a flight data monitoring system which shall be integrated in its management system."</p>
response	<p>Accepted</p> <p>Text will be updated.</p>
comment	<p>150 <span style="float: right;">comment by: UK CAA</span></p> <p><b>Page No:</b> 27  <b>Paragraph No:</b> SPA.HOFO.125 Flight Following System</p> <p><b>Comment:</b> For clarity, it is suggested that the text be amended as proposed.</p> <p><b>Justification:</b> Clarity and appropriate applicability.</p> <p><b>Proposed Text:</b> "A <del>commercial air transport operator or specialised operator</del> <b>CAT and commercial SPO operators</b> shall have available a monitored flight following system for offshore operations in a hostile environment from the time the helicopter departs until it arrives at its final destination."</p>
response	<p>Partially accepted</p> <p>During discussions in the review group the commentator modified the comment to: 'An operator shall use a monitored flight following system for offshore operations in a hostile environment from the time the helicopter departs until it arrives at its final destination'</p> <p>.</p> <p>The same text is proposed in the redrafted paragraph.</p>
comment	<p>151 <span style="float: right;">comment by: UK CAA</span></p> <p><b>Page No:</b> 27  <b>Paragraph No:</b> SPA.HOFO.130 ARAs</p> <p><b>Comment:</b> The subject of ARAs has been under review by the UK CAA for a number of years as it has been acknowledged that the current procedure using only the aircraft weather radar as an obstacle detection and navigation device has several limitations and risks. The UK CAA instigated a study into the procedure with a view to identifying ways to mitigate the risks involved in the shorter term,</p>

and also to go beyond this to find a more appropriate long term solution to IFR approaches to offshore helidecks. The first element was reported on in CAA Paper 2009/06 "Hazard Analysis of the Use of GPS in Offshore Helicopter Operations". Continued research is in progress to take this one step further and produce a full procedure as reported in CAA Paper 2010/01 "The SBAS Offshore Approach Procedure (SOAP)".

In the interim, and as a result of the first stage of the development, a revised ARA procedure has been developed and implemented by UK offshore operators utilising GPS to underpin the weather radar procedure, thereby reducing the level of error and risk in some elements of the procedure. It is recommended that the associated information be incorporated into the AMC and GM for ARAs to enhance safety and allow the benefits to be used by any operator. The details are too extensive to include here, but the CAA would be pleased to cooperate with EASA to incorporate the relevant parts of the paper into the AMC and GM.

In the longer term, it is envisaged that the highly improved procedure delivered by SOAP will be available and should then replace the ARA as known today.

**Justification:** Improved safety through enhanced procedures and awareness.

**Proposed Text:** To be developed.

response

*Noted*

The Agency would welcome a text proposal.

comment

152

comment by: UK CAA

**Page No:** 27**Paragraph No:** SPA.HOFO.130(a) ARAs

**Comment:** Paragraph (a) states that "a CAT Operator shall only undertake an ARA if." This is incorrect in that an operator cannot conduct an ARA.

It is recommended that the text be amended as shown and also include some introductory words, in a similar way to many CAT.OP.MPA sections, to ensure that operators include the required information in their operations manuals.

**Justification:** Clarity.

**Proposed Text:** "~~(a) A CAT operator shall only undertake an ARA if~~ **A CAT operator shall establish operational procedures and ensure that ARAs are only undertaken if:**"

response

*Accepted*

Text will be corrected.

comment

153

comment by: UK CAA

**Page No:** 27**Paragraph No:** SPA.HOFO.130 (a)(1) ARAs

**Comment:** The requirement states that:

"(1) the radar provides course guidance to ensure obstacle clearance; and"

Helicopter weather radars cannot provide course guidance as they are not certified to do so. It is recommended that the text is amended as shown.

**Justification:** Accuracy and appropriateness.

**Proposed Text:** "(1) equipped with a radar capable of providing information regarding the obstacle environment."

response

*Accepted*

Text will be corrected.

comment	154	comment by: UK CAA
	<p><b>Page No:</b> 28  <b>Paragraph No:</b> SPA.HOFO.130(d) ARAs  <b>Comment:</b> Correction to spelling of minimum descent altitude/height.  <b>Justification:</b> Accuracy.  <b>Proposed Text:</b> Line 2, amend "descend" to '<i>descent</i>'.</p>	
response	<p><i>Accepted</i></p> <p>Text will be corrected.</p>	
comment	155	comment by: UK CAA
	<p><b>Page No:</b> 28  <b>Paragraph No:</b> SPA.HOFO.145 Performance  <b>Comment:</b> The performance requirements should reflect the type of operation and be reflected back to the appropriate Part. Imposing CAT performance on SPO or other operations just for offshore operations is not appropriate and disproportionate. Indeed, many SPO activities might not be feasible under such performance restrictions. The requirement as stated would exclude single-engine or lower powered helicopters to operate in other than CAT operations. Amend text as shown.  <b>Justification:</b> Performance requirements should be proportionate to the risk/exposure and reflect the type of operations being conducted. CAT performance requirements should not be imposed on non-CAT which will prevent some operations from being conducted without justification.  <b>Proposed Text:</b> "Helicopters taking off and landing at offshore locations shall be operated in accordance with the performance requirements of <b><i>the appropriate Annex according to their type of operation.</i></b> <del>Annex IV (Part-CAT), Subpart C, Section 2, and comply with the requirements for operations without an assured safe forced landing capability."</del></p>	
response	<p><i>Noted</i></p> <p>During discussions in the review group, the commentator's representative modified the comment to: 'Helicopters taking off and landing at offshore locations shall be operated in accordance with the requirements defined in Annex IV (Part-CAT), Subpart C, Section 2, Chapter 3 'Performance class 2''.</p> <p>The text is proposed in the redrafted paragraph.</p>	
comment	156	comment by: UK CAA
	<p><b>Page No:</b> 29  <b>Paragraph No:</b> SPA.HOFO.150(a)(1) Equipment requirements  <b>Comment:</b> The Public Address requirements do not accord with CAT.IDE.180 and the requirement for other than CAT is not substantiated. It is recommended that this section is deleted and reliance placed upon the standing requirements in the relevant Parts.  Delete SPO.HOFO.150 (a) (1).  <b>Justification:</b> Discrepancy with main requirements and disproportionate.</p>	
response	<p><i>Not accepted</i></p> <p>The paragraph is not deleted but redrafted as, following discussions in the review</p>	

group, such equipment was defined as required.

comment 157 comment by: UK CAA

**Page No:** 29

**Paragraph No:** SPA.HOFO.150(a)(3) Equipment requirements

**Comment:** The requirement for airborne weather detecting equipment for non-complex helicopters used for SPO is disproportionate and not even required by CAT helicopters. This requirement should be deleted.

Delete SPO.HOFO.150 (a) (3).

**Justification:** Disproportionate and unjustified requirement.

response Accepted

The text will be deleted.

comment 158 comment by: UK CAA

**Page No:** 29

**Paragraph No:** SPA.HOFO.155 Additional equipment

**Comment:** This section reflects that of CAT.IDE.H.310 but does not include the important initial paragraph and the requirement for the wearing of survival suits (paragraph (a)). It is recommended that the preceding factors are included in this section. Additionally, the appropriate AMC/GM material from CAT.IDE.H.310 has not been included and this should be added.

**Justification:** Completeness.

response Accepted

Text will be changed.

comment 159 comment by: UK CAA

**Page No:** 30

**Paragraph No:** SPA.HOFO.160 VHM

**Comment:** This new requirement comes from a proposal by the JAA HSST. However, in the context of this SPA it is recommended that the text be amended as shown. This reflects the original proposal better but also recognises the current national requirements and alleviates the need for retro fitment which would be extremely costly and difficult to justify.

In the wider context of recognising the benefits of VHM, it is recommended that EASA assign a specific task to review the requirements for all helicopters operating CAT.

**Justification:** Alignment with current requirements and a more appropriate and proportionate compliance requirement. However, the implementation dates will require careful scrutiny to ensure these measures are met.

**Proposed Text:** "SPA.HOFO.160 Vibration health monitoring system

(a) The following helicopters—operating **when conducting offshore CAT operations** in a hostile environment in ~~commercial air transport operations~~ shall be fitted with a vibration health monitoring (VHM) system capable of monitoring the status of critical rotor and rotor drive systems:

(1) helicopters **with a MCTOM of more than 3175 kg and** first issued with an individual ~~Certificate of Airworthiness (CoA)~~ **CofA** after 31 December 2015; and

(2) helicopters **with a MOPSC of more than 9 and** first issued with an individual **CofA** before 1 January 2016 by 1 January 2018. "

response	<p><i>Noted</i></p> <p>The comment is seen in relation to comments to question 4.</p> <p>An analysis of the comments to the questions and the conclusion drawn by the Agency is available in the explanatory note to the CRD.</p>
comment	<p>160 <span style="float: right;">comment by: UK CAA</span></p> <p><b>Page No:</b> 30  <b>Paragraph No:</b> SPA.HOFO.165(a)(4) and (5) Crew requirements  <b>Comment:</b> The text of paragraphs (4) and (5) does not fit with the leading text at (a). It is recommended that (4) becomes (b) and (5) becomes (c). Additionally (5) requires a commander/pilot-in-command to re-establish recency by undergoing a training programme established by the operator. It is considered that a training programme would be too onerous and will have to be defined. It is proposed that the recency could be achieved under the supervision of an instructor or Line Training Captain as used in Part-FCL. The associated AMC allows this recency to be carried out in the Helicopter or an FFS and an instructor or LTC has the authority to determine whether the commander is competent within the operators system. It is recommended that the text be amended as shown.  <b>Justification:</b> Clarity and proportionality.  <b>Proposed Text:</b> "(4b) A commander/pilot-in-command conducting offshore operations shall fly at least once in this role in an offshore environment each 28 days.  (5c) A commander/pilot-in-command not meeting <del>this</del> <b>the</b> recency requirement <b>at (b)</b>, shall <del>undergo a training programme established by the operator to re-establish recency</del> <b>on a flight under the supervision of an instructor or Line Training Captain.</b>"</p>
response	<p><i>Partially accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.</p>
comment	<p>182 <span style="float: right;">comment by: Tim Glasspool</span></p> <p>SPA.HOFO.105 Operating Procedures  (b)(3) should require the passengers to wear survival suits also. This has not been carried over from JAR3.837 (a)(1).</p>
response	<p><i>Partially accepted</i></p> <p>The comment is similar to comments from other commentators. SPA.HOFO.105 is operating procedures in which passenger requirements are not included. SPA.HOFO.155 will, however, be changed to include survival suits for all on board.</p>
comment	<p>187 <span style="float: right;">comment by: new European Helicopter Association (EHA)</span></p> <p><b>SPA.HOFO.105 Operating procedures</b>  (b) The operator shall ensure that:  (3) when the weather report or forecasts available to the pilot-in-command/commander indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated</p>

survival time, or the flight is planned to be conducted at night, the crew wears a survival suit<sup>19</sup>;

Comment EHA:

1. This rule applies to any aircraft on an EASA member state AOC. So for an operator operating in the Caspian Sea, the Black Sea, Asia (this is not exhaustive) in the summer, the crew would be wearing a survival suit a night with water temperatures of plus 25 degrees and OAT around 30 and above. We need additional guidance for a combination of warm water and high OATs.
2. Also the requirement for the passengers to wear a survival suit has been lost in the transition from CAT.IDE.H.310 (a) to SPA.HOFO.105 or 155

response *Partly accepted*

Requirement for passengers to wear survival suit in hostile areas when the sea temperature is less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, will be included in SPA.HOFO.155. Similar crew requirements will be included in SPA.HOFO.105. Night operations in hostile areas will require use of survival suits for all on-board.

comment *188* comment by: *new European Helicopter Association (EHA)*

**SPA.HOFO.105 Operating procedures**

(b) The operator shall ensure that:

(5) The highest possible mode of the automatic flight control system (AFCS) is used throughout the flight.

**EHA comment:**

Amend as follows:

(5) The highest practicable upper or coupled mode of the automatic flight control system (AFCS) is used throughout the flight.

**Create new AMC1 SPA.HOFO.105 Operating procedures;**

To maintain adequate competence of flight crew in manual handling the helicopter, the operator should provide guidance in the operations manual under which weather conditions crews would be allowed to operate the helicopter in lower modes of automation and the operator should include a recency requirement for these manual flown approaches as well.

Motivation:

1. This present requirement could be interpreted as requiring a fully coupled ILS for each recovery to base. The above changed wording of would allow for VFR recoveries and training.
2. It could mean to never fly or train manual on line training and checking anymore while we have seen that such a new policy has decreased the pilots manual flying skills (see similar accidents in the fixed wing).
3. The wording highest possible mode of AFCS means different things for different helicopter types.
4. Proposed new AMC to give additional guidance.

response *Partially accepted*

The text is transferred from a safety recommendation made subsequent to a

helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.

comment 189 comment by: *new European Helicopter Association (EHA)*

**SPA.HOFO.120 Flight data monitoring (FDM) programme**

Whenever...

EHA comment:

All guidance referenced in this NPA towards AMC1, GM1 and GM2 ORO.AOC.130 is only applicable to aeroplanes and should be rewritten specifically for helicopters.

response *Accepted*

Text will be rewritten as appropriate.

comment 190 comment by: *new European Helicopter Association (EHA)*

**SPA.HOFO.140 Wind limitations for operations to offshore locations<sup>23</sup>**

Flight to an offshore location shall only be operated when the mean wind speed at the helideck is reported to be less than 60 kt.

**EHA Comment:**

Amend text as follows:

Flight to an offshore location shall only be operated when the mean wind speed at the helideck is reported to be less than 60 kt. 'including gusts'.

Motivation: To include gust is an important safety factor.

response *Partially accepted*

Text will be updated as proposed, but without 'mean' in relation to wind speed as gusts are included.

comment 191 comment by: *new European Helicopter Association (EHA)*

**SPA.HOFO.155 Additional equipment for operations in a hostile environment<sup>24</sup>**

(a) Life jackets: ...

(b) Life rafts: ....

(c) Emergency cabin lighting: ...

(d) Emergency locator transmitter (ELT): The helicopter shall be equipped with an automatically deployable ELT (ELT(AD)) capable of transmitting simultaneously on 121,5 and 406 MHz.

(e) Securing of non-jettisonable doors: ....

(f) Opening escape hatches:...

**EHA comment:**

The requirement for the passengers to wear a survival suit (bold + italic + underline below) has been lost in the transition from CAT.IDE.H.310 (a) to SPA.HOFO.105 or 155, and should be re-instated.

**CAT.IDE.H.310 Additional requirements for helicopters conducting offshore operations in a hostile sea area**

Helicopters operated in offshore operations in a hostile sea area, at a distance

from land corresponding to more than 10 minutes flying time at normal cruising speed, shall comply with the following:

**(a) When the weather report or forecasts available to the commander indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, all persons on board shall wear a survival suit.**

(b) All life-rafts ....

(c) The helicopter shall be equipped with an emergency lighting system ....

(d) All emergency exits... (transferred to SPA.HOFO.155)

(e) All non-jettisonable doors.....

(f) All doors, windows or other openings....

(g) Life-jackets shall be worn at all times....

response *Accepted*

SPA.HOFO.155 will be changed.

comment *192* comment by: *new European Helicopter Association (EHA)*

**SPA.HOFO.165 Crew requirements**

(a) The operator shall establish:

....

(4) A commander/pilot-in-command conducting offshore operations shall fly at least once in this role in an offshore environment each 28 days.

(5) A commander/pilot-in-command not meeting this recency requirement shall undergo a training programme established by the operator to re-establish recency.

**EHA comment:**

On behalf of the members of EHA, EHA would like to inform the Agency that there is significant disagreement with new requirement. Most members believe the recency should be aligned with the 90 days recency of CAT but made more specifically adopted for HOFO.

Having a 28 day limit for HOFO is not comparable with FW operations. Does ETOPS have a 28 day recency?

response *Accepted*

The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.

comment *193* comment by: *Tim Glasspool*

SPA.HOFO.105 Operating Procedures

(b)(5) requires clarification. This wording requires that all aoperations be fully coupled to the highest level of automation at all times. Perhaps better wording might be "Operators shall provide OMA guidance as to the level of automation that is appropriate throughout the flight. This must address the need for pilots to maintain currency both with and without upper modes of AFCS engaged."

response *Noted*

The text is transferred from a safety recommendation which was made

subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.

comment	194	comment by: EUROCOPTER
	<p><u>Comment on SPA.HOFO.150 (b) Emergency lighting and marking:</u> this requirement is exactly the transfer of the existing CAT.IDE.H.310 (d) requirement. But CAT.IDE.H.310 (d) is <u>only applicable to offshore operations in a hostile sea area</u>. Consequently SPA.HOFO.150 (b) should be transferred into SPA.HOFO.155 (Additional equipment for operations in a hostile environment) instead of being transferred into SPA.HOFO.150 (which also apply to non-hostile sea areas).</p> <p><b>Proposal: to transfer SPA.HOFO.150 (b) into SPA.HOFO.155.</b></p>	
response	<p><i>Not accepted</i></p> <p>SPA.HOFO.150 is renamed 'Emergency exits'.</p> <p>The NPA defined 'Difficult to see emergency exits in darkness or when being submerged' as a risk factor to be mitigated.</p> <p>As this is valid in all sea areas and important for CAT, NCC and SPO operators, the regulation is introduced in SPA.HOFO.150.</p> <p>To what extent the markings shall be done, would be for the operator to decide based on the risk management.</p> <p>Note also that CAT.IDE.H.275(b) is valid.</p>	
comment	195	comment by: Tim Glasspool
	<p>SPA.HOFO.140 Wind Limitations to offshore locations This must include gusts, and could be extended to 'not more than 60kts'. At present the rule limits at 59kts, which is clumsy.</p>	
response	<p><i>Partially accepted</i></p> <p>Text will be updated as proposed, but without 'mean' in relation to wind speed as gusts are included.</p>	
comment	198	comment by: Tim Glasspool
	<p>SPA.HOFO.165 Crew Requirements (a)(5) the AMC material must include possibility of training being in the simulator or as part of a Line-Training programme.</p>	
response	<p><i>Partially accepted</i></p> <p>The training and recent experience requirements have been changed to meet the requirements stated in Regulation (EU) No 1178/2011, Annex I, paragraph FCL.060. The use of simulators are included in the regulation.</p> <p>In addition, SPA.HOFO.165 requires recency or re-establishing of such to be in an offshore environment, and departures are included in the requirements.</p>	

comment	216	comment by: <i>Le Havre Pilots Association</i>
	<p>SPA.HOFO.105 b) (2)  "passengers have received a safety briefing that also includes offshore related items prior to boarding the helicopter"  In our specialized operations, "passengers" are sea pilots embarking in the helicopter and average of 1 time per week per pilot. All (maritime) pilots have followed a HUET course,  and a security refreshment every year with full explanations on all security devices and escape procedures.  This operating procedure should not be applied for our specific job.</p>	
response	<p><i>Accepted</i></p> <p>Text is included to replace the passenger briefing as set out in AMC1 SPA.HOFO.105(b)(2) with a passenger training programme.</p>	
comment	217	comment by: <i>Le Havre Pilots Association</i>
	<p>Our helicopter is fitted with an Automatic Identification System (AIS) same as the one fitted on ships. This system enables the tracking of the aircraft from the Office, the Harbour Control Tower and all ships on zone including the speed launches of the Pilotage. The helicopter is also tracked of course by ATC (transponder).  Could this maritime system AIS be added to the 3 systems already described in the GM1 SPA.HOFO.125 page 44 ?</p>	
response	<p><i>Noted</i></p> <p>AIS is believed to be based on GPS and is, therefore, already in the GM.</p>	
comment	218	comment by: <i>Le Havre Pilots Association</i>
	<p>This rule of recent experience of 28 days is a very restricting rule for small operator like us, operating only one helicopter.  When our helicopter is in scheduled maintenance like 600 hours / 24 months, the period during the helicopter is on ground could easily exceed this time of 28 days.  If such a rule must be implemented, Pilotage le Havre suggests to extend this recent experience requirement to 90 days.</p>	
response	<p><i>Partially accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.</p>	
comment	223	comment by: <i>Civil Aviation Authority of Norway</i>
	<p>Comment on SPA.HOFO.100:  The NCAA supports the requirement of a SPA approval for offshore helicopter operators. However, when such operations are performed in another member state (cross border operations) the NCAA considers it necessary that the aviation authorities in both states are involved in the approval and oversight of such operations. The operating conditions in the state/area which the operations are to take place may vary greatly from the conditions in the state of which the operator</p>	

response	<p>resides. The authority in state of the operator may therefore not be aware of these different conditions when approving the operator's procedures. In order to maintain an adequate level of safety, the operator's operational procedures should therefore be revived and accepted by the state in which the operation is to be taking place, before the start of the operations. This would be similar to the solution which is now agreed regarding cross border "high risk" SPO operations in Part-SPO. In addition, the involved authorities should make an agreement according to ARO.GEN.300(e) regarding the oversight of the operator.</p>
	<p><i>Noted</i></p> <p>The comment is understandable in relation to maintaining a safety standard defined by a MS, but not in relation to the intentions behind a level-playing field, 'free movement' and acceptance of privileges by another NAA.</p> <p>Therefore the 'high risk' paragraph of part-SPO will not be introduced here.</p> <p>However, as similar comments are received from other commentators a related question is posted in the CRD for stakeholders to consider.</p>
comment	<p>224 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment to SPA.HOFO.100(c): The requirement for the operator to identify, assess and mitigate risk should ideally be supported by additional AMC and GM on how to perform such risk analysis. As a minimum this AMC and GM should refer to the AMC and GM already in place for ORO.GEN.200(a)(3).</p>
response	<p><i>Noted</i></p> <p>The mentioned item (c) was decided to be removed from the text as ORO.GEN.200 including (a)(3) is in effect. AMC/GM is therefore not required.</p>
comment	<p>225 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on SPA.HOFO.105(b)(2): The operator must ensure that the safety briefing and any following safety information during the flight is made in a language that is understood by all passengers.</p>
response	<p><i>Not accepted</i></p> <p>How should it be verified that all passengers understood the briefings mentioned? It is not possible to introduce such a regulation.</p>
comment	<p>226 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment SPA.HOFO.105(b)(3): The provision does only require use of survival suits for crew. Today's corresponding provisions in JAR-OPS 3.837(a) and in CAT.IDE.H.310(a) requires the use of survival suits for all persons onboard the aircraft, which also includes passengers. The NCAA does therefore insist that the proposed requirement regarding use of survival suits is amended to include this requirement for passengers.</p>

response	<i>Partially accepted</i> SPA.HOFO.105 is operating procedures in which passenger requirements are not included. SPA.HOFO.155, however, will be changed to include survival suits for all on board.
comment	227 <i>comment by: Civil Aviation Authority of Norway</i> Comment on SPA.HOFO.105(b)(5): The NCAA considers the requirement for the use of the highest mode of AFSC to be unnecessary, and not in line with the need for pilots to maintain manual flying skills.
response	<i>Partially accepted</i> The proposed text is transferred from a safety recommendation made subsequent to a helicopter offshore accident and is considered relevant. Text will be slightly changed to accommodate this and other comments, and an AMC is included to allow 'manual' operation to uphold flying skills.
comment	228 <i>comment by: Civil Aviation Authority of Norway</i> Comment on SPA.HOFO.110: The list of items to be considered regarding use of offshore locations should be deleted from the provision, as it may limit the consideration of other relevant factors such as surface and movement of the helideck. The list should instead be transferred to AMC and guidance material.
response	<i>Partially accepted</i> Text will be changed to: 'The operator shall only use offshore locations that are adequate for the type of helicopter and operations concerned'.
comment	229 <i>comment by: Civil Aviation Authority of Norway</i> Comment on SPA.HOFO.115: The sub-headings: "Onshore destination alternate.." and "Offshore destination alternate.." should be marked with a number or a letter in order to make easier reference to the provisions in this article.
response	<i>Accepted</i> Text will be corrected with proposed numbering.
comment	230 <i>comment by: Civil Aviation Authority of Norway</i> Comment on SPA.HOFO.115 Onshore destination alternate aerodrome: A provision reflecting the current JAR-OPS 3.295(c)(2) is required for operations in Norway, as the "coastal airdrome" is probably better tailored to states with a different climate and topography along the coast. The subtle change from JAR-OPS 3.295(c)(2) to CAT.OP.MPA.181(b)(2) that limits its use to other than coastal airdromes makes it necessary to address it here. This concept is in daily use in Norway. A further challenge is the removal of the provision in CAT.OP.MPA.181(b)(2) for "... under visual meteorological conditions as prescribed by the State of the

response	<p>Operator.” These conditions should be addressed in AMC. Norway can offer its description in current national regulations as a well tested basis for the AMC. It is possible that conditions and time periods should be different according to operational area and local climate.</p> <p><i>Partly accepted</i></p> <p>A regulatory text based on a regulation from the Norwegian national regulation in BSL D 2-2 is proposed to be introduced;</p> <p>(1) Notwithstanding CAT.OP.MPA.181, NCC.OP.152, and SPO.OP.151, the commander does not need to specify a destination alternate aerodrome in the operational flight plan when conducting flight from an offshore location to a land destination when:</p> <p>(a) the aerodrome has a published instrument approach,</p> <p>(b) the flight time is less than 3 hours, and</p> <p>(c) the published weather forecast (TAF) valid from 1 hour prior to, and 1 hour subsequent to the expected landing time specifies that;</p> <p>(i) cloud base is at least 700 feet above the minima associated with the instrument approach, or 1.000 feet above the aerodrome, whichever is the higher,</p> <p>(ii) visibility is at least 2.500 meters.</p>
comment	<p>231 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on STA.HOFO.115 Offshore destination alternate aerodrome: The use of offshore alternates involves extra risk compared to the use of on-shore alternates. ICAO Annex 6, Part III, 2.3.4.4 does therefore recommend that offshore alternates are used only when it is not possible to carry enough fuel to have an onshore alternate. Norway insists that the provision on offshore alternates in SPA.HOFO.115 (a) should therefore be limited to only allow use of offshore alternates in these situations. Norway finds it remarkable that this difference from ICAO SARPS is not risk assessed or even mentioned in the RIA.</p>
response	<p><i>Noted</i></p> <p>Please note that the ICAO reference is a recommendation only, not a standard. The mentioned additional risk related to offshore alternate is not substantiated. The proposed limitation is partly included in the revised text: 'shall be used only after PNR and when an onshore destination alternative aerodrome is not geographically available'.</p>
comment	<p>232 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on SPA.HOFO.125 (a) and (b): In (a) and (b) the text refer to "... flight data monitoring system ...". We propose to replace 'system' by 'programme'</p>
response	<p><i>Accepted</i></p> <p>Text will be changed.</p>

comment	<p>233 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on SPA.HOFO.125: The NCAA supports the draft requirements for flight following system. Norway does currently require the M-ADS flight following system. This system is however being phased out and replaced by ADS-B which is developed in cooperation between offshore operators, oil companies and Avinor (as the ATS service provider). The NCAA is sympathetic towards the idea that the draft requirement only specifies the functionality and not the technical solutions to be used by the operators. This flexibility may however be problematic in terms of ATS service providers and any systems that they employ to monitor traffic over sea areas. A harmonization of the systems used by operators and the system used by the ATS service provider in the area of operations is essential. This interface should therefore be addressed in the regulation.</p>
response	<p><i>Not accepted</i></p> <p>The ATS service provider will define required equipment in airspace where flight following is mandatory. This is, therefore, outside the remedy of this RMT.</p> <p>Outside such airspace the operator may use equipment of his preference as long as it corresponds with the requirements specified in SPA.HOFO.125.</p>
comment	<p>234 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on SPA.HOFO.140: The term "mean wind" in this context needs to be defined more precisely, as it is open for several interpretations. The provision does also require that adequate wind speed measuring equipment is installed on the helideck.</p>
response	<p><i>Partly accepted</i></p> <p>The text is changed to include gusts. Therefore, 'mean wind' must be substituted by 'wind speed'.</p> <p>Helideck and its equipment are, as derived from the Basic Regulation, not regulated by the Agency.</p> <p>See, however, AMC1 SPA.HOFO.110(e)(9)(ii).</p>
comment	<p>235 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on SPA.HOFO.150/155: This is possibly the paragraph where most of the requirements in CAT.IDE.H.310 should be placed. Several vital requirements appear to be missing, without giving any justification. See also our comment to SPA.HOFO.105 (b)(3).</p>
response	<p><i>Noted</i></p> <p>The Agency would welcome a proposal for requirements. Comments to SPA.HOFO.105(b)(3) are seen and commented upon.</p>
comment	<p>236 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on SPA.HOFO.160:</p>

response	<p>The provision on VHM itself (not just the AMC) should include a requirement for the operator to develop procedures, approved by the authority, on the use of VHM, and require that VHM is used on any flight in accordance with these procedures. This has been an additional national requirement in Norway since 2005.</p> <p><i>Noted</i></p> <p>Operational procedures and use of equipment are retained in AMC. As the equipment is regulatory required, a similar regulatory requirement for using it is considered over-regulating.</p>
comment	<p>271 <span style="float: right;">comment by: STATION PILOTAGE DUNKERQUE</span></p> <p>SPA.HOFO.105 b) (2) "passengers have received a safety briefing that also includes offshore related items prior to boarding the helicopter" In our specialized operations, "passengers" are sea pilots embarking in the helicopter and average of 1 time per week per pilot. All (maritime) pilots have followed a HUET course, and a security refreshment every year with full explanations on all security devices and escape procedures. This operating procedure should not be applied for our specific job</p>
response	<p><i>Accepted</i></p> <p>Text is included to replace the passenger briefing as set out in AMC1 SPA.HOFO.105(b)(2) with a passenger training programme.</p>
comment	<p>272 <span style="float: right;">comment by: STATION PILOTAGE DUNKERQUE</span></p> <p>This rule of recent experience of 28 days is a very restricting rule for small operator like us, operating only one helicopter. When our helicopter is in scheduled maintenance like 400 hours / 12 months, the period during the helicopter is on ground could easily exceed this time of 28 days. If such a rule must be implemented, Pilotage DUNKERQUE suggests to extend this recent experience requirement to 90 days.</p>
response	<p><i>Partially accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be performed in an offshore environment.</p>
comment	<p>274 <span style="float: right;">comment by: STATION PILOTAGE DUNKERQUE</span></p> <p>In SPA.GEN.100 as published in Oct 2012 it is clearly stated that SPA requirement are intended for "Commercial air transport operator". So introducing SPO operator through this SPA.HOFO.100 is in direct contradiction with this SPA.GEN.100. All SPA regulation are intended for organization geared accordingly, it is not a "fit for all" regulation. It is the purpose of the Annex VIII SPO to be scale down to small operator. Such a burden to answer SPA requirement is not possible for SPO organization. All benefit from this inclusion could be reach with MS authority in charge of</p>

	<p>overseeing SPO / NCO operator being given the duty to provide SPO / NCO operator with specific SPO / NCO guidance adapted from the AMC &amp; GM coming with this SPA Subpart K</p>
response	<p><i>Not accepted</i></p> <p>SPA.GEN.100 is already changed to include non-commercial operators (Commission Regulation (EU) No 800/2013) and now also includes SPO operators with Regulation (EU) 379/2014. This will be in effect before Subpart K to Part-SPA is adopted.</p>
comment	<p>278 <span style="float: right;">comment by: <i>Heli-Union</i></span></p> <p><b>Page No : 30</b></p> <p><b>Paragraph No : SPA.HOFO.160 Vibration health monitoring system</b></p> <p>(a) The following helicopters operating in a hostile environment in commercial air transport operations shall be fitted with a vibration health monitoring (VHM) system capable of monitoring the status of critical rotor and rotor drive systems:</p> <p>...</p> <p>(2) helicopters first issued with an individual CoA before 1 January 2016 by 1 January 2018.</p> <p><b>Comment :</b> We agree with the years <u>except for particular helicopters</u> (for an example non initially built AS365 Dolphin N3) for which</p> <ul style="list-style-type: none"> <li>- no manufacturer retrofit SB does exist nor STC,</li> <li>- the implementation of a VHM retrofit</li> </ul> <ul style="list-style-type: none"> <li>• needs a long downtime (several months) and has to be planned during next overhauls due after 2018</li> <li>• has no guarantee of finalisation within acceptable cost estimate</li> </ul> <p><b>Proposed text : SPA.HOFO.160 Vibration health monitoring system</b></p> <p>(a)</p> <p>...</p> <p>(2) helicopters first issued with an individual CoA before 1 January 2016 by 1 January 2018, <b>except for particular helicopters for which the retrofitting is not conceivable.</b></p>
response	<p><i>Partially accepted</i></p> <p>The text will be changed to accommodate the helicopters in question.</p>
comment	<p>286 <span style="float: right;">comment by: <i>Heli-Union</i></span></p> <p><b>Page No : 26</b></p> <p><b>Paragraph No : SPA.HOFO.105 Operating procedures</b></p> <p>(b) The operator shall ensure that:</p> <p>(3) when the weather report or forecasts available to the pilot-in-command/commander indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, the crew wears a survival suit<sup>19</sup>;</p> <p><b>Comment :</b></p>

	<p>This rule applies to any aircraft on an EASA member state AOC. So for an operator operating in the Caspian Sea, the Black Sea, Asia (this is not exhaustive) in the summer, the crew would be wearing a survival suit at night with water temperatures of plus 25 degrees and OAT around 30 and above. We need additional guidance for a combination of warm water and high OATs.</p>
response	<p><i>Partly accepted</i></p> <p>Requirement for passengers to wear survival suit in hostile areas when the sea temperature is less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, will be included in SPA.HOFO.155. Similar crew requirements will be included in SPA.HOFO.105.</p> <p>Night operations in hostile areas will require use of survival suits for all on-board.</p>
comment	<p>287 <span style="float: right;">comment by: <i>Heli-Union</i></span></p> <p><b>Page No : 26</b></p> <p><b>Paragraph No : SPA.HOFO.105 Operating procedures</b></p> <p>(b) The operator shall ensure that:  (5) The highest possible mode of the automatic flight control system (AFCS) is used throughout the flight.</p> <p><b>Proposed text :</b>  Amend as follows:  (5) The highest <b>practicable upper or coupled</b> mode of the automatic flight control system (AFCS) is used throughout the flight.  Create new <b>AMC1 SPA.HOFO.105 Operating procedures;</b>  <b>To maintain adequate competence of flight crew in manual handling the helicopter, the operator should provide guidance in the operations manual under which weather conditions crews would be allowed to operate the helicopter in lower modes of automation and the operator should include a recency requirement for these manual flown approaches as well.</b></p> <p><b>Justification :</b></p> <ol style="list-style-type: none"> <li>1. This present requirement could be interpreted as requiring a fully coupled ILS for each recovery to base. The above changed wording of would allow for VFR recoveries and training.</li> <li>2. It could mean to never fly or train manual on line training and checking anymore while we have seen that such a new policy has decreased the pilots manual flying skills (see similar accidents in the fixed wing).</li> <li>3. The wording highest possible mode of AFCS means different things for different helicopter types.</li> </ol> <p>Proposed new AMC to give additional guidance.</p>
response	<p><i>Noted</i></p> <p>The text is transferred from a safety recommendation which was made subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.</p>
comment	<p>288 <span style="float: right;">comment by: <i>Heli-Union</i></span></p> <p><b>Page No : 27</b></p>

response	<p><b>Paragraph No : SPA.HOFO.120 Flight data monitoring (FDM) programme</b> Whenever...</p> <p><b>Comment :</b> all guidance referenced in this NPA towards AMC1, GM1 and GM2 ORO.AOC.130 is only applicable to aeroplanes and should be rewritten specifically for helicopters.</p> <p><i>Accepted</i></p> <p>Text will be rewritten as appropriate.</p>
comment	<p>289 <span style="float: right;">comment by: <i>Heli-Union</i></span></p> <p><b>Page No : 30</b></p> <p><b>Paragraph No : SPA.HOFO.165 Crew requirements</b> (a) The operator shall establish: .... (4) A commander/pilot-in-command conducting offshore operations shall fly at least once in this role in an offshore environment each 28 days. (5) A commander/pilot-in-command not meeting this recency requirement shall undergo a training programme established by the operator to re-establish recency.</p> <p><b>Comment :</b> this requirement is not appropriate to operations that occur overseas (100% Heli-Union activity) and therefore require longer schedules of rotations : 6x6, it means 6 weeks ON / 6 weeks OFF = 42 days. Consequently, all Captains will allways have to re-establish recency. Heli-Union propose to refer to recent experience requirements (90 days).</p> <p><b>Proposed text :</b> (4) A commander/pilot-in-command conducting offshore operations shall have carried out at least three take-offs and three landings on an offshore location in a helicopter, or a flight simulator, in the preceding 90 days.</p>
response	<p><i>Partially accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.</p>
comment	<p>298 <span style="float: right;">comment by: <i>British International Helicopters</i></span></p> <p>SPA.HOFO.105 There is no mention of a requirement for passengers to wear survival suits. There appeared to be no reference to this requirement anywhere within the NPA.</p>
response	<p><i>Noted</i></p> <p>SPA.HOFO.105 defines a crew requirement for a survival suit. A passenger requirement will be included in SPA.HOFO.155.</p>

comment	299	comment by: <i>British International Helicopters</i>
	<p>SPA.HOFO.105 (b) (3)          Some geographical areas within the EASA scope are in the warmer climates of the region during the summer season. The requirement for crews to wear survival suits would be applied when water temperature is 25C and the night-time temperature is above 25C or hotter. Whilst the inclusion of crew survival suits is appropriate in this section some additional guidance for an alleviation with a combination of warm sea and hot air temperatures should be provided.</p>	
response	<p><i>Partly accepted</i></p> <p>Requirement for passengers to wear survival suit in hostile areas when the sea temperature is less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, will be included in SPA.HOFO.155. Similar crew requirements will be included in SPA.HOFO.105. Night operations in hostile areas will require use of survival suits for all on-board.</p>	
comment	300	comment by: <i>British International Helicopters</i>
	<p>Page 26 SPA.HOFO.105 (b) (5) Operating Procedures  <i>The use of 'highest possible mode of automatic flight control system (AFCS) is used throughout the flight.</i>          Allowance should be made for pilots to retain manual handling skills in appropriate weather conditions by permitting flexibility in the use of the upper or coupled modes.          Additionally, the wording may be interpreted as requiring the aircraft to be fully coupled for an ILS approach even if weather or VFR routing are perfectly acceptable, safe and expeditious.          Suggest wording to retain the principle of optimum use of coupled modes but permit flexibility when suitable conditions exist to allow crews to retain their skills through currency.</p>	
response	<p><i>Partially accepted</i></p> <p>The text is transferred from a safety recommendation which was made subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.</p>	
comment	303	comment by: <i>British International Helicopters</i>
	<p>Page 27 SPA. HOFO.120 (a) FDM programme          All guidance material within the NPA refers to AMC1, GM1 and GM2 which applies to aeroplanes only.          Wording should be changed to include helicopters.</p>	
response	<p><i>Accepted</i></p> <p>Text will be rewritten as appropriate.</p>	
comment	306	comment by: <i>British International Helicopters</i>
	<p>Page 28          SPA.HOFO.140 Wind limitations...          Add 'including gusts' at end of sentence</p>	

response	<p><i>Accepted</i></p> <p>Text will be included.</p>
comment	<p>311 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p><b>SPA.HOFO.105 Operating procedures</b>  (b) The operator shall ensure that:  (3) when the weather report or forecasts available to the pilot-in-command/commander indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, the crew wears a survival suit<sup>19</sup>;</p> <p>Comments on behalf of:</p> <ol style="list-style-type: none"> <li>1. CHC Helicopters Netherlands</li> <li>2. CHC Scotia</li> <li>3. CHC Ireland</li> </ol> <ol style="list-style-type: none"> <li>1. This rule applies to any aircraft on an EASA member state AOC. So for an operator operating in the Caspian Sea, the Black Sea, Asia (this is not exhaustive) in the summer, the crew would be wearing a survival suit a night with water temperatures of plus 25 degrees and OAT around 30 and above. We need additional guidance for a combination of warm water and high OATs.</li> <li>2. Also the requirement for the passengers to wear a survival suit has been lost in the transition from CAT.IDE.H.310 (a) to SPA.HOFO.105 or 155</li> </ol>
response	<p><i>Partially accepted</i></p> <p>Requirement for passengers to wear survival suit in hostile areas when the sea temperature is less than plus 10°C during the flight, or when the estimated rescue time exceeds the calculated survival time, will be included in SPA.HOFO.155. Similar crew requirements will be included in SPA.HOFO.105. Night operations in hostile areas will require use of survival suits for all on-board.</p>
comment	<p>312 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p><b>SPA.HOFO.105 Operating procedures</b>  (b) The operator shall ensure that:  (5) The highest possible mode of the automatic flight control system (AFCS) is used throughout the flight.</p> <p><b>Comments on behalf of:</b></p> <ol style="list-style-type: none"> <li>1. <b>CHC Helicopters Netherlands</b></li> <li>2. <b>CHC Scotia</b></li> <li>3. <b>CHC Ireland</b></li> </ol> <p>Amend as follows:  (5) The highest practicable upper or coupled mode of the automatic flight control system (AFCS) is used throughout the flight.  <b>Create new AMC1 SPA.HOFO.105 Operating procedures;</b></p>

To maintain adequate competence of flight crew in manual handling the helicopter, the operator should provide guidance in the operations manual under which weather conditions crews would be allowed to operate the helicopter in lower modes of automation and the operator should include a recency requirement for these manual flown approaches as well.

Motivation:

1. This present requirement could be interpreted as requiring a fully coupled ILS for each recovery to base. The above changed wording of would allow for VFR recoveries and training.
2. It could mean to never fly or train manual on line training and checking anymore while we have seen that such a new policy has decreased the pilots manual flying skills (see similar accidents in the fixed wing).
3. The wording highest possible mode of AFCS means different things for different helicopter types.
4. Proposed new AMC to give additional guidance.

response *Partly accepted*

The text is transferred from a safety recommendation which was made subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.

comment 313

comment by: *CHC Helicopter*

**SPA.HOFO.120 Flight data monitoring (FDM) programme**

Whenever...

Comments on behalf of:

1. CHC Helicopters Netherlands
2. CHC Scotia
3. CHC Ireland

All guidance referenced in this NPA towards AMC1, GM1 and GM2 ORO.AOC.130 is only applicable to aeroplanes and should be rewritten specifically for helicopters.

response *Accepted*

Text will be rewritten as appropriate.

comment 314

comment by: *CHC Helicopter*

**SPA.HOFO.140 Wind limitations for operations to offshore locations<sup>23</sup>**

Flight to an offshore location shall only be operated when the mean wind speed at the helideck is reported to be less than 60 kt.

**Comments on behalf of:**

1. **CHC Helicopters Netherlands**
2. **CHC Scotia**
3. **CHC Ireland**

	<p>Amend text as follows: Flight to an offshore location shall only be operated when the mean wind speed at the helideck is reported to be less than 60 kt. 'including gusts'.</p> <p>Motivation: To include gust is an important safety factor.</p>
response	<p><i>Partially accepted</i></p> <p>'Including gusts' will be included, and for this reason 'mean wind speed' is substituted by 'wind speed'.</p>
comment	<p>315 <span style="float: right;">comment by: <i>British International Helicopters</i></span></p> <p>Page 29 &amp; 30 SPA.HOFO.155 The requirement for the passengers to wear a survival suit has been lost in the transition from CAT.IDE.H.310 (a) to SPA.HOFO.105 or 155. This should be re-instated.</p>
response	<p><i>Accepted</i></p> <p>SPA.HOFO.155 will be changed to include survival suits for all on board.</p>
comment	<p>316 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p><b>SPA.HOFO.155 Additional equipment for operations in a hostile environment<sup>24</sup></b> (a) Life jackets: ... (b) Life rafts: .... (c) Emergency cabin lighting: ... (d) Emergency locator transmitter (ELT): The helicopter shall be equipped with an automatically deployable ELT (ELT(AD)) capable of transmitting simultaneously on 121,5 and 406 MHz. (e) Securing of non-jettisonable doors: .... (f) Opening escape hatches:...</p> <p><b>Comments on behalf of:</b></p> <ol style="list-style-type: none"> <li>1. <b>CHC Helicopters Netherlands</b></li> <li>2. <b>CHC Scotia</b></li> <li>3. <b>CHC Ireland</b></li> </ol> <p>The requirement for the passengers to wear a survival suit (bold + italic + underline below) has been lost in the transition from CAT.IDE.H.310 (a) to SPA.HOFO.105 or 155, and should be re-instated.</p> <p><b>CAT.IDE.H.310 Additional requirements for helicopters conducting offshore operations in a hostile sea area</b> Helicopters operated in offshore operations in a hostile sea area, at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed, shall comply with the following: <b><u>(a) When the weather report or forecasts available to the commander indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, all persons on board shall wear a survival suit.</u></b> (b) All life-rafts ....</p>

	<p>(c) The helicopter shall be equipped with an emergency lighting system ....  (d) All emergency exits... (transferred to SPA.HOFO.155)  (e) All non-jettisonable doors.....  (f) All doors, windows or other openings....  (g) Life-jackets shall be worn at all times....</p>
response	<p><i>Accepted</i></p> <p>Text will be changed to include survival suits for all passengers. (Crew is already covered in SPA.HOFO.105).</p>
comment	<p>317 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p><b>SPA.HOFO.165 Crew requirements</b>  (a) The operator shall establish:  ....  (4) A commander/pilot-in-command conducting offshore operations shall fly at least once in this role in an offshore environment each 28 days.  (5) A commander/pilot-in-command not meeting this recency requirement shall undergo a training programme established by the operator to re-establish recency.</p> <p><b>Comments on behalf of:</b></p> <ol style="list-style-type: none"> <li>1. <b>CHC Helicopters Netherlands</b></li> <li>2. <b>CHC Scotia</b></li> </ol> <p>Propose to amend requirement 4 and requirement 5 to include the whole crew and cover offshore location recency:  <b>(4)(a)</b> A pilot conducting offshore operations shall have carried out at least three take-offs and three landings on an offshore location as pilot flying in a helicopter of the same type, or a flight simulator, of the helicopter to be used in the preceding 90 days  <b>(4)(b)</b> If the offshore operations include take-off or landing on offshore locations during night, these take-offs and landings shall have been at night on an offshore location flying in a helicopter of the same type, or a flight simulator, of the helicopter to be used in the preceding 90 days  <b>(5)</b> A pilot not meeting this recency requirement shall undergo a training programme established by the operator to re-establish recency.</p>
response	<p><i>Partially accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.</p>
comment	<p>320 <span style="float: right;">comment by: <i>British International Helicopters</i></span></p> <p>SPA.HOFO.165 Crew Requirements  Propose to amend requirement (4) and requirement (5) to include the whole crew and cover offshore location recency:  (a) A pilot conducting offshore operations shall have carried out at least three take-offs and three landings on an offshore location as pilot flying in a helicopter of the same type, or a flight simulator, of the helicopter to be used in the preceding 90 days</p>

response	<p><b>(b)</b> If the offshore operations include take-off or landing on offshore locations during night, these take-offs and landings shall have been at night on an offshore location flying in a helicopter of the same type, or a flight simulator, of the helicopter to be used in the preceding 90 days  <b>(5)</b> A pilot not meeting this recency requirement shall undergo a training programme established by the operator to re-establish recency.</p> <p><i>Partially accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.</p>
comment	<p>333 <span style="float: right;">comment by: <i>Le Havre Pilots Association</i></span></p> <p><u>Comment on SPA.HOFO.150 (b) Emergency lighting and marking:</u> this requirement is exactly the transfer of the existing CAT.IDE.H.310 (d) requirement. But CAT.IDE.H.310 (d) is only applicable to offshore operations <b>in a hostile sea area</b>. Consequently SPA.HOFO.150 (b) should be transferred into SPA.HOFO.155 (Additional equipment for operations in a hostile environment) instead of being transferred into SPA.HOFO.150 (which also apply to non-hostile sea areas).  <b>Proposal: to transfer SPA.HOFO.150 (b) into SPA.HOFO.155.</b></p>
response	<p><i>Not accepted</i></p> <p>SPA.HOFO.150 is renamed 'Emergency exits'.</p> <p>The NPA defined 'Difficult to see emergency exits in darkness or when being submerged' as a risk factor to be mitigated.</p> <p>As this is valid in all sea areas and important for CAT, NCC and SPO operators, the regulation is introduced in SPA.HOFO.150.</p> <p>To what extent the markings shall be done, would be for the operator to decide based on the risk management.</p> <p>Note also that CAT.IDE.H.275(b) is valid.</p>
comment	<p>342 <span style="float: right;">comment by: <i>ELILOMBARDA</i></span></p> <p>SPA.HOFO.105 Operating procedures:there is no mention of requirement for passenger to wear survival suits.There appeared to be no reference to this requirements anywhere within the NPA</p>
response	<p><i>Partly accepted</i></p> <p>SPA.HOFO.105 is related to a crew requirement.  A requirement for passengers to wear survival suits will be included in SPA.HOFO.155.</p>
comment	<p>344 <span style="float: right;">comment by: <i>ELILOMBARDA</i></span></p> <p><i>SPA.HOFO.105 Operating procedures.</i>  <i>(b) The operator shall ensure that:</i>  <i>(5)The highest possible mode of the automatic flight control system (AFCS) is</i></p>

	<p>used throughout the flight.          ELILOMBARDA comment:          Amend as follows:          (5) The highest <u>practicable upper or coupled</u> mode of the automatic flight control system (AFCS) is used throughout the flight.  <b>Create new AMC1 SPA.HOFO.105 Operating procedures;</b>          To maintain adequate competence of flight crew in manual handling the helicopter, the operator should provide guidance in the operations manual under which weather conditions crews would be allowed to operate the helicopter in lower modes of automation and the operator should include a recency requirement for these manual flown approaches as well.</p>
response	<p><i>Partially accepted</i></p> <p>The text is transferred from a safety recommendation which was made subsequent to a helicopter offshore accident. The text will be changed slightly to accommodate this and similar comments, and an AMC is proposed to include when operators may allow non-automated flight.</p>
comment	<p>346 <span style="float: right;">comment by: ELILOMBARDA</span></p> <p><b>SPA.HOFO.120 Flight data monitoring (FDM) programme:</b>          All guidance referenced in this NPA towards AMC1, GM1 and GM2 ORO.AOC.130 is only applicable to aeroplanes and should be rewritten specifically for helicopters.</p>
response	<p><i>Accepted</i></p> <p>Text will be rewritten as appropriate.</p>
comment	<p>347 <span style="float: right;">comment by: ELILOMBARDA</span></p> <p><b>SPA.HOFO.140 Wind limitations for operations to offshore locations:</b>          Add <u>'including gusts'</u> at the end of sentence.</p>
response	<p><i>Accepted</i></p> <p>Text will be included.</p>
comment	<p>348 <span style="float: right;">comment by: ELILOMBARDA</span></p> <p><b>SPA.HOFO.155 Additional equipment for operations in a hostile environment:</b>          the requirements for the passengers to wear a survival suit has been lost in the transition from CAT.IDE.H.130 (a) to SPA.HOFO.105. or 155.          This should be re-instated.</p>
response	<p><i>Accepted</i></p> <p>SPA.HOFO.155 will be changed to include survival suits for all on board.</p>
comment	<p>349 <span style="float: right;">comment by: ELILOMBARDA</span></p> <p><b>SPA.HOFO.165 Crew requirements:</b>          Propose to amend requirement 4 and requirement 5 to include the whole crew and cover offshore location recency:</p>

(a) A pilot conducting offshore operations shall have carried out at least three take-offs and three landings on an offshore location as pilot flying in a helicopter of the same type, or a flight simulator, of the helicopter to be used in the preceding 90 days

**(b)** If the offshore operations include take-off or landing on offshore locations during night, these take-offs and landings shall have been at night on an offshore location flying in a helicopter of the same type, or a flight simulator, of the helicopter to be used in the preceding 90 days

(5) A pilot not meeting this recency requirement shall undergo a training programme established by the operator to re-establish recency

response *Partially accepted*

The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.

comment 350

comment by: *ELILOMBARDA*

**AMC2 CAT.IDE.H.145 Radio Altimeters  
ELILOMBARDA**

1. 1) Suggest to delete the whole AMC:
1. 2) What is the definition of an analogue presentation? What is the definition of a digital presentation?
1. 3) Operational rules should not contain specific equipment display requirements. This should be covered in ETSO.  
If if the intention of the rule that any "indicator" is acceptable (round or strip) but reliance on a digital (number only) readout is not, then this should be better worded in the AMC. In the present format it only creates confusion
- 1.

response *Noted*

The first and last comments are opposing each other.

1. 1) Not accepted as there is no justification given for deletion of the AMC.
  1. 2) Consider a watch. With hands it is analogue, with numbers it is digital.
  1. 3) Partially accepted, however, AMC may contain technical specifications as well.
- In relation to the last comment, this is supported and the text in the AMC is updated to better explain what is considered an analogue presentation to avoid confusion.

comment 351

comment by: *ELILOMBARDA*

**AMC1 CAT.POL.H.310(c)(2) Take-off & CAT.POL.H.325(c)(2) Landing**  
text should be amended to 'approved' planning data rather than Aircraft Flight Manual planning data.

response *Accepted*

Text will be changed to include the proposal.

comment	<p>352 <span style="float: right;">comment by: ELILOMBARDA</span></p> <p><b>AMC1 SPA.HOFO.105(b)(2) Operating procedures</b></p> <ul style="list-style-type: none"> <li>· Item a: Is there any HOFA operation possible where the passengers do not carry their lifejacket? SPA.HOFO.155 (a) requires the lifejackets to be worn always. This rule should be deleted as it is duplication.</li> <li>· Item b: Hoods and gloves on is not the norm for any offshore operations outside Norway and apparently also pending the suit specifications (Helly Hansen?)</li> </ul> <p>Text should be reviewed to be compliant with present operational procedures throughout EASA.</p>
response	<p><i>Noted</i></p> <p>Item a: Yes there is. AMC1 SPA.HOFO.105(b)(2) and SPA.HOFO.155(a) is changed to accommodate this difference. Deleting the rule (expecting SPA.HOFO.155 is referred to), as it is duplicated, is not considered as the duplication is not seen.</p> <p>Item b: This is partly correct as it is required in Norway and, therefore, included in the AMC text. It is partly incorrect as it is related to a mutually agreed costumer requirement. The suits are made in accordance with this requirement. The mentioned text is reviewed and found appropriate.</p>
comment	<p>353 <span style="float: right;">comment by: ELILOMBARDA</span></p> <p><b>AMC1 SPA.HOFO.115</b></p> <p>Visual approach is a specific segment of an IFR flight with specific weather requirements. In the proposed text the visual approach is being mixed up with VFR flights, VFR approaches and local rules of the air.</p> <p>And a visual approach requires a specific clearance of ATC, the proposed text does not cover this requirement.</p>
response	<p><i>Accepted</i></p> <p>The procedure initially transferred from JAR-OPS 3 to Part-CAT is rewritten to correct the text which has apparently caused confusion.</p> <p>The text will be 'approach under VFR'.</p>
comment	<p>354 <span style="float: right;">comment by: ELILOMBARDA</span></p> <p><b>GM1 SPA.HOFO.125</b></p> <p>Since the flight following system may utilise more than one, propose to change as follows:</p> <p><i>A flight following system may consist of <u>any</u> of the following items <u>or any combination of:</u></i></p> <ul style="list-style-type: none"> <li><i>a. Satellite tracking;</i></li> <li><i>b. ATC tracking and information <u>provided by radio and/or radar;</u> or</i></li> <li><i>c. ADS-B tracking and display.</i></li> </ul> <p>The operator may have a selected to also have a separate "satellite tracking system". Additional guidance should be provided that the requirement for flight following must be compatible with the airspace/country in question and the ATC requirements</p>
response	<p><i>Partially accepted</i></p> <p>Text will be updated by substituting 'one' by 'any'. The other suggested text changes are already included in the text. Furthermore, the text 'The system being</p>

used should be compatible with systems used by ATC' is added.

comment	355	comment by: <i>ELILOMBARDA</i>
	<p>GM1 SPA.HOFO.130 Airborne Whole ARA section, which has been developed in the 70ies, needs to be reviewed in view of the present state of the art systems installed in the new helicopters and the OEMs development on automated offshore approaches including parallel-offset approaches. this is becoming an urgent requirement so we can use stat of art automation wich is required in other sections of this NPA.</p>	
response	<p><i>Noted</i> The Agency would welcome a proposal for a modernised ARA.</p>	
comment	356	comment by: <i>ELILOMBARDA</i>
	<p>AMC4 SPO.OP.110 Aerodrome operating minima — aeroplanes and helicopters, Table 1.H. Additional text, 'Valid only for operators holding a SPA.HOFO approval', added behind 'Offshore helideck *' Reference should be made to AMC2 SPA.LVO.100 Low visibility operations Having read all text of HOFA and LFO, it is still very unclear what is required to obtain an LVO Approval for helicopter operators if they wish to operate only down to RVR of 150 m (= what is exactly required to operate below 400 RVR for helicopters only)</p>	
response	<p><i>Noted</i> The change proposed to AMC4 SPO.OP.110 has been decided cancelled as the requirement to hold a specific HOFO approval is already imbedded in SPA.HOFO.100.  The comment related to SPA.LVO is not within the remedy of the RMT.</p>	
comment	369	comment by: <i>DGAC France</i>
	<p><u>SPA.HOFO.100 Helicopter offshore operations</u>  As expressed before, DGAC France considers that (b)(2) should be deleted and (b)(3) amended as follow : (b)(3) shall be a <b>commercial</b> specialised operator having shown compliance with Part-ORO and Part-SPO, as applicable.</p>	
response	<p><i>Noted</i> During discussions in the review group it was clear that NCO operators would not be included in Part-SPA. AS NCC operators were already included for SPA approval, it would be reasonable also to include them in SPA as SPO operators. As part of the review group the commentator's representative changed the comment to: 'a specialised operations operator shall have declared its activity in accordance with Part-ORO and Part-SPO'.  The same text is proposed in the redrafted paragraph.</p>	

comment	<p>370 <span style="float: right;">comment by: DGAC France</span></p> <p><u>SPA.HOFO.120 Flight data monitoring (FDM) programme</u></p> <p>The guidance material and the alternative means of compliance referred to in this NPA are only applicable to aeroplanes and should be slightly revised to take due account of the fact that it also applies to helicopters.</p>
response	<p><i>Accepted</i></p> <p>Text will be rewritten as appropriate.</p>
comment	<p>371 <span style="float: right;">comment by: DGAC France</span></p> <p><u>SPA.HOFO.145 Performance requirements</u></p> <p>As stated in the comment regarding §28 of this NPA, performance classes is a notion that is attached to CAT operations only. Some SPO offshore operations will not be compatible with CAT performances requirements. In that perspective, full impact of such a provision has not be considered. SPA.HOFO.145 should only reflect that operators comply with performance requirements stemming from the Annex that is applicable to their type of operation.</p>
response	<p><i>Noted</i></p> <p>During discussions in the review group the commentator modified the comment to: 'Helicopters taking off and landing at offshore locations shall be operated in accordance with the requirements defined in Annex IV (Part-CAT), Subpart C, Section 2, Chapter 3 'Performance class 2''.</p> <p>The text will be proposed in the redrafted paragraph.</p>
comment	<p>372 <span style="float: right;">comment by: DGAC France</span></p> <p><u>SPA.HOFO.160 Vibration health monitoring system</u></p> <p>As expressed above DGAC France considers that the timeframes should be adapted (see answer to question 5), taken into account that for some types of helicopters no manufacturers retrofit SB nor STC exist today.</p>
response	<p><i>Noted</i></p> <p>Time frames, as agreed in the review group, are introduced.</p>
comment	<p>373 <span style="float: right;">comment by: DGAC France</span></p> <p><u>SPA.HOFO.165 Crew requirements</u></p> <p>This NPA was developed primarily focusing on North Sea operations while many AOC holders operate in other parts of the world. For these latter operators, the remoteness of the area of operation requires a specific organisation for which the requirements for recent experience detailed in this paragraph are not suitable. The majority of these operators have a turnover based on six weeks; thus it is considered that a recent experience requirement based on 90 days as for all the</p>

response	<p>other types of operation is a better option.</p> <p><i>Partially accepted</i></p> <p>The mentioned subsections 4 and 5 are substituted by a requirement for training and recent experience to be in accordance with Regulation (EU) No 1178/2011 Annex I, paragraph FCL.060. In addition, SPA.HOFO.165 requires the training or recent experience to be in an offshore environment.</p>
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**B. Draft Opinion and Decision – I. Draft Opinion for a Commission Regulation (EU) No .../... amending Commission Regulation (EU) No 965/2012 of 25 October 2012 – Amendments to Annex VI (Part-NCC)**

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comment	<p>21</p> <p style="text-align: right;">comment by: <i>Jan Loncke</i></p> <p>page 31 :</p> <p>(f) Amendments to Annex VI (Part-NCC)</p> <p>(1) Paragraph NCC.OP.152 Destination alternate aerodromes — helicopters, is amended as follows: Subparagraph (b)(3) is deleted.</p> <p>(2) Paragraph NCC.IDE.H.215 Emergency locator transmitter (ELT), is amended as follows: Subparagraph (b) is deleted.</p> <p>(3) Paragraph NCC.IDE.H.226 Crew survival suits, is amended as follows: Subparagraph (a) is deleted.</p> <p>Considering (f) (2) and the fact that subparagraph (b) is deleted, I believe that in that case subparagraph (c) of NCC.IDE.H.215 is to be renumbered to (b).</p>
response	<p><i>Accepted</i></p> <p>The comment is correct.</p>
comment	<p>48</p> <p style="text-align: right;">comment by: <i>CAA-NL</i></p> <p><b>Page 31 of 99, amendments to part NCC, (f)(1)</b></p> <p>We disagree with the deletion of NCC.OP.152 because when transferred to HOFO, it is only applicable to the newly defined Offshore operations. Now it's applicability is wider, also when flying to private yachts.</p>
response	<p><i>Noted</i></p> <p>The regulation under SPA.HOFO will also cover cruise vessels as defined in GM7 and GM8 to Annex I.</p>
comment	<p>49</p> <p style="text-align: right;">comment by: <i>CAA-NL</i></p> <p><b>Page 31 of 99, amendments to Part NCC, (f)(3)</b></p> <p>NCC.IDE.H.226 Subparagraph (b) will be added without prefix to the initial sentence.</p>
response	<p><i>Accepted</i></p> <p>The comment is correct.</p>

comment	50	comment by: CAA-NL
	<p><b>Page 31 of 99, amendments to part SPO, (g)(1)</b>          We disagree with the deletion of SPO.OP.151 because when transferred to HOFO, it is only applicable to the newly defined Offshore operations. Now it's applicability is wider, also when filming private yachts or similar operations.</p>	
response	<p><i>Noted</i></p> <p>The regulation under SPA.HOFO will also cover cruise vessels as defined in GM7 and GM8 to Annex I.</p>	
comment	51	comment by: CAA-NL
	<p><b>Page 31 of 99, amendments to Part SPO, (g)(2)</b>          SPO.IDE.H.198 Subparagraph (b) will be added without prefix to the initial sentence.</p>	
response	<p><i>Accepted</i></p> <p>The comment is correct.</p>	

**B. Draft Opinion and Decision – II. Draft Decision amending Decisions 2012/016/R, 2012/018/R and 2012/019/R of the Executive Director of the European Aviation Safety Agency of 24 and 25 October 2012 on air operations – Amendment of AMC/GM to Annex II, Part-ARO**

p. 32

comment	19	comment by: Jan Loncke
	<p>AMC3 ARO.OPS.200 Specific approval procedure          APPROVAL OF HELICOPTER OFFSHORE OPERATIONS          (a) Approval          When verifying compliance with the applicable requirements of Subpart K of Annex V to Part-SPA, the competent authority should verify prior to issuing an approval that:          (1) the hazard identification and risk mitigation process is in place;          I'd like to see another wording for "is in place".          The reason for this is that I've seen different operators claiming to have an SMS implemented, but without actually applying hazard identification and risk mitigation procedures in real life.          Therefore I would suggest to rephrase (1) as follows :          (1) the hazard identification and risk mitigation process is <del>in place</del> implemented and applied continuously;</p>	
response	<p><i>Not accepted</i></p> <p>An authority cannot verify prior to issuing an approval that a process is implemented and applied continuously. Hence the term 'in place' is considered correct.</p>	
comment	124	comment by: Norwegian Ministry of Transport and Communications
	<p>AMC3 ARO.OPS.200 (a)(1)          We support the NCAA that in order to improve clarity, the provision should also include a reference to the risk assessment which is also an essential part of the process. The wording should then be: " ..the hazard identification, <u>risk</u></p>	

	<p><u>assessment</u> and risk mitigation process is in place..”.</p> <p>AMC3 ARO.OPS.200 (a)(2)</p> <p>The Norwegian Ministry suggests that it is included, either in the AMC or in the GM, a more specific description on which operational procedures that should be established as a minimum. This would help both the operator and the competent authority to determine at which point during the approval process the necessary procedures is established.</p> <p>AMC3 ARO.OPS.200 (a)(3)</p> <p>The Norwegian Ministry believes that the phrase “appropriately equipped” is too vague. We suggest that a list of the equipment, which normally should be considered in this respect, is included in the AMC or in guidance material.</p>
response	<p><i>Partially accepted</i></p> <p>Comment to AMC3 ARO.OPS.200 (a)(1) is accepted. Text will be updated.</p> <p>Comments to AMC3 ARO.OPS.200(a)(2) and (3) are noted. The required equipment is that of OPS and possibly related airspace requirements. The operational procedures are those that govern the entire operation, including reflecting the regulatory requirements and the outcome of the operators risk assessment.</p>
comment	<p>161 <span style="float: right;">comment by: UK CAA</span></p> <p><b>Page No:</b> 32  <b>Paragraph No:</b> AMC3 ARO.OPS.200(a)(4)  <b>Comment:</b> Textual amendment.  <b>Justification:</b> Accuracy.  <b>Proposed Text:</b> “(4) flight crew involved in these operations is <b>are</b> trained ...”</p>
response	<p><i>Accepted</i></p> <p>Grammar will be corrected.</p>
comment	<p>162 <span style="float: right;">comment by: UK CAA</span></p> <p><b>Page No:</b> 32  <b>Paragraph No:</b> GM1 ARO.OPS.200  <b>Comment:</b> The approval for flight without an assured safe forced landing capability is only relevant to CAT operations. CAT operators may already have such an approval and anyway the approval is based on types of helicopters and operations and not given as a blanket approval to the operator. This section should be deleted as it is addressed in Part-CAT.  Delete GM1 ARO.OPS.200.  <b>Justification:</b> Appropriateness and clarity.</p>
response	<p><i>Accepted</i></p> <p>The comment is coherent to the comment from another NAA. The GM will be deleted.</p>
comment	<p>237 <span style="float: right;">comment by: Civil Aviation Authority of Norway</span></p> <p>Comment on AMC3 ARO.OPS.200 (a)(1):  In order to improve clarity, the provision should also include a reference to the risk assessment which is also an essential part of the process. The wording should</p>

response	<p>then be: "...the hazard identification, <u>risk assessment</u> and risk treatment process is in place..".</p> <p><i>Accepted</i></p> <p>Text will be updated.</p>
comment	<p>238 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on AMC3.ARO.OPS.200(a)(2):  The NCAA believes that there should be described which areas the operational procedures should cover as a minimum. This could possibly be listed in the AMC. This would help both the operator and the competent authority to determine at which point during the approval process is the necessary procedures is established.</p> <p>To be considered eligible for an SPA HOFO the operator needs to submit at least the following procedures for approval:</p> <ul style="list-style-type: none"> <li>• IFR operations</li> <li>• Low Visibility Operations</li> <li>• RNP Operations</li> <li>• Operations to helidecks day and night</li> <li>• Operations to moving helidecks day and night (Class A)</li> <li>• Operations to helidecks on ships day and night (Class B)</li> <li>• Operations to Normally unmanned installations</li> <li>• Operations with an approval for exposure time</li> <li>• Authorisation process for helidecks</li> <li>• Authorised helidecks published as part OM part C</li> <li>• Rotors running refuelling on-/offshore</li> <li>• Airborne Radar Approach</li> <li>• Flight in icing conditions</li> <li>• Medevac</li> <li>• Offshore shuttling</li> <li>• Dangerous goods</li> <li>• Normal, abnormal and emergency procedures tailored to offshore operations</li> <li>• High wind procedures</li> <li>• Training material and procedures to address offshore specific issues, at least access to a simulator capable of all-weather day/night: <ul style="list-style-type: none"> <li>○ Helideck operations</li> <li>○ Exposure time ops</li> <li>○ Moving helidecks</li> <li>○ Operations to any relevant onshore airport/heliport</li> </ul> </li> </ul> <p>This proposed list is not intended to be 100% correct, complete and final, but an indication of the minimum competence an operator should possess to be eligible for an HOFO approval.</p>
response	<p><i>Noted</i></p> <p>The proposed text is not relevant for a number of operators due to the different operating scenarios. Moreover, there is no individual approval of procedures. In order to obtain an SPA approval, the competent authority must be satisfied with the helicopter, the crew, the management of the operation and all related operational procedures in the OM. It is not possible to have an exhaustive list of such procedures.</p>

comment	<p>239 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on AMC3:ARO.OPS.200(a)(3): To be considered eligible for an SPA HOFO the operator needs to have at its disposal the following aircraft and equipment:</p> <ul style="list-style-type: none"> <li>• Adequate number of helicopters with suitable performance and range</li> <li>• IFR certified (?to at least CAT I)</li> <li>• ADF</li> <li>• GPS</li> <li>• Weather radar</li> <li>• Rad alt with analogue display and audio/voice warning</li> <li>• TCAS II</li> <li>• EGPWS</li> <li>• De-icing</li> <li>• VHM (HUMS)</li> <li>• FDR with quick access recorder</li> <li>• ADELTA/ELT</li> <li>• ...</li> </ul> <p>This proposed list is not intended to be 100% correct, complete and final, but an indication of the minimum equipment required for an operator to be eligible for an HOFO approval.</p>
response	<p><i>Noted</i></p> <p>The proposed text is not relevant for a number of operators due to the different operating scenarios. This list could be part of the NAA procedure and checklist on SPA HOFO approvals.</p>
comment	<p>266 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on GM1 ARO.OPS.200: The text here seems to open up a «blanco» authorisation for operators to operate without an assured forced landing capability. Considering the history of this topic, when the authorities' intention was to end all such operations by 2010, it should not now revert to "the old days". Operations can today be performed with a minimum of exposure, chiefly related to the obstacle environment and unfavourable environmental conditions on the day. This is adequately addressed in CAT.POL.H.305 f.f. This GM should be deleted.</p>
response	<p><i>Accepted</i></p> <p>The comment is coherent to the comment from another NAA. The GM will be deleted.</p>

<p><b>B. Draft Opinion and Decision – II. Draft Decision amending Decisions 2012/016/R, 2012/018/R and 2012/019/R of the Executive Director of the European Aviation Safety Agency of 24 and 25 October 2012 on air operations – Amendment of AMC and GM to Annex IV Part-CAT 25</b></p>	p. 32-34
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comment	<p>7 <span style="float: right;">comment by: <i>Jan Loncke</i></span></p> <p>There is a typo or editing mistake on page 33 : "(10) A new GM1 CAT.IDE.H.145 is added as follows : <b>AMC3 CAT.IDE.H.145 Radio altimeters"</b></p>
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	<p>Considering the text of the Explanatory Note point 34, it is meant to be Guidance Material, therefore  <b>AMC3</b> should be replaced by <b>GM1</b>; it should be :          "(10) A new GM1 CAT.IDE.H.145 is added as follows :  <b>GM1 CAT.IDE.H.145 Radio altimeters"</b></p>
response	<p>Accepted</p> <p>Text will be updated.</p>
comment	<p>52 <span style="float: right;">comment by: CAA-NL</span></p> <p><b>Page 32 of 99, deletion of AMC/GM to Part CAT.</b>          Related to the earlier remarks to keep various paragraphs, the related AMC/GM should then also be retained.</p>
response	<p>Not accepted</p> <p>See the associated responses to these comments.</p>
comment	<p>85 <span style="float: right;">comment by: EUROCOPTER</span></p> <p><u>Comment to AMC3 CAT.IDE.H.145:</u> this paragraph is introduced by "A new GM1 CAT.IDE.H.145 is added as follows:". Moreover, at page 13, item n° 34, it is written "Parts of CAP 562 are included in a new GM."          Consequently Eurocopter comment is <b>to replace "AMC3 CAT.IDE.H.145" by "GM1 CAT.IDE.H.145"</b>.</p>
response	<p>Accepted</p> <p>Text will be updated.</p>
comment	<p>86 <span style="float: right;">comment by: EUROCOPTER</span></p> <p><u>Comment on AMC1 CAT.POL.H.310(c)(2) Take-off &amp; CAT.POL.H.325(c)(2) Landing:</u>          Eurocopter agrees with the general intent of this new proposed AMC, but proposes a wording modification to § (a)(2). Indeed:          1) § (a)(1) has to be kept as it is because it reflects what is currently written in EASA-OPS Part CAT, GM to Section 2, Chapter 3 Performance Class 2, § (g)(4)(ii) ("Additional requirements for operations to helidecks in a hostile environment") which:          - concludes that the risk of collision with the deck edge can only be minimised because they are many factors that prevent using prescriptive deck edge margins requirements (Extract from GM to Section 2, Chapter 3 Performance Class 2: "There are however, other and more complex issues which will also affect the deck-edge clearance and drop down calculations: when operating to moving decks on vessels, a recommended landing or take-off profile might not be possible because the helicopter might have to hover alongside in order that the rise and fall of the ship is mentally mapped; or, on take-off re-landing in the case of an engine failure might not be an option. Under these circumstances the Commander might adjust the profiles to address a hazard more serious or more likely than that presented by an engine failure. It is because of these and other (unforeseen) circumstances that a prescriptive requirement is not used."          - recommends that the take-off and landing procedures have to take into account the risk of collision with obstacles on the helideck (Extract from GM to Section 2,</p>

Chapter 3 Performance Class 2: "As accident/incident history indicates that the main hazard is collision with obstacles on the helideck due to human error, simple and reproducible take-off and landing procedures are recommended.")

2) Eurocopter proposes the following modifications in the wording of § (a)(2):

(2) use Aircraft Flight Manual planning data ~~that show to determine, for given take-off and landing masses, the exposure time regarding deck edge and water surface and the associated risk calculation evaluation which take into account drop-down and take-off deck edge miss~~, in varying conditions of pressure altitude, temperature, ~~and wind and drop down~~.

Rationale for the proposal: in accordance with (a)(1) the requirement is not to ensure deck-edge miss but to minimise the risk of collision with the deck edge. Because this minimisation is associated to an exposure time, it should be possible for the operator to know, for a given take-off or landing mass, the associated time exposure and risk.

response *Partially accepted*

The paragraph is changed based on this and other comments to: 'use Aircraft Flight Manual planning data, or where such data is not available, alternatives demonstrated to the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.'

comment 88

comment by: Jan Loncke

SPA.HOFO.145

**GM1 ARO.OPS.200**

**AMC1 CAT.POL.H.305(a)**

**AMC1 CAT.POL.H.310(c)(2) & CAT.POL.H.325(c)(2)**

See my comment 78, made on SPA.HOFO.145.

response *Noted*

See response to your comment no 78.

comment 163

comment by: UK CAA

**Page No: 33**

**Paragraph No: (10) AMC3 CAT.IDE.H.145**

**Comment:** There is slight confusion at this section as a GM1 is mentioned but AMC3 is detailed. In fact there is also an omission here.

From the original drafted text by the RMT, it was intended to include an AMC and GM for Radio Altimeters required under CAT.IDE.H.145. The AMC was to reflect the "audio warning" requirement of the regulation and state that this should be a 'voice warning'. The GM, as described in this NPA, was to provide suitable guidance on voice warnings as learned from previous experience.

It is recommended that a new AMC3 be included as shown and the drafted AMC3 be changed to GM.

**Justification:** Achievement of intent and correction of inaccuracies.

**Proposed Text:** (10) A new AMC3 CAT.IDE.H.145 is added as follows:

**"AMC3 CAT.IDE.H.145 Radio Altimeters**

**AUDIO WARNING**

*The audio warning required in CAT.IDE.H.145 should be a voice warning.*

(11) A new GM1 CAT.IDE.H.145 is added as follows:

**GM1 CAT.IDE.H.145 Radio Altimeters**

**AUDIO VOICE ALERTING DEVICE**

	(a)...” (insert text shown on pages 33 and 34)
response	Accepted AMC3 will be included.
comment	199 <span style="float: right;">comment by: <i>Tim Glasspool</i></span> AMC1 CAT.POL.H.310(c)(2) Take off and CAT.POL.H.325(c)(2) Landing Factors (a)(2) is too limiting. Please replace "Aircraft Flight Manual planning data" with "approved planning data" in order to allow the use of OEM EFB data or applications.
response	Accepted The paragraph is changed based on this and other comments to: 'use Aircraft Flight Manual planning data, or where such data is not available, alternatives demonstrated to the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.'
comment	200 <span style="float: right;">comment by: <i>Tim Glasspool</i></span> AMC2 CAT.IDE.H.145 Radio Altimeters Radio Altimeter Display Clarification required, does analogue include both dial and strip presentations of radalt data?
response	Noted Text will be updated to include both dial and strip.
comment	240 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span> Comment on AMC1 CAT.POL.H.305(a): The meaning of this AMC is unclear and it needs to be clarified.
response	Noted Similar comments are not received, and the non-clarity is not seen by the Agency. The content basically indicates that 'the map should picture the terrain'. The Agency would, however, welcome a clarifying text proposal.
comment	241 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span> Comment on AMC1 CAT.POL.H.310(c)(2) and 325(c)(2): It is the probability of collision that needs to be addressed and it needs to take into consideration the actual obstacle environment and conditions. (a)(1) should be changed to read: "use take-off and landing procedures that are appropriate to the circumstances, and that minimise the probability of collision with obstacles and the deck edge, at the individual landing site and under the prevailing conditions;"
response	Accepted The text will be updated, however, 'probability' is substituted by 'risk'.

comment	<p>254 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span></p> <p><b>AMC2 CAT.IDE.H.145 Radio Altimeters</b>  <b>RADIO ALTIMETER DISPLAY</b>  The height display should include an analogue presentation and not solely a digital presentation.</p> <p>Comment EHA:</p> <ol style="list-style-type: none"> <li>1. Suggest to delete the whole AMC.</li> <li>2. What is the definition of an analogue presentation? What is the definition of a digital presentation?</li> <li>3. Operational rules should not contain specific equipment display requirements → should covered in an ETSO?</li> <li>4. If the intention of the rule that any “indicator” is acceptable (round or strip) but reliance on a digital (number only) readout is not, then this should be better worded in the AMC. In the present format it only creates confusion.</li> </ol>
response	<p><i>Noted</i></p> <p>The first and last comments are opposing each other.</p> <ol style="list-style-type: none"> <li>1) Not accepted as there is no justification given for deletion of the AMC.</li> <li>2) Consider a watch. With hands it is analogue, with numbers it is digital.</li> <li>3) Partially accepted, however, AMC may contain technical specifications as well.</li> <li>4) Partly supported. The text in the AMC will be updated to better explain what is considered an analogue presentation to avoid confusion.</li> </ol>
comment	<p>255 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span></p> <p><b>AMC1 CAT.POL.H.310(c)(2) Take-off &amp; CAT.POL.H.325(c)(2) Landing</b>  <b>FACTORS</b>  (a) To ensure that the necessary factors are taken into account, the operator should:  .....  (2) use Aircraft Flight Manual planning data that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.  (b) Replanning of offshore location take-off or landing masses during the flight is acceptable, subject to procedures being established in the operations manual. These procedures should be simple and safe to carry out, with no significant increase in crew workload during critical phases of flight.</p> <p>Comment EHA:  Item (2) should be amended as follows:  (2) use approved Aircraft Flight Manual planning data that...  This to allow the use of EFB data and OEM performance apps.  Item (b) to be rewritten as it should be allowed to use easy access apps on the EFB for this as well.</p>
response	<p><i>Accepted</i></p> <p>The paragraph is changed based on this and other comments to: `use Aircraft</p>

Flight Manual planning data, or where such data is not available, alternatives demonstrated to the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.'

comment

290

comment by: *Heli-Union***Page No : 33****Paragraph No : AMC1 CAT.POL.H.310(c)(2) Take-off & CAT.POL.H.325(c)(2) Landing FACTORS**

(a) To ensure that the necessary factors are taken into account, the operator should:

...

(2) use Aircraft Flight Manual planning data that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.

**Comment :**

As such Aircraft Flight Manual planning data are not available for all helicopter types currently operated in offshore operations, we suggest to add last § of GM1 CAT.POL.H.310(c) CAT.POL.H.325(c) Take-off & Landing (b) (1).

**Proposed text : AMC1 CAT.POL.H.310(c)(2) Take-off & CAT.POL.H.325(c)(2) Landing FACTORS**

(a) To ensure that the necessary factors are taken into account, the operator should:

...

(2) use Aircraft Flight Manual planning data that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.

**(For helicopter types no longer supported by the manufacturer, data may be established by the operator, provided they are acceptable to the competent authority.)**

response

*Accepted*

The paragraph is changed based on this and other comments to: 'use Aircraft Flight Manual planning data, or where such data is not available, alternatives demonstrated to the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.'

comment

318

comment by: *CHC Helicopter***AMC2 CAT.IDE.H.145 Radio Altimeters  
RADIO ALTIMETER DISPLAY**

The height display should include an analogue presentation and not solely a digital presentation.

**Comments on behalf of:**

1. **CHC Helicopters Netherlands**

	<ol style="list-style-type: none"> <li>2. <b><u>CHC Scotia</u></b></li> <li>3. <b><u>CHC Ireland</u></b></li> </ol> <ol style="list-style-type: none"> <li>1. Suggest to delete the whole AMC.</li> <li>2. What is the definition of an analogue presentation? What is the definition of a digital presentation?</li> <li>3. Operational rules should not contain specific equipment display requirements → should covered in an ETSO?</li> <li>4. If the intention of the rule that any "indicator" is acceptable (round or strip) but reliance on a digital (number only) readout is not, then this should be better worded in the AMC. In the present format it only creates confusion.</li> </ol>
response	<p><i>Noted</i></p> <p>The first and last comments are opposing each other.</p> <ol style="list-style-type: none"> <li>1) Not accepted as there is no justification given for deletion of the AMC.</li> <li>2) Consider a watch. With hands it is analogue, with numbers it is digital.</li> <li>3) Partially accepted, however, AMC may contain technical specifications as well.</li> <li>4) Partly supported. The text in the AMC will be updated to better explain what is considered an analogue presentation to avoid confusion</li> </ol>
comment	<p>319 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p><b>AMC1 CAT.POL.H.310(c)(2) Take-off &amp; CAT.POL.H.325(c)(2) Landing FACTORS</b></p> <p>(a) To ensure that the necessary factors are taken into account, the operator should:</p> <p>.....</p> <p>(2) use Aircraft Flight Manual planning data that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.</p> <p>(b) Replanning of offshore location take-off or landing masses during the flight is acceptable, subject to procedures being established in the operations manual. These procedures should be simple and safe to carry out, with no significant increase in crew workload during critical phases of flight.</p> <p><b><u>Comments on behalf of:</u></b></p> <ol style="list-style-type: none"> <li>1. <b><u>CHC Helicopters Netherlands</u></b></li> <li>2. <b><u>CHC Scotia</u></b></li> <li>3. <b><u>CHC Ireland</u></b></li> </ol> <p>Item (2) should be amended as follows:  (2) use approved Aircraft Flight Manual planning data that...</p> <p>This to allow the use of EFB data and OEM performance apps.</p> <p>Item (b) to be rewritten as it should be allowed to use easy access apps on the EFB for this as well.</p>
response	<p><i>Partially accepted</i></p> <p>The paragraph is changed based on this and other comments to: `use Aircraft</p>

Flight Manual planning data, or where such data is not available, alternatives demonstrated to the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.'

comment 326 comment by: *British International Helicopters*

1. AMC2 CAT.IDE.H145 Radio Altimeters  
Suggest to delete the whole AMC:  
2. What is the definition of an analogue presentation? What is the definition of a digital presentation?  
3. Operational rules should not contain specific equipment display requirements. This should be covered in ETSO  
If the intention of the rule that any "indicator" is acceptable (round or strip) but reliance on a digital (number only) readout is not, then this should be better worded in the AMC. In the present format it only creates confusion.

response *Noted*

The first and last comments are opposing each other.

1) Not accepted as there is no justification given for deletion of the AMC.

2) Consider a watch. With hands it is analogue, with numbers it is digital.

3) Partially accepted, however, AMC may contain technical specifications as well.

The last comment is partly supported and the text in the AMC will be updated to better explain what is considered an analogue presentation to avoid confusion

comment 327 comment by: *British International Helicopters*

AMC1 CAT.POL.H.310(c)2 and 325(c)(2)  
Text should be amended to 'approved' planning data rather than ~~Aircraft Flight Manual~~ planning data.

response *Partially accepted*

It is considered that this copied text refers to paragraph (a)(2) in the quoted AMC.

The paragraph is changed based on this and other comments to: 'use Aircraft Flight Manual planning data, or where such data is not available, alternatives demonstrated to the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.'

comment 374 comment by: *DGAC France*

AMC1 CAT.POL.H.310(c)(2) & CAT.POL.H.325(c)(2)

The Aircraft Flight Manual planning data, as required in item (2), are not available for all helicopters currently operated in offshore operations.

GM1 CAT.H.310(c)&CAT.POL.H.325(c), paragraph (b) Performance, considers the case where helicopter types are no longer supported by the manufacturer by allowing the operator to establish his own data provided they are acceptable to the competent authority. This Guidance Material should be amended to cover the case where no aircraft flight manual planning data is available for the helicopter

response	<p>operated.</p> <p><i>Accepted</i></p> <p>The paragraph is changed based on this and other comments to: 'use Aircraft Flight Manual planning data, or where such data is not available, alternatives demonstrated to the competent authority, that show take-off and landing masses which take into account drop-down and take-off deck edge miss, in varying conditions of pressure altitude, temperature, and wind.'</p>
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<p><b>B. Draft Opinion and Decision – II. Draft Decision amending Decisions 2012/016/R, 2012/018/R and 2012/019/R of the Executive Director of the European Aviation Safety Agency of 24 and 25 October 2012 on air operations – New AMC and GM to Annex V Part-SPA, Subpart K, is added</b></p>	p. 35-53
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comment	<p>9 <span style="float: right;">comment by: Jan Loncke</span></p> <p>On page 43 of the NPA, in the proposed text of "<b>AMC2 SPA.HOFO.115 Selection of aerodromes and operating sites</b> (d) Actions at point of no return", a typo or editing mistake slipped in. The text is : "Before passing the point of no return, this should not be more than 30 minutes from the destination, ..." The text should be corrected as follows : "Before passing the point of no return, this should not be more than 30 minutes from the destination, ..."</p>
response	<p><i>Accepted</i></p> <p>Wrong spelling will be corrected.</p>
comment	<p>14 <span style="float: right;">comment by: Jan Loncke</span></p> <p>Page 40 <b>GM1 SPA.HOFO.110 Use of offshore locations</b> Helideck Template I suggest to amend the VHF-frequencies in the COM-box &amp; ATIS-box, with 3 figures behind the decimal point. Typo (editing mistake) in the NAV-box : NBD should be replaced by NDB.</p>
response	<p><i>Accepted</i></p> <p>Will be corrected.</p>
comment	<p>22 <span style="float: right;">comment by: Jan Loncke</span></p> <p>typo (editing mistake) on page 53 in : II. Draft Decision amending Decisions 2012/016/R, 2012/018/R and 2012/019/R of the Executive Director of the European Aviation Safety Agency of 24 and 25 October 2012 on air operations (d) Amendment of AMC/GM to Annex VI, Part-NCO AMC1 NCC.OP.152 Destination alternate aerodromes — helicopter, is deleted. AMC1 NCC.IDE.H.231 Additional requirements for helicopters conducting offshore operations in a hostile sea area, is deleted. I believe it was meant to be NCC in stead of NCO : (d) Amendment of AMC/GM to Annex VI, Part-NCO NCC</p>

response	<p><i>Accepted</i></p> <p>Text will be corrected.</p>
comment	<p>24 <span style="float: right;">comment by: <i>Jan Loncke</i></span></p> <p><b>AMC1.SPA.HOFO.165 Crew requirements (e) Recency</b></p> <p>For certain operations, e.g. multi-crew operations during sea-pilot transfer including decklanding or HHO, over moving vessels, I oppose to the proposed text that recency may be re-established on training flights, using a full flight simulator. In SPA.HHO.130 Crew requirements for HHO (d) Recency, it mentions the required recency. In that paragraph it doesn't mention the use of a FFS. I hope that the text in AMC1.SPA.HOFO.165(e) does not allow to regain recency in sea-pilot transfer operations, HHO or decklandings on (moving) vessels, in a full flight sim, for obvious reasons such as e.g. the interaction pilot(s)/HHO-crew member, limited helideck infrastructure on vessels in comparison to fixed structures, etc.</p> <p>Therefore I suggest to change the text in AMC1.SPA.HOFO.165(e) as follows :  "(e) Recency may be re-established on training flights in the helicopter or in a full flight simulator, except that it should be in actual flight, not a full flight simulator, for HHO and deck landings on vessels under way where a HHO crew member is actively involved in the HHO operation or in the deck landing procedure. Recency requirements for HHO expressed in SPA.HHO.130(d) remain valid."</p>
response	<p><i>Partially accepted</i></p> <p>The training requirements in SPA.HOFO.165 will be harmonised with Regulation (EU) No 1178/2011, Annex I (Part-FCL) paragraph FCL.060. This also affects AMC1 SPA.HOFO.165. Item (e) is deleted as it is already covered by the above paragraph.</p> <p>There are, however, no 'shortcuts' between the training requirements for HOFO and HHO.</p> <p>SPA.HHO.130(d) is therefore valid.</p>
comment	<p>27 <span style="float: right;">comment by: <i>Jan Loncke</i></span></p> <p><b>GM SPA.HOFO.125 Flight following system</b></p> <p>I'd like to see the provision of additional guidance material elaborating on how a flight following system when it is based on satellite tracking or ADS-B tracking, should be implemented and used. (In this comment I do not include flight following done by ATC, since I have confidence in the procedures applied by the relevant ATS providers such as Anglia Radar, Aberdeen Radar, Sumburgh Radar, Amsterdam Information etc., in the North sea)</p> <p>Therefore, I'd like to suggest 2 additional guidance material paragraphs explaining :</p> <ol style="list-style-type: none"> <li>1. How the monitoring or follow up of the flight following system should be done by an OCC or any other suitable body (person/service/department)</li> <li>2. How the flight following system (produced data, results, notifications, alarms) should be integrated in the operators emergency response plan (incl. its procedures) and (where that is the case) the emergency response plan of the customer if both are intertwined (which usually is the case with the offshore oil &amp; gas companies)</li> </ol> <p>both, taking in consideration that the flight following system should be appropriate, in proportion to the operations (e.g. total amount of helicopters simultaneously in operation) being performed by the operator.</p> <p>Argumentation for this is that I have seen an operator (outside of Europe) <i>'having</i></p>

available"\* (on the clients request) a flight following system based on satellite tracking, where the person to whom the task was assigned of monitoring the system was not trained on what to do in case e.g. a crew in flight activated the "Quick Position" (mayday) button or where for example an unexpected deviation of course or altitude would have passed unnoticed.

The strength of a flight following system does not lie in the technological performance of the system as such, but in the way the information made available by the technological system is being conscientiously monitored, treated, processed, followed up and used by humans.

1. \*see also my comment on the specific wording used in SPA.HOFO.125

In this context I'd like to refer to a recent article by Alberto Iovino in HindSight n° 17, a Eurocontrol publication, illustrating my point.

Quote :

*"The consequences of implementing a new operational procedure but not properly applying it are in the end not much different from those of buying a new piece of equipment and not getting it to work. Whatever effort lays behind them, however relatively big or small the quantity of intrinsically scarce resources involved, they are wasted twice, both because they did not yield the intended results and because they might have been used for something else."*

response

Accepted

SPA.HOFO.125 is changed approximately as suggested in your associated comment.

Furthermore, SPA.HOFO.125 requires use of a flight following at all times during a flight. AMC1 states that the flight following system should provide sufficient and timely information to track the aircraft in flight so that any deviation or anomaly from the planned flight path may be detected as early as possible, identify abnormal flight behaviour and provide alert. Note also that the text 'The system being used should be compatible with systems used by ATC' is added to the GM1. The operator is responsible for his operations and must in relation to the management system (ORO.GEN.200) define implementation and monitoring of the system.

The suggestions proposed to GM1, *'the flight following system should be appropriate, in proportion to the operations (e.g. total amount of helicopters simultaneously in operation) being performed by the operator'* is thereby covered.

comment

30

comment by: Jan Loncke

**AMC1 SPA.HOFO.130 & GM1 SPA.HOFO.130**

See also my comments on

**SPA.HOFO.130(b) & SPA.HOFO.130(e)**

where I propose additional AMC/GM.

response

Noted

See response to the mentioned comments.

comment

32

comment by: Jan Loncke

page 35

**AMC1 SPA.HOFO.100(c) Helicopter offshore operations**

RISK ASSESSMENT (b)

I suggest to add a couple more items as mitigating measures :

	<p>(6) additional training  (7) adopt maximum limits of movement (pitch, roll, heave) for non-fixed offshore structures : floating offshore structures or vessels.</p>
response	<p><i>Accepted</i></p> <p>SPA.HOFO.100 will be changed, and the original item (c) will be deleted based on other comments.  However, SPA.HOFO.105(a) includes mitigating measures, and the proposed text is included here and in the associated AMC.</p>
comment	<p>33 <span style="float: right;">comment by: Jan Loncke</span></p> <p>page 44  <b>GM1 SPA.HOFO.120 Flight data monitoring (FDM) programme</b>  refers for further guidance to AMC1, GM1 &amp; GM2 ORO.AOC.130.  Just to remark that these AMC &amp; GM are about FDM programmes for aeroplanes as is ORO.AOC.130.  Therefore I suggest to delete the word "aeroplanes" where it is mentioned in AMC1, GM1 &amp; GM2 ORO.AOC.130. I agree with the proposal to make the general FDM principles of these texts also applicable to helicopters in offshore operations, but this leaves the text in the AMC/GM on ORO.AOC.130 on some points (details e.g. "low buffet margin above 20.000 ft, flap/slat altitude exceedance, ...) not really relevant for helicopters, since only applicable to aeroplanes.</p>
response	<p><i>Accepted</i></p> <p>Will be updated.</p>
comment	<p>53 <span style="float: right;">comment by: CAA-NL</span></p> <p><b>Page 53 of 99, deletion of AMC/GM to Part NCC/SPO.</b>  Related to the earlier remarks to keep various paragraphs, the related AMC/GM should then also be retained.</p>
response	<p><i>Not accepted</i></p> <p>See associated response to these comments.</p>
comment	<p>84 <span style="float: right;">comment by: EUROCOPTER</span></p> <p><u>Comment on GM1 SPA.HOFO.130:</u>  The mentioned AMC1, GM1 and GM2 ORO.AOC.130 titles mention applicability for aeroplanes only. Either the word 'aeroplanes' has to be removed from the titles or new AMC2, GM3 and GM4 ORO.AOC.130 have to be developed for applicability to helicopters only.</p>
response	<p><i>Accepted</i></p> <p>The Agency is under the impression that the comment is intended for GM1 SPA.HOFO.120.</p> <p>The text related to this GM will be rewritten as appropriate.</p>

comment	<p>106 <span style="float: right;">comment by: <i>NHAF Technical committee</i></span></p> <p>Page 44: AMC SPA.HOFO.125 Flight following system See SPA.HOFO.125 comment and delete bulletpoint (a)</p> <p style="text-align: center;">Page 51:</p> <p>AMC1 SPA.HOFO.160 (d) Minimum standard for training should be Part-66 AML including type rating on A/C type. Maintenance personell should be trained in use of VHM system, and approved by Part-145 organization to perform VHM monitoring. VHM check and monitoring should be classified as maintenance requiring CRS. Justification: Recent accidents in UK, with EC225 bevel gear breakdown, shows importance of monitoring of VHM data. This should therefore be considered as a critical task for further operations.</p>
response	<p><i>Noted</i></p> <p>The comment to page 44 is not understood.</p> <p>The comments to page 51 are valid for an operator's technical department, but they cannot be included in operational regulations.</p>
comment	<p>114 <span style="float: right;">comment by: <i>CHC Helikopter Service, Norway</i></span></p> <p>AMC1 SPA.HOFO.115 Coastal Aerodrome The use of Coastal Aerodromes requires descend to low level, and a VMC transition to the aerodrome. This may be involve some risk to do this in Norway during the winter time (in periods of darkness and snowshowers). The regulations in the BSL D 2-2 ensures that planning can be done safely using the criteria established. There is significant experience using the planning criteria. It is therefore strongly recommended to apply these criteria in this regulation. BSL D 2-2 (Norwegian text).</p> <p>6.2 For IFR-flyging skal det medføres tilstrekkelig drivstoff til at helikoptre kan:</p> <p>a) Fullføre flygingen til bestemmelsesstedet</p> <p>b) Fly fra bestemmelsesstedet til den alternative landingsplass</p> <p>c) Fly deretter i 30 minutter med normal marsjhastighet.</p> <p>Krav til alternativ landingsplass under 6.2 b) kan frafalles for flyging under 3 timers varighet, hvis værvarslet for bestemmelsesstedet i minst en time før og en time etter den antatte ankomsttid viser at:</p> <p>a) Skydekkehøyden vil være minst 700 fot over den OCL som er angitt for vedkommende instrumentinnflygingsprosedyre, eller 1000 fot over plassens høyde over havet, hvorav høyeste verdi gjelder.</p> <p>b) Sikten er varslet til å være minst 2500 m.</p> <p><b>GM1 SPA.HOFO.125 Flight following system</b> A flight following system may consist of one of the following items: (a) satellite tracking; (b) ATC tracking and information; or</p>



changed to accommodate the different procedures in the different MS.  
 AMC1 SPA.HOFO.110(e)(9)(i): (The comment is believed to be for .110(e)(9)(ii))  
 The CAA-N is actually proposing that *'The provision should refer to wind recording displaying mean wind.'* This is accepted and included together with other comments.  
 AMC1 SPA.HOFO.110(e)(9)(iii): The comment is not supported for this IR as helidecks are not regulated. 'Where applicable' therefore relates to when such equipment is required by other agencies or by contracts.  
 AMC2 SPA.HOFO.115(e): The suggestion in the comment actually indicates use of two alternates, one offshore and one onshore. This is not the intention behind the regulation. However, item (e) will be deleted, and in the way SPA.HOFO.115(b) is written, offshore shuttle cannot use offshore alternate.  
 GM1 SPA.HOFO.130(d): The support to CAA-N is noted.  
 AMC1 SPA.HOFO.165(d): The comment is supported as it will be included as the training requirements in SPA.HOFO.165 will be harmonised with Regulation (EU) No 1178/2011, Annex I (Part-FCL) paragraph FCL.060, related to offshore environment. The comment is therefore not included (repeated) in AMC1 SPA.HOFO.165

comment	164	comment by: UK CAA
	<p><b>Page No:</b> 35  <b>Paragraph No:</b> AMC1 SPA.HOFO.100(c) Helicopter offshore operations  <b>Comment:</b> Paragraph (a)(1), amend text as shown for clarity and accuracy.  <b>Justification:</b> Clarity and accuracy.  <b>Proposed Text:</b> "RISK ASSESSMENT          (a) The operator's risk assessment should include, but not be limited to, the following hazards:          (1) collision with <del>windmills</del> <b>wind turbines</b>;"</p>	
response	<p>Accepted          Text will be corrected.</p>	
comment	165	comment by: UK CAA
	<p><b>Page No:</b> 36  <b>Paragraph No:</b> AMC1 SPA.HOFO.110 Use of offshore locations  <b>Comment:</b> It is considered that there would be merit in including some guidance material to accompany this transposed AMC as provided for within the UK CAA publication CAP 437 Standards for Offshore Helicopter Landing Areas. This publication has become an accepted world-wide source of reference for helideck operations and provides advice on 'best practice' obtained from many aviation sources.          It is recommended that a GM be added as shown.  <b>Justification:</b> Additional information of operators.  <b>Proposed Text:</b> Add after AMC1 SPA.HOFO.110  <b>"GM1 SPA.HOFO.110 Use of offshore locations</b>          General          Operators should utilise available international guidance material provided for operations to offshore locations such as that contained in UK CAP 437 'Standards for Offshore Helicopter Landing Areas'."</p>	
response	<p>Accepted          GM2 will be included.</p>	

comment	166	comment by: UK CAA
	<p><b>Page No:</b> 41  <b>Paragraph No:</b> AMC1 SPA.HOFO.115(b)(3) Selection of aerodromes and operating sites  <b>Comment:</b> The UK CAA has been concerned about the clarity of intent with regards what constitutes a "coastal aerodrome"; in other words when is a coastal aerodrome on the coast? This NPA provides an opportunity to clarify the position by amending this AMC with suitable criteria to bound the applicability of this alleviation which allows flight from offshore without an alternate.  The text at (b)(3)(i) is quite loose and can be interpreted widely. Suggested text is shown to provide a limit to this interpretation.  <b>Justification:</b> Clarity and firmer interpretation.  <b>Proposed Text:</b> "(3) where the destination coastal aerodrome is not directly on the coast it should be:  (i) within a distance that, with the fuel specified in (b)(2), the helicopter can, at any time after crossing the coastline, return to the coast, descend safely and carry out a visual approach and landing with VFR fuel reserves intact, <b>but in any case no more than 5 NM from the coastline</b>; and"</p>	
response	<p>Accepted</p> <p>Text will be included.</p>	
comment	167	comment by: UK CAA
	<p><b>Page No:</b> 44  <b>Paragraph No:</b> GM1 SPA.HOFO.120 FDM  <b>Comment:</b> The link to Flight Data Monitoring in AMC/GM for ORO.AOC.130 is noted but it might be a good opportunity for helicopter specific FDM procedures to be developed for the expected increased and wider use of these principles in the future.  In addition, (and as demonstrated in GM1 SPA.HOFO.160 VHM), examples of where other guidance material can be found such as, in this case, CAP 739 FDM, could be added to the text.  <b>Justification:</b> Relevance and applicability.</p>	
response	<p>Noted</p> <p>CAP 739 is already introduced in GM2 ORO.AOC.130.</p>	
comment	168	comment by: UK CAA
	<p><b>Page No:</b> 45  <b>Paragraph No:</b> AMC1 SPA.HOFO.130(c) &amp; (d) ARAs  <b>Comment:</b> Correction to spelling of minimum descent altitude/height .  <b>Justification:</b> Accuracy.  <b>Proposed Text:</b> Amend "descend" to '<b>descent</b>' in sub-paragraphs (c) and (d).</p>	
response	<p>Accepted</p> <p>Text will be corrected.</p>	

comment	169	comment by: UK CAA
	<p><b>Page No:</b> 52  <b>Paragraph No:</b> AMC1 SPA.HOFO.165 (a)(6) Crew requirements  <b>Comment:</b> The text of this requirement does not capture the important aim of what was originally intended here. The purpose was for "Pilot Monitoring" (PM) skills to be checked and tested not 'monitoring the pilot's skills'. Amend text as shown.  <b>Justification:</b> Correction of intent of requirement.  <b>Proposed Text:</b> "(6) emphasise on monitoring the pilot's skills <b>for a multi-crew operation, emphasis on the importance of multi-crew procedures and the role of the Pilot Monitoring during all phases of the flight;</b> and"</p>	
response	<p>Accepted</p> <p>Text will be updated.</p>	
comment	197	comment by: EUROCOPTER
	<p>Comment to AMC1 SPA.HOFO.100 (c ) Risk assessment:  <b>Proposal: to complete § (a) as follows:</b>  <b>(a) (6) collision with helideck obstacles.</b>  Rationale: EASA-OPS Part CAT, GM to Section 2, recalls that, while taking-off or landing on a helideck, accident/incident history indicates that the main hazard is collision with obstacles on the helideck (Extract from GM to Section 2, Chapter 3 Performance Class 2: "As accident/incident history indicates that the main hazard is collision with obstacles on the helideck due to human error, simple and reproducible take-off and landing procedures are recommended.")</p>	
response	<p>Partly accepted</p> <p>As SPA.HOFO.100(c) will be removed due to other comments. The proposed text is, however, included in AMC1 SPA.HOFO.105(a) 'Risk assessment'.</p>	
comment	201	comment by: Tim Glasspool
	<p>AMC1 SPA.HOFO.115 Selection of Aerodromes and Operating Sites  Coastal Aerodrome  (b)(3) The use of the words "visual approach" is confusing. The wording might be better as "visual approach under VFR".</p>	
response	<p>Partially accepted</p> <p>The reason for the proposal is accepted. Terminology is checked, and, as a result, the text will be changed to 'approach under VFR'.</p>	
comment	202	comment by: Tim Glasspool
	<p>GM1 SPA.HOFO.120 Flight data monitoring (FDM) programme  All of the further guidance at AMC1, GM1 and GM2 ORO.AOC.130 is for aeroplanes. There is none for Helicopters.  While some of the aeroplane guidance is relevant, not all of it is. This is an area worthy of reasearch by EASA, due to the different operating capabilities of helicopters. The helicopter operators, such as Bristow, have extensive experience</p>	

response	<p>in this field and can assist.</p> <p><i>Accepted</i></p> <p>Text will be rewritten as appropriate.</p>
comment	<p><b>203</b> <span style="float: right;">comment by: <i>Tim Glasspool</i></span></p> <p>AMC1 SPA.HOFO.130 Airborne radar approach (ARA) to offshore locations GENERAL</p> <p>As a general note this entire section requires review as there are significant advances under way in this area. A number of OEM's have developed, or are developing, satellite-based approach systems. (e) "should" is too weak and must be replaced with "shall".</p>
response	<p><i>Noted</i></p> <p>This is AMC so it cannot be 'shall'. The ARA will remain as the 'basic' instrument approach. Proposals for new approach procedures based on other systems will be welcomed by the Agency.</p>
comment	<p><b>242</b> <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on AMC1.SPA.HOFO.100(c): It is very commendable that this AMC in(a) is listing hazards that an operator needs to risk assess. This should be an example for other parts of EASA regulation. The challenge however is to identify as many as possible of the relevant hazards, and at the right level of detail. They are probably quite a few more than these 5. The AMC should perhaps require operators to keep a list of identified hazards, and encourage exchange of these hazards lists between operators. The lists should also be made available to EASA for assessment, accumulation and publication to all operators. The attempt in (b) however is perhaps less successful. Our view is that regulation itself is the authority's description of what at least is required to treat the risks associated with operations. The fact that operators will now be required to do risk assessments is a way of asking them to "fill the gaps" and add more treatment where they find it necessary to achieve an acceptable level risk. Most of what is listed in (b) is as far as we can see, already required by regulation.</p>
response	<p><i>Noted</i></p> <p>Based on other comments, and as discussed in the RG, the entire SPA.HOFO.100(c) will be deleted. Hence AMC1 SPA.HOFO.100 is also deleted.</p>
comment	<p><b>243</b> <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>AMC1.SPA.HOFO.105(b)(2)(a): The demonstration of life jackets should only be required when the personnel on board the aircraft is not wearing survival suits that meets the requirement for life jackets (floating survival suits).</p>

response	<p><i>Accepted</i></p> <p>Text will be adjusted.</p>
comment	<p>244 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on AMC1 SPA.HOFO.105(b)(2): The term 'demonstrate' is fine and should be required when relating to a briefing video, but could be interpreted to mean more than is possible to do if this briefing is performed in the aircraft. Suggest using 'information' when addressing the briefing by a crew member.</p>
response	<p><i>Accepted</i></p> <p>Text will be updated.</p>
comment	<p>245 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on AMC1 SPA.HOFO.110: The NCAA is of the firm opinion that some minimum criteria for what operators should consider when assessing if helidecks are adequate to be authorised for use. These criteria are today published as a national regulation. The criteria include issues such as helideck minimum size, equipment and organisation. It is our view that this regulation contributes to the safety of offshore operations. The NCAA is of the firm opinion that some minimum criteria for what operators should consider when assessing if helidecks are adequate to be authorised for use should be specified. These criteria are today published as a national regulation (BSL D 5-1). The criteria include issues such as helideck minimum size, equipment and organisation. It is our view that this regulation contributes to the safety of offshore operations. These criteria are in some respects different from and to a certain extent stricter than criteria used by other states. (e.g. CAP 437). These criteria need to be included to maintain the current risk level.</p>
response	<p><i>Partially accepted</i></p> <p>AMC1 SPA.HOFO.110 is updated to include criteria for what operators should consider when assessing a helideck.</p> <p>A minimum size for a helideck in relation to the helicopter' D-value cannot be established as regulations for helideck are not within the remedy of Regulation (EC) No 216/2008 (Basic Regulation).</p> <p>It should be noted that AMC2 SPA.HOFO.110 refers to national documentation for operations to offshore locations</p>
comment	<p>246 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on AMC1 SPA.HOFO.110(a): The helideck status related to Annex 14 is of little interest to pilots and operators. The status related to the requirements that the individual operator's (group of operators') standard for authorising helidecks is what should be indicated. The text should be amended to read:</p>

	«... status of each helideck concerning non-compliance with applicable standards, ...».
response	<i>Accepted</i> Text will be updated.
comment	247 <i>comment by: Civil Aviation Authority of Norway</i> Comment on AMC1 SPA.HOFO.110(e)(9)(ii): The provision should refer to wind recording displaying mean wind.
response	<i>Accepted</i> Text will be changed to also include the proposed text.
comment	248 <i>comment by: Civil Aviation Authority of Norway</i> Comment on AMC 1 SPA.HOFO.110(e)(9)(iii): The wording "where applicable" is to imprecise. Deck motion recording and reporting, displaying (motion severity index) pitch, roll and heave, should be required on any moving helideck.
response	<i>Not accepted</i> The comment is not supported for this AMC as helidecks are not regulated under EU law. 'Where applicable' therefore relates to when such equipment is required by other agencies or by contracts.
comment	249 <i>comment by: Civil Aviation Authority of Norway</i> Comment on AMC1 SPA.HOFO.115(a): The term 'safety case assessment' is not defined or used anywhere else in the regulations. We propose to change the text to: "... based on an individual safety risk assessment."
response	<i>Accepted</i> Text will be updated as proposed.
comment	250 <i>comment by: Civil Aviation Authority of Norway</i> Comment on SPA.HOFO.115(c)(3): The phrasing of this consideration of fog conditions seems inappropriate for offshore locations that are not located in the vicinity of other installations. The consideration should be that it is ascertained that there is no fog within 60 NM, not that it has not been observed, which would obviously be the case if there was no one else within that range.
response	<i>Accepted</i> Text will be updated accordingly.
comment	251 <i>comment by: Civil Aviation Authority of Norway</i> Comment on AMC2 SPA.HOFO.115(e): The NCAA is of the opinion that offshore shuttling, should not be permitted unless

response	<p>the aircraft is carrying enough fuel to have an alternate aerodrome on shore.</p> <p><i>Noted</i></p> <p>Item (e) will be deleted, and the way SPA.HOFO.115(b) is written, offshore shuttle cannot use offshore alternate.</p>
comment	<p>252 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on GM1 SPA.HOFO.130(b): The GM should also request operators to communicate with and acquire information from the arrival destination (helideck) on any movable obstacles near the landing area.</p>
response	<p><i>Accepted</i></p> <p>The GM is updated.</p>
comment	<p>253 <span style="float: right;">comment by: <i>Civil Aviation Authority of Norway</i></span></p> <p>Comment on SPA.HOFO.165(d): In order to maintain a high level of safety through adequate pilot flying skills, the NCAA considers that training and checking should be performed on full flight simulators. The provision should therefore state that: "Training and checking should make use of full flight simulators for normal, abnormal and emergency procedures related to all aspects of HOFO". As a consequence, offshore helicopter operations should not be performed with aircraft types where no full flight simulators are available.</p>
response	<p><i>Partially accepted</i></p> <p>The comment is supported and will be included as the training requirements in SPA.HOFO.165 are changed to be harmonised with Regulation (EU) No 1178/2011, Annex I (Part-FCL) paragraph FCL.060, but related to offshore environment. The comment is therefore not included (repeated) in AMC1 SPA.HOFO.165.</p>
comment	<p>256 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span></p> <p><b>AMC1 SPA.HOFO.105(b)(2) Operating procedures</b> PASSENGER BRIEFING &lt;!--[if !supportLists]--&gt; (a) &lt;!--[endif]--&gt;demonstration of the use of the life jackets and where they are stowed; demonstration of the proper use of survival suits, including briefing on the need to have suits fully zipped with hoods and gloves on during take-off and landing or otherwise advised by the pilot-in-command/commander;</p> <p>Comment EHA:</p> <ul style="list-style-type: none"> <li>• Item a: Is there any HOFA operation possible where the passengers do not carry their lifejacket? SPA.HOFO.155 (a) requires the lifejackets to be worn always. This rule should be deleted as it is duplication.</li> <li>• Item b: Hoods and gloves on is not the norm for any offshore operations outside Norway and apparently also pending the suit specifications (Helly Hansen?)</li> <li>• Text should be reviewed to be compliant with present operational</li> </ul>

	procedures throughout EASA.
response	<p><i>Noted</i></p> <p>Item a: Yes there is. AMC1 SPA.HOFO.105(b)(2) and SPA.HOFO.155(a) will be changed to accommodate this difference. Deleting the rule, (expecting SPA.HOFO.155 is referred to), as it is duplicated, is not considered as the duplication is not seen.</p> <p>Item b: This is partly correct as it is required in Norway and, therefore, included in the AMC-text. It is partly incorrect as it is related to a mutually agreed customer requirement. The suits are made in accordance with this requirement. The mentioned text is reviewed and found appropriate.</p>
comment	<p>257 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span></p> <p><b>AMC1 SPA.HOFO.115 Selection of aerodromes and operating sites<sup>28</sup></b>  <b>COASTAL AERODROME</b>  (a) ...  (b) The following should be taken into account:  (1) ...  (2) the fuel required to meet the IFR requirements of CAT.OP.MPA.150, NCC.OP.131 and SPO.OP.131 except for the alternate fuel;  (3) where the destination coastal aerodrome is not directly on the coast it should be:  (i) within a distance that, with the fuel specified in (b)(2), the helicopter can, at any time after crossing the coastline, return to the coast, descend safely and carry out a visual approach and landing with VFR fuel reserves intact; and  (ii) geographically sited so that the helicopter can, within the rules of the air, and within the landing forecast:  (A) proceed inbound from the coast at 500 ft AGL and carry out a visual approach and landing; or  (B) proceed inbound from the coast on an agreed route and carry out a visual approach and landing;</p> <p>Comment EHA:  Visual approach is a specific segment of an IFR flight with specific weather requirements. In the proposed text the visual approach is being mixed up with VFR flights, VFR approaches and local rules of the air.  And a visual approach requires a specific clearance of ATC, the proposed text does not cover this requirement.</p> <p>Please refer to definitions and check if we are using appropriate wordings and not mixing terminology.</p>
response	<p><i>Accepted</i></p> <p>The statement is correct.  Terminology is checked, and, as a result the text will be changed to 'approach under VFR'.</p>
comment	<p>258 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span></p> <p><b>GM1 SPA.HOFO.125 Flight following system</b>  A flight following system may consist of one of the following items:</p>

1. Satellite tracking;
2. ATC tracking and information; or
3. ADS-B tracking and display.

Comment EHA:

Since the flight following system may utilise more than one, propose to change as follows:

*A flight following system may consist of any of the following items or any combination of;*

1. *Satellite tracking; or*
2. *ATC tracking and information provided by radio and/or radar; or*
3. *ADS-B tracking and display.*

The operator may have a selected to also have a separate "satellite tracking system". Additional guidance should be provided that the requirement for flight following must be compatible with the airspace/country in question and the ATC requirements.

response *Partially accepted*

Text will be changed from 'one' to 'any', and 'The system being used should be compatible with systems used by ATC' is added.

comment 259 comment by: *new European Helicopter Association (EHA)*

GM1 SPA.HOFO.130 Airborne radar approach (ARA) to offshore locations

EHA Comment:

Whole ARA section, which has been developed in the 70ies, needs to be reviewed in view of the present state of the art systems installed in the new helicopters and the OEMs development on automated offshore approaches including parallel – offset approaches. This is becoming an urgent requirement so we can use state of art automation which is required in other sections of this NPA

response *Noted*

The ARA will remain as the 'basic' instrument approach.  
Proposals for new approach procedures based on other systems will be welcomed by the Agency.

comment 260 comment by: *new European Helicopter Association (EHA)*

AMC4 SPO.OP.110 Aerodrome operating minima – aeroplanes and helicopters, Table 1.H.

Additional text, 'Valid only for operators holding a SPA.HOFO approval', added behind 'Offshore helideck \*'.

Comment EHA:

Reference should be made to → AMC2 SPA.LVO.100 Low visibility operations  
Having read all text of HOFA and LFO, it is still very unclear what is required to obtain an LVO Approval for helicopter operators if they wish to operate only down to RVR of 150 m (= what is exactly required to operate below 400 RVR for helicopters only)

response	<p><i>Noted</i></p> <p>The change proposed to AMC4 SPO.OP.110 has been decided cancelled as the requirement to hold a specific HOFO approval is already imbedded in SPA.HOFO.100.</p> <p>The comment related to SPA.LVO is not within the remedy of the RMT.</p>
comment	<p>321 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p><b>AMC1 SPA.HOFO.105(b)(2) Operating procedures</b> PASSENGER BRIEFING</p> <p>&lt;!--[if !supportLists]--&gt; (a) &lt;!--[endif]--&gt;demonstration of the use of the life jackets and where they are stowed; demonstration of the proper use of survival suits, including briefing on the need to have suits fully zipped with hoods and gloves on during take-off and landing or otherwise advised by the pilot-in-command/commander;</p> <p><b><u>Comments on behalf of:</u></b></p> <ol style="list-style-type: none"> <li>1. <b><u>CHC Helicopters Netherlands</u></b></li> <li>2. <b><u>CHC Scotia</u></b></li> <li>3. <b><u>CHC Ireland</u></b></li> </ol> <ul style="list-style-type: none"> <li>• Item a: Is there any HOFA operation possible where the passengers do not carry their lifejacket? SPA.HOFO.155 (a) requires the lifejackets to be worn always. This rule should be deleted as it is duplication.</li> <li>• Item b: Hoods and gloves on is not the norm for any offshore operations outside Norway and apparently also pending the suit specifications (Helly Hansen?)</li> <li>• Text should be reviewed to be compliant with present operational procedures throughout EASA.</li> </ul>
response	<p><i>Noted</i></p> <p>Item a: Yes, there is. AMC1 SPA.HOFO.105(b)(2) and SPA.HOFO.155(a) will be changed to accommodate this difference. Deleting the rule (expecting SPA.HOFO.155 is referred to) as it is duplicated is not considered as the duplication is not seen.</p> <p>Item b: This is partly correct as it is required in Norway and therefore included in the AMC-text. It is partly incorrect as it is related to a mutually agreed customer requirement. The suits are made to this requirement.</p> <p>The mentioned text is reviewed and found appropriate.</p>
comment	<p>322 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p><b>AMC1 SPA.HOFO.115 Selection of aerodromes and operating sites<sup>28</sup></b> COASTAL AERODROME</p> <p>(a) ...</p> <p>(b) The following should be taken into account:</p> <p>(1) ...</p> <p>(2) the fuel required to meet the IFR requirements of CAT.OP.MPA.150,</p>

NCC.OP.131 and SPO.OP.131 except for the alternate fuel;  
 (3) where the destination coastal aerodrome is not directly on the coast it should be:  
 (i) within a distance that, with the fuel specified in (b)(2), the helicopter can, at any time after crossing the coastline, return to the coast, descend safely and carry out a visual approach and landing with VFR fuel reserves intact; and  
 (ii) geographically sited so that the helicopter can, within the rules of the air, and within the landing forecast:  
 (A) proceed inbound from the coast at 500 ft AGL and carry out a visual approach and landing; or  
 (B) proceed inbound from the coast on an agreed route and carry out a visual approach and landing;

**Comments on behalf of:**

1. **CHC Helicopters Netherlands**
2. **CHC Scotia**
3. **CHC Ireland**

Visual approach is a specific segment of an IFR flight with specific weather requirements. In the proposed text the visual approach is being mixed up with VFR flights, VFR approaches and local rules of the air.

And a visual approach requires a specific clearance of ATC, the proposed text does not cover this requirement.

Please refer to definitions and check if we are using appropriate wordings and not mixing terminology.

response *Accepted*

The statement is correct.

Terminology is checked and, as a result, the text will be changed to 'approach under VFR'.

comment 323

comment by: *CHC Helicopter*

**GM1 SPA.HOFO.125 Flight following system**

A flight following system may consist of one of the following items:

1. Satellite tracking;
2. ATC tracking and information; or
3. ADS-B tracking and display.

**Comments on behalf of:**

1. **CHC Helicopters Netherlands**
2. **CHC Scotia**
3. **CHC Ireland**

Since the flight following system may utilise more than one, propose to change as follows:

*A flight following system may consist of any of the following items or any combination of;*

	<ol style="list-style-type: none"> <li>1. <i>Satellite tracking; or</i></li> <li>2. <i>ATC tracking and information provided by radio and/or radar; or</i></li> <li>3. <i>ADS-B tracking and display.</i></li> </ol> <p>The operator may have a selected to also have a separate "satellite tracking system". Additional guidance should be provided that the requirement for flight following must be compatible with the airspace/country in question and the ATC requirements.</p>
response	<p><i>Partially accepted</i></p> <p>Text will be changed from 'one' to 'any', and 'The system being used should be compatible with systems used by ATC' is added.</p>
comment	<p>324 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p>GM1 SPA.HOFO.130 Airborne radar approach (ARA) to offshore locations</p> <p><b><u>Comments on behalf of:</u></b></p> <ol style="list-style-type: none"> <li>1. <b><u>CHC Helicopters Netherlands</u></b></li> <li>2. <b><u>CHC Scotia</u></b></li> <li>3. <b><u>CHC Ireland</u></b></li> </ol> <p>Whole ARA section, which has been developed in the 70ies, needs to be reviewed in view of the present state of the art systems installed in the new helicopters and the OEMs development on automated offshore approaches including parallel – offset approaches. This is becoming an urgent requirement so we can use state of art automation which is required in other sections of this NPA</p>
response	<p><i>Noted</i></p> <p>The ARA will remain as the 'basic' instrument approach. Proposals for new approach procedures based on other systems will be welcomed by the Agency.</p>
comment	<p>325 <span style="float: right;">comment by: <i>CHC Helicopter</i></span></p> <p>AMC4 SPO.OP.110 Aerodrome operating minima — aeroplanes and helicopters, Table 1.H. Additional text, 'Valid only for operators holding a SPA.HOFO approval', added behind 'Offshore helideck *'.</p> <p><b><u>Comments on behalf of:</u></b></p> <ol style="list-style-type: none"> <li>1. <b><u>CHC Helicopters Netherlands</u></b></li> <li>2. <b><u>CHC Scotia</u></b></li> <li>3. <b><u>CHC Ireland</u></b></li> </ol> <p>Reference should be made to → AMC2 SPA.LVO.100 Low visibility operations Having read all text of HOFA and LFO, it is still very unclear what is required to obtain an LVO Approval for helicopter operators if they wish to operate only down to RVR of 150 m (= what is exactly required to operate below 400 RVR for helicopters only)</p>

response	<p><i>Noted</i></p> <p>The change proposed to AMC4 SPO.OP.110 has been decided cancelled as the requirement to hold a specific HOFO approval is already imbedded in SPA.HOFO.100.</p> <p>The comment related to SPA.LVO is not within the remedy of the RMT.</p>
comment	<p>328 <span style="float: right;">comment by: <i>British International Helicopters</i></span></p> <p>AMC1 SPA.HOFO.105(b)(2)</p> <ul style="list-style-type: none"> <li>· Item a: Is there any HOFA operation possible where the passengers do not carry their lifejacket? SPA.HOFO.155 (a) requires the lifejackets to be worn always. This rule should be deleted as it is duplication.</li> <li>· Item b: Hoods and gloves on is not the norm for any offshore operations outside Norway and apparently also pending the suit specifications (Helly Hansen?)</li> </ul> <p>Text should be reviewed to be compliant with present operational procedures throughout EASA.</p>
response	<p><i>Noted</i></p> <p>Item a: Yes, there is. AMC1 SPA.HOFO.105(b)(2) and SPA.HOFO.155(a) is changed to accommodate this difference. Deleting the rule (expecting SPA.HOFO.155 is referred to), as it is duplicated, is not considered as the duplication is not seen.</p> <p>Item b: This is partly correct as it is required in Norway and, therefore, included in the AMC-text. It is partly incorrect as it is related to a mutually agreed costumer requirement. The suits are made in accordance with this requirement. The mentioned text is reviewed and found appropriate.</p>
comment	<p>329 <span style="float: right;">comment by: <i>British International Helicopters</i></span></p> <p>AMC1 SPA.HOFO.115</p> <p>Visual approach is a specific segment of an IFR flight with specific weather requirements. In the proposed text the visual approach is being mixed up with VFR flights, VFR approaches and local rules of the air.</p> <p>And a visual approach requires a specific clearance of ATC, the proposed text does not cover this requirement</p>
response	<p><i>Partly accepted</i></p> <p>The statement is correct.</p> <p>As a result the text will be changed to 'approach under VFR'.</p>
comment	<p>330 <span style="float: right;">comment by: <i>British International Helicopters</i></span></p> <p>GM1 SPA.HOFO.125</p> <p>Since the flight following system may utilise more than one, propose to change as follows:</p> <p><i>A flight following system may consist of <u>any</u> of the following items <u>or any combination of</u>:</i></p> <ul style="list-style-type: none"> <li><i>a. Satellite tracking;</i></li> <li><i>b. ATC tracking and information <u>provided by radio and/or radar</u>; or</i></li> <li><i>c. ADS-B tracking and display.</i></li> </ul> <p>The operator may have a selected to also have a separate "satellite tracking</p>

	system". Additional guidance should be provided that the requirement for flight following must be compatible with the airspace/country in question and the ATC requirements.
response	<i>Partially accepted</i>  Text will be changed from 'one' to 'any', and 'The system being used should be compatible with systems used by ATC' is added.
comment	<b>331</b> <span style="float: right;">comment by: <i>British International Helicopters</i></span>  GM1 SPA.HOFO.130 Airborne radar approach (ARA) to offshore locations Whole ARA section, which has been developed in the 1970's, needs to be reviewed in view of the present state of the art systems installed in the new helicopters and the OEMs development on automated offshore approaches including parallel – offset approaches. This is becoming an urgent requirement so we can use state of art automation which is required in other sections of this NPA
response	<i>Noted</i>  A proposed text would be appreciated by the Agency.
comment	<b>332</b> <span style="float: right;">comment by: <i>British International Helicopters</i></span>  AMC4 SPO.OP.110 Aerodrome operating minima – aeroplanes and helicopters, Table 1.H. Additional text, 'Valid only for operators holding a SPA.HOFO approval', added behind 'Offshore helideck *'. Reference should be made to AMC2 SPA.LVO.100 Low visibility operations Having read all text of HOFA and LFO, it is still very unclear what is required to obtain an LVO Approval for helicopter operators if they wish to operate only down to RVR of 150 m (= what is exactly required to operate below 400 RVR for helicopters only)
response	<i>Noted</i>  The change proposed to AMC4 SPO.OP.110 has been decided cancelled as the requirement to hold a specific HOFO approval is already imbedded in SPA.HOFO.100.  The comment related to SPA.LVO is not within the remedy of the RMT.

**C. Regulatory Impact Assessment**

p. 54-57

comment	<b>54</b> <span style="float: right;">comment by: <i>CAA-NL</i></span>  <b>Page 56 of 99, definition of SPO</b> We suggest to include here the new definitions 6 and 7 of article of the operational regulation as amended by the inclusion of Part SPO. Possible some further text alignments are necessary.
response	<i>Not accepted</i>  The text was valid when developing the RIA, and was used to distinguish between the different regulatory frameworks. Updating the RIA to the present Opinion for SPO is not considered to better define the differences, and, therefore, not

supported.

comment	55	comment by: CAA-NL
	<p><b>Page 57 of 99, other-than-complex helicopter</b></p> <p>An other-than-complex helicopter is therefore deduced from the Basic Regulation text as being certificated for:</p> <ul style="list-style-type: none"> <li>— a maximum take-off mass of 3 175 kg or less, <del>or</del> and</li> <li>— a maximum passenger seating configuration of nine or less, <del>or</del> and</li> <li>— operation with a minimum crew of one pilot.</li> </ul> <p>As 'or' is used for the definition of a complex helicopter which has to fit only one of the tree criteria, a other than complex has to fit all tree opposite criteria.</p>	
response	<p><i>Noted</i></p> <p>This is correct. It is a regular misprint in the NPA which has no effect on the proposed regulatory text.</p>	
comment	261	comment by: new European Helicopter Association (EHA)
	<p>Table 1 — Number of helicopters per MS and per type of overwater operation</p> <p>Comment EHA: Table is of December 2011, data should be update to see growth and change.</p>	
response	<p><i>Not accepted</i></p> <p>The table was valid at the time the RIA was developed, and was used as background information.</p> <p>The numbers were imperative at the time the RIA was developed. Growth is not at the present stage. The NPA will, therefore, not be affected by an update, hence the RIA will not be updated.</p>	
comment	262	comment by: new European Helicopter Association (EHA)
	<p>Table 3 — Helicopters used in overwater flights including offshore operations (year 2011)</p> <p>Comment EHA: Table is of December 2011, data should be update to see growth and change.</p>	
response	<p><i>Not accepted</i></p> <p>The table was valid at the time the RIA was developed, and was used as background information.</p> <p>The numbers were imperative at the time the RIA was developed. Growth is not at the present stage. The NPA will, therefore, not be affected by an update, hence the RIA will not be updated.</p>	

**C. Regulatory Impact Assessment – 1.1.3 Issues with the existing rules**

p. 57-60

comment

13

comment by: Jan Loncke

In view of the general objectives of the Basic Regulation, to establish and maintain a high uniform level of civil aviation safety in Europe and the additional objective of a safe level playing field, I'd like to see the start of a European database which contains all alternative means of compliance, risk assessments, safety cases and studies that (will) have been approved by the NAA's as well as all the approved Equivalent levels of Safety for all different subjects, so that these can be consulted, used by other NAA's or by other operators in case they have to make and present a (safety) case/assessment for a similar subject for their own NAA or competent authority.

This will not only be helpful to all operators as such, but it will also help the EASA and the NAA's to keep, to maintain the same level of safety of these particular subjects, to have the same qualification of risks (Risk Index) of these subjects, to have the 'same' basis to determine whether a subject has a similar level of safety, for similar subjects, etc., which surely will contribute to ensuring a level playing field among helicopter operators in different European countries.

In addition, to include also in a database, the mitigating measures that have been accepted by the different NAA's, and the resulting Risk Indices, for these subjects for which a risk assessment/safety case was made.

All this will help in standardization in general and in establishing a uniform level of safety. But a database like that will also help during future visits of EASA inspection teams with the NAA, to check if all the NAA's work and approve certain items in the same way, to similar standards.

For all operators, it will also improve transparency and build confidence in the work that is done by the competent authorities and the Agency. It will contribute to the perception of the operator that indeed operators of different countries are treated the same way, according to the same standards.

response

*Noted*

Introduction of a database as mentioned is not inside the scope of this rule-making task.

The implementation of these rules is the responsibility of the MS. It is the MS' task to approve alternative means of compliance. It is agreed that the Agency would share basic information on alternative means of compliance notified by the MS. This, however, does not include the full content. Eventually, such alternative means of compliance will be published as AMCs following an Agency rulemaking process.

Concerning risk assessments and safety cases, this comment will be brought to EHEST for further consideration.

comment

56

comment by: CAA-NL

**Page 58 of 99, 1.1.3.1, second but last paragraph.**

It is not so much the lower investment that would increase the safety risk, it is the fact that they may not comply with all the safety requirements that is the danger. If someone would comply with all at lower cost there is no problem.

response

*Noted*

This is one of the key issues of the rulemaking task.

**C. Regulatory Impact Assessment – 1.3 What are the safety risks?**

p. 63-72

comment

1

comment by: Jan Loncke

**C. Regulatory Impact Assessment****1.3.2.1 Accident/Incident Data - Occurrences in the North Sea 2000-2010**

Apparently, the Agency's database on occurrences with helicopters with a MTOM exceeding 2.250 kg in the North Sea is incomplete.

Maybe the accidents that happened in 2003 and 2005 were possibly not reported to the EASA.

I regret that these accidents were not included in the table/statistics of this NPA, because of their significance in the overall offshore context, more specifically in one and the same segment : sea-pilot transfer.

An overview :

1) 10/09/2001 : accident during (HHO-) sea-pilot transfer (Belgium) : 1 fatality (no report available from the national accident investigation board) (<http://www.gva.be/archief/guid/loods-sterft-na-val-van-vijf-meter.aspx?artikel=29753921-8231-46c1-a47c-e18985376c85>)

2) 04/02/2003 : accident during (HHO-) sea-pilot transfer (Belgium) : ditching due to double engine flame out; 3 crew injured; helicopter total loss (report available from the national accident investigation board on request)

3) 08/09/2005 : accident during sea-pilot transfer (France) : controlled flight into terrain (CFIT - sea); 2 fatalities; helicopter total loss (report available on the website of the national accident investigation board <http://www.bea.aero/docspa/2005/f-ph050908/pdf/f-ph050908.pdf>)

4) 11/09/2007 : incident during (HHO-) sea-pilot transfer (Netherlands) : contact of main rotor blades with ships antennas leading to structural damage to the blades (no report available from the national accident investigation board)

Taking into consideration the 3 above mentioned accidents, brings the total of accidents to 16. Together with the only other sea-pilot transfer accident (15/09/2004) already included in Table 9 of this NPA, this means that 25% of the occurred accidents happen during HHO in sea-pilot transfer operations.

Considering the number of offshore helicopter flight hours, see this NPA under C. Regulatory Impact Assessment 1.2.3, where it is stated that 95 % of the offshore operations are related to flying to oil & gas offshore locations, this means that during the remaining 5 % of all offshore flights, 25 % of all the accidents that happened in helicopter offshore operations are all related to sea-pilot transfer operations.

This may give the impression that offshore flights in support of the oil & gas industry are pretty safe ... compared to the flights related to sea-pilot transfer. Or, in other words, sea-pilot transfer may be considered a very risky business, since the number of accidents in relation to the flight hours of sea pilot transfer are really disproportional, compared to flights in support of the oil & gas industry and the accidents during those flights.

Therefore I can only welcome the fact that sea-pilot transfer is included in the proposed definition of 'Offshore operations', and thus in this NPA, in the hope that appropriate oversight by the regulators/competent authorities will be ensured, not only over CAT operators but also over NCC and SPO operators.

response

*Noted*

Thank you for your comment.

comment	57	comment by: CAA-NL
	<b>Page 72 of 99, 1.3.2.2, second but last paragraph.</b> Same comment as above on 1.1.3.1	
response	<i>Noted</i> Same answer as above on 1.1.3.1	
comment	204	comment by: Tim Glasspool
	<p>"Fear of inflight collision" should be "Risk of inflight collision" A major mitigation already being introduced on many offshore helicopters is TCAS 2. This should be included. "Fear of controlled flight into the sea" should be "Risk of controlled flight into the sea" EGPWS and TAWS systems are already fitted to many offshore helicopters. These systems of enhanced protection should be included as mitigation.</p>	
response	<p><i>Noted</i></p> <p>Changing specific parts of text in the RIA which are not affecting the outcome of the NPA is not considered appropriate.</p> <p>The Agency considers that anti-collision systems, such as TCAS II and similar, should be mandated by the airspace authorities. An operational regulation valid only for offshore helicopters is therefore not considered. Presently, TCAS II for helicopters is not considered to be regulated by SESAR.</p> <p>The Agency proposes to include a regulatory requirement for terrain awareness and warning system.</p>	
comment	263	comment by: new European Helicopter Association (EHA)
	<p><b>Table 7 – Risk and mitigation measures – Shortlist</b> Fear of inflight collision.</p> <p>EHA comment: Change title into Risk of inflight collision The NAV database is not applicable to this risk. Does this not justify phased implementation of ACAS II on helicopters? On page 85 the RMT.0376 addressing ACAS/TCAS (start 2013) is mentioned. EHA is not aware of this RMT.</p>	
response	<p><i>Noted</i></p> <p>Changing specific parts of text in the RIA which is not affecting the outcome of the NPA is not considered appropriate.</p> <p>The rulemaking group considered NAV database to be applicable.</p> <p>The question 'Does this not justify phased implementation of ACAS II on helicopters?' is not understood in relation to the above text.</p> <p>The last comment is noted.</p>	

comment	<p>264 <span style="float: right;">comment by: <i>new European Helicopter Association (EHA)</i></span></p> <p><b>Table 7 – Risk and mitigation measures – Shortlist</b> Fear of controlled flight into the sea.</p> <p>EHA comment: Under the column “studies” on this topic, the following essential studies are missing:</p> <ol style="list-style-type: none"> <li>1. G-BLUN</li> <li>2. G-REDU</li> <li>3. PH-NZG</li> <li>4. S61 Scillies accident</li> <li>5. INAER AW139 CFIT</li> <li>6. ....</li> </ol> <p>In all the above events a more sophisticated RADALT, better usage of the RADALT or EGPWS could have made the difference.</p>
response	<p><i>Noted</i></p> <p>The RMG was not aware that studies were made based on these accidents, and , therefore, your end remark cannot be responded.</p> <p>Safety recommendations from the AAIB reports are, however, taken into account.</p>

<b>C. Regulatory Impact Assessment – 6 Analysis of impacts – 6.2 Safety impact</b>
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p. 78
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comment	<p>58 <span style="float: right;">comment by: <i>CAA-NL</i></span></p> <p><b>Page 78 of 99, 6.2 Safety impact</b> Same comment as to page 20: Minimum safety requirements applicable to all operators will have apposite impact on those operators who now not have to follow these requirements. The only way that this option can have a negative safety impact is on the presumption that current operators with an approval will not comply with these safety requirements when the need for prior approval is deleted and their own SMS will let them lower their safety standards. We find this hard to believe. We think this will always have a positive impact. With a prior approval it is possible that operators now not approved will be up to standards earlier than without the prior approval process. Option 1 +, Option 2 ++.</p>
response	<p><i>Accepted</i></p> <p>Same answer as to comment to page 20:</p> <p>Your comment is coherent with the majority of responses. Hence option 2 is accepted and chosen.</p>

**C. Regulatory Impact Assessment – 7 Conclusion and preferred option – 7.1 Preferred option**

p. 83

comment	17	comment by: <i>Jan Loncke</i>
	Support to the preferred option.	
response	<i>Accepted</i>	
	Your comment is noted and it is coherent with the majority of responses elsewhere to the topic. Option 2 remains the preferred option.	
comment	180	comment by: <i>Tim Glasspool</i>
	Preferred option is Option Two.	
response	<i>Accepted</i>	
	Your comment is noted and it is coherent with the majority of responses elsewhere to the topic. Option 2 remains the preferred option.	

**Annex A – Risk and mitigation measures in helicopter offshore operations**

p. 84-96

comment	205	comment by: <i>Tim Glasspool</i>
	Risk Factor no.15 Post crash fire when operating to unmanned platforms without firefighting equipment While this is an issue for operators it is not under the control of operators. This creates the situation where one operator may decide not to operate to an unmanned deck while another operator does. Deferring the responsibility to the operator does not create a 'level playing field' of safety. This is an area that requires regulation and a clear set of operating rules.	
response	<i>Noted</i>	
	The operator is responsible for his operations and shall have established a management system (ORO.GEN.200, see especially (3)). Regulating helideck is outside the scope defined by the Basic Regulation.	
comment	265	comment by: <i>new European Helicopter Association (EHA)</i>
	<b>Table 7 – Risk and mitigation measures – Shortlist</b> Post-crash fire when operating to unmanned platforms without fire fighting equipment.  EHA comment: Under the column “Comments” is listed “Issue for Operators” This is an inappropriate comment as this is not under the control of the operator. This is an owner – helideck operator issue in which the state / EASA should make proper arrangements.	
response	<i>Noted</i>	
	The operator is responsible for his operations and shall have established a	

management system (ORO.GEN.200, see especially (3)).

Regulating helideck is outside the scope defined by the Basic Regulation.

### 5. Appendix A - Attachments

Example comparison exposure time vs TO-mass payload

Attachment #1 to comment #78

COMPLEMENTARY FLIGHT MANUAL

#### 5 TAKEOFF PERFORMANCE 5.1 SL/ISA

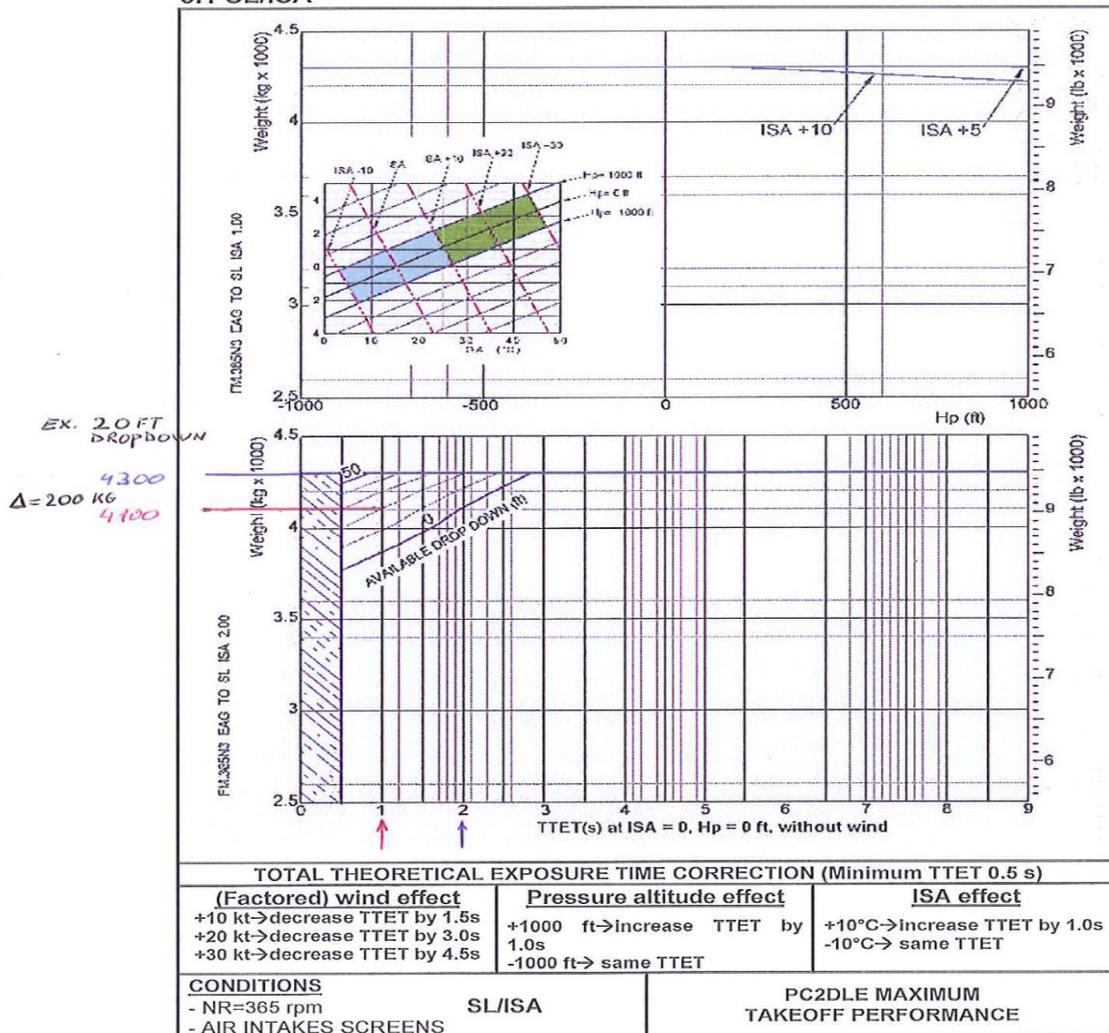


Figure 6

AS 365 N3

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APP.9.1

COMPLEMENTARY FLIGHT MANUAL

5 TAKEOFF PERFORMANCE  
5.1 SL/ISA

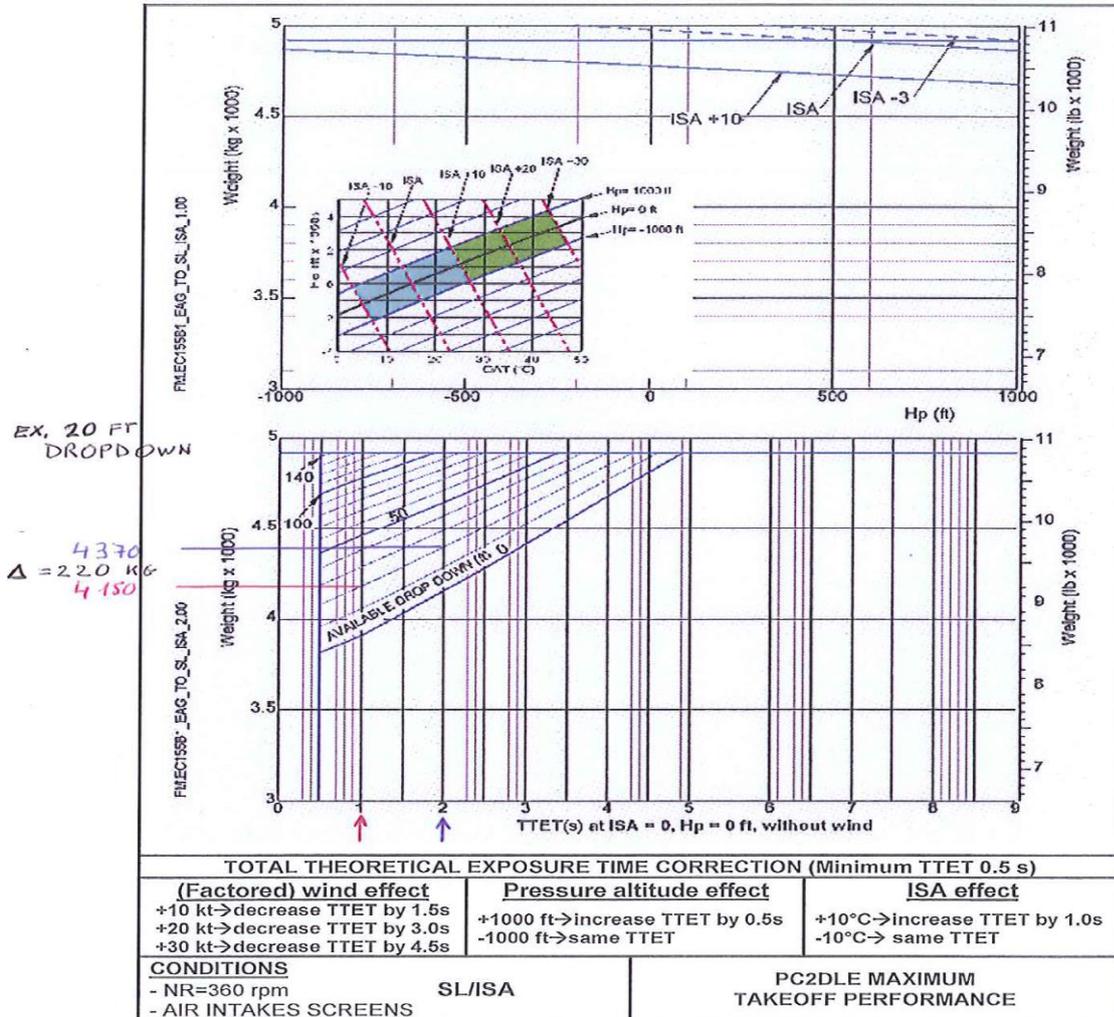


Figure 6

EC 155 B1

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APP.9.1

12-08

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COMPLEMENTARY FLIGHT MANUAL

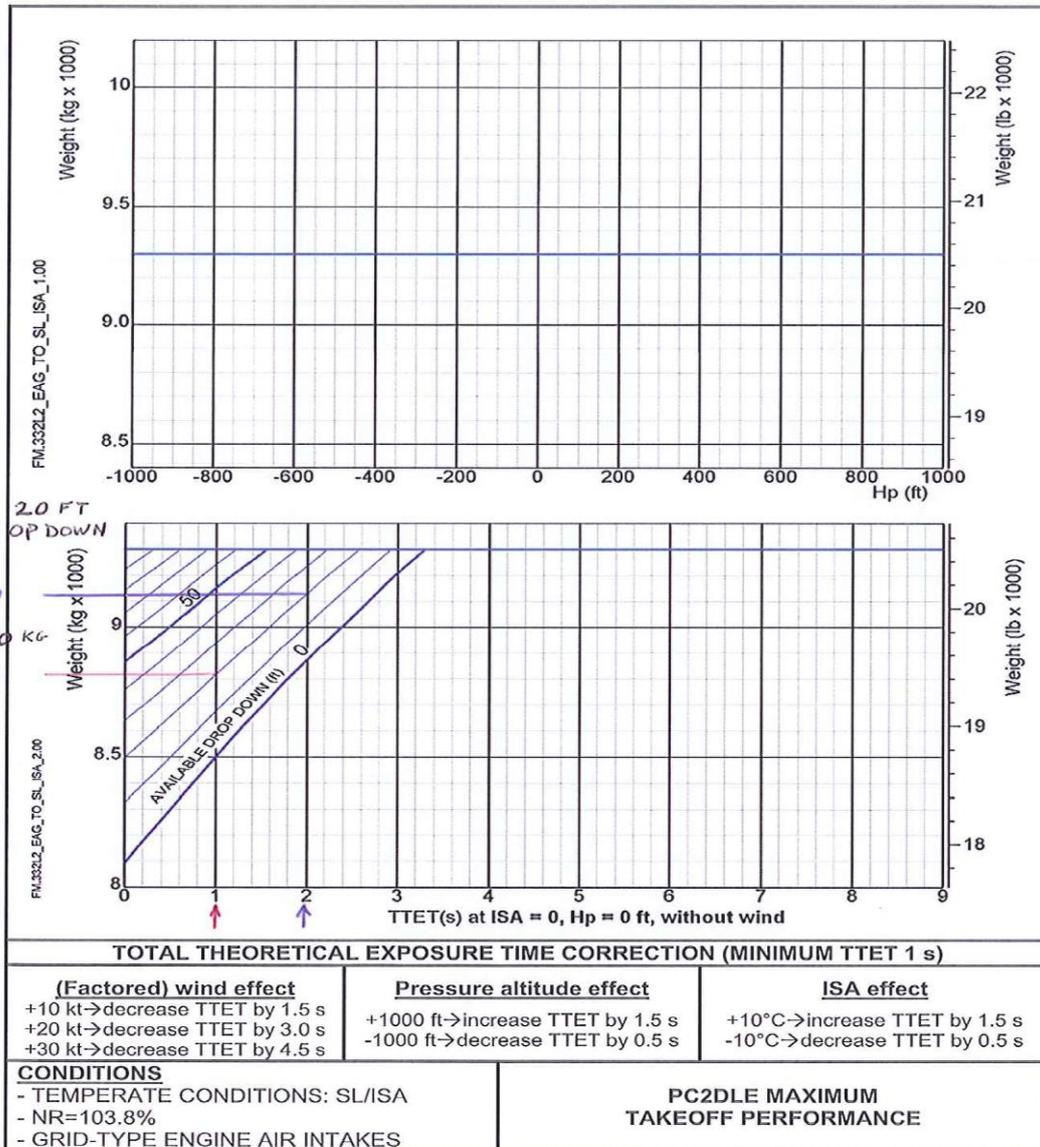


Figure 1

AS 332 L2  
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APP.9.0.1