

Helicopter Safety Research Management Committee

Subject Minutes of 72nd HSRMC
Date Thursday 29th September 2016
Location Aviation House, Gatwick
Organised by Kevin Payne/David Howson, UK CAA

List of Participants

Attendees	<p>Captain Rick Newson, UK CAA (Chairman)</p> <p>Mr David Howson, UK CAA</p> <p>Mr Kevin Payne, UK CAA (Secretary)</p> <p>Mr Tony Eagles, UK CAA</p> <p>Ms Claire Muir, UK CAA</p> <p>Mr Pete Chittenden, EASA</p> <p>Mr Jim Lyons, EHA</p> <p>Mr Alan Ward, Shell Aircraft</p> <p>Mr Simon Brailsford, BP</p> <p>Captain Simon Harlow, Babcock</p> <p>Mr Michael Cerneck, Sikorsky Helicopters</p> <p>Mr Neil Taylor, DSTL</p> <p>Mr Joe Rears, One Atmosphere</p> <p>Mr Eric Hamremoens, Statoil/ Oil and Gas Norway</p> <p>Mr Dan Chicoyne, C-NLOPB (by telephone)</p>
Apologies	<p>Mr Ed Lambert, Bell Helicopters (BHTC)</p> <p>Mr Lionel Tauszig, EASA</p> <p>Mr Alan Wilson, Leonardo Helicopters</p> <p>Mr George Klug, Sikorsky Helicopters</p> <p>Captain Steve O'Collard, BHA</p> <p>Ms Esaula Armstrong, HSE</p>

	Mr Dujon Goncalves-Collins, RenewableUK Mr Brian Pattinson, UK CAA Mr Gilles Bruniaux / Mr Andrew Dettl, Airbus Helicopters Mr Robbie Decoster, CAA Belgium
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AGENDA

1. Introduction
2. Review of Minutes of 71st meeting (24th February 2016)
 - 2.1 Accuracy
 - 2.2 Actions/matters arising
3. Review of Current Research Projects
 - UK CAA managed projects
 - EASA managed projects
 - C-NLOPB initiatives
4. Research Programme Funding
 - Funding status of current programme
5. Presentations
 - Progress Update on One Atmosphere 'Pegasus' side-floating helicopter scheme
6. AOB
7. Date of Next Meeting
8. Close

Minutes of meeting

1. Welcome & Introduction

Captain Newson welcomed all participants to the 72nd meeting of the HSRMC, and in particular Mr Joe Rears from One Atmosphere to update on the progress of their Pegasus emergency floatation system, Mr Pete Chittenden representing EASA on behalf of Mr Lionel Tauszig and Mr Dan Chicoyne (participating by telephone, and effectively replacing Pete McKeage as the C-NLOPB representative). All participants introduced themselves for the benefit of new members.

2. Minutes of 24 February 2016 Meeting

2.1 Accuracy:

The minutes from the 71st meeting of 24th February 2016 were approved without any comments or corrections.

2.2 Actions:

- a) **Action 345:** All members to gather and feedback data for discussion and collation at the 71st meeting for Tail Rotor Strike Warnings.

Captain Newson advised that CAA's tail rotor failure SME Jeff Houghton had retired earlier in the year precluding any progress on this topic by CAA. Mr Brailsford asked to what extent tail rotor strikes featured in the MOR database? Mr Lyons thought that BP and Shell kept their own incident records and might be able to supply useful information. Mr Hamremoens also agreed to check Statoil's data and remarked that pilot knowledge of the use of helideck markings could be better. It was agreed to keep the action open to review the accident / incident data provided by CAA, Shell, BP and Statoil at the 73rd meeting. **Action OPEN**

- b) **Action 352:** Mr Howson to contact Tim Rolfe with a view to organising a one-day GPS offshore approach workshop and/or desktop exercise.

Mr Howson advised that he would be addressing this under agenda item 3. **Action CLOSED.**

- c) **Action 353:** Mr Payne/ Mr Howson to investigate North Sea helicopter types to establish whether all parts of the undercarriage are always positioned within the perimeter of the landing net.

Mr Payne had investigated and presented a table showing North Sea helicopter types and comparing net dimensions with undercarriage length dimensions (attached). He

concluded that there was ample clearance for all types behind the aircraft from the main undercarriages to the edge of the netting. **Action CLOSED.**

3. Review of Current Research Projects

UK CAA Managed Projects (Mr Howson, UK CAA)

In addition to the Research Update Briefing for 29 September 2016 circulated to members on 22nd September 2016, the following was also noted/agreed:

- 2) Side-Floating Helicopters: Helicopter Ditching and Water Impact – Mr Howson explained that the EASA NPA for the Ditching and Water Impact Rule Making Task (NPA 2016-01) had been published at the end of March 2016. Objections had been received from the helicopter manufacturers to the application of auto EFS arming and/or deployment to CS.27 helicopters and on the mandate of the air pocket (e.g. side-floating helicopter) scheme. Despite further debate, it had not been possible to arrive at a consensus within RMT.0120 and the EASA conflict resolution process had consequently been invoked. Mr Chittenden explained that this process should have been completed before the NPA was published, but had in fact been done the other way round. Mr Chittenden confirmed that in the manufacturers' view the cost/benefit isn't justified as they consider EBS to be sufficient. Mr Howson pointed out that PPE such as EBS should not form the first line of defence or be used to compensate for deficiencies in the basic aircraft design.

EBS Specification – Mr Howson confirmed that the new ASD-STAN working group (D1S9) was making good progress towards producing a formal European standard for EBS (prEN 4856) which should ideally be in place before the EASA Part SPA.HOFO mandate takes effect from 1st July 2018. Wet training had not yet been introduced due to the additional medical screening required by HSE in order to exempt the training from the Diving At Work Regulations. Efforts were currently focussing on shallow water training and experience in Canada to date with a view to this forming an initial lower risk step forwards.

- 3) Operations to Moving Helidecks – Mr Howson confirmed that a formal specification for the new Helideck Monitoring System (HMS), integrating the HSRMC research with the existing HCA specification, will be published in a separate document and referenced in CAP 437 in an update during second half of 2017. The specification is essentially finalised apart from the helideck-mounted repeater lights, which are being increased in intensity significantly so they are usable in the more demanding viewing conditions of daylight.
- 4) Helideck Lighting – Mr Howson advised that CAA International was offering a product approval service for manufacturers of the new circle and H helideck lighting. This

forms an optional addition to the HCA approval required and is recognised by HCA as satisfying its requirements. So far, CAAi has been contracted to assess the Orga, Tranberg, IMT and Frictape systems. Mr Howson reported that none of these systems had yet received a certificate of compliance from CAAi, although Orga were close. Installation arrangements for the FricTape Netlight system are different to the other 'fixed' systems and a major issue for FricTape is ensuring that the positioning of the lighting remained within the stated tolerances.

- 5) Helicopter Flight Data Monitoring (HFDM) - Mr Howson confirmed that this project is being jointly progressed with EASA and HeliOffshore. Each organisation has differing aims and objectives but there is nevertheless believed to be significant scope for collaboration and cooperation. A meeting of all three parties will be convened once the CAA's position has been formally confirmed through the publication of the Offshore Review Update Report (CAP 1386).
- 6) Offshore Approaches - Mr Howson advised that an outline proposal for a desktop analysis of helicopter manufacturers' systems had been obtained from CAA's current research contractor for work in this area (Helios Technology at Farnborough). He added that the support and cooperation of HeliOffshore had been secured via Mark Prior of Bristow Helicopters subject to agreement of high level objectives. This effectively discharged Action 352. It was agreed that this represented a good way forward for the project and that Mr Howson should liaise with HeliOffshore and proceed with the study.

New Action 354: Mr Howson to agree high level objectives with HeliOffshore, obtain a costed proposal from Helios for the desk study and proceed as appropriate.

- 12) H-TAWS Warning Envelopes– Mr Howson reported that he was working on a two-phase HTAWS implementation programme with HeliOffshore. Phase 1 will entail a voluntary upgrade of existing HTAWS by the end of 2017, which will be constrained to modifications internal to HTAWS that do not give rise to aircraft integration issues. Phase 2 will be further reaching and will focus on the ongoing work being undertaken by Cranfield University to look at the Human-Machine Interface and, in particular, the form and format of HTAWS warnings. HTAWS is mandated for new helicopter registrations from 1 January 2019 under Part SPA.HOFO.

EASA Managed Projects

Mr Chittenden, representing Lionel Tauszig, presented the EASA Managed Projects.

- South Bank University theo-ether lubrication systems – testing has been delayed and there is nothing new to report from the last HSRMC.
- Helicopter North Sea Operations – DNV study on behalf of EASA. EASA had been given a draft report by DNV with many recommendations therein. The content of the report will be disseminated at the EASA Rotorcraft symposium in Cologne on 6/7

December 2016.

C-NLOPB initiatives

C-NLOPB (Mr Chicoyne) had been unable to attend in person and, due to a poor telephone line which kept dropping out, no formal briefing was provided to members. However, the following is provided by Mr Chicoyne as a post-meeting summary:

- From a survivability point of view having side flotation that offers an air pocket is a far better option than not having one at all.
- Developing more precise offshore approaches is critical considering the weather conditions that offshore helicopter operators are required to fly in.
- Any improvement to deck lighting is to be welcomed even if the solution is not perfect.
- There has been a significant amount of research done in Canada (by CAPP etc) re EBS. It would be worthwhile accessing these studies rather than re-inventing the wheel. It is appreciated that there are some differences from a regulatory point of view re diving regulations etc.

4. Research Programme Funding

Mr Howson provided a brief update on the funding status of the current CAA research programme. With the exception of the Tail Rotor Strike Warning project all other projects have sufficient funding, although it is noted that HOMP- extension to low airspeed regime, Offshore Approaches (HEDGE) and HUMS – AW RTVP are presently all 'on hold'.

5. Presentations

Pegasus Update on One Atmosphere 'Pegasus' side-floating helicopter scheme [Joe Rears, One Atmosphere]

Mr Rear's delivered a presentation which is circulated to members attached with the minutes. As an outcome of the presentation, Mr Howson undertook to circulate CAA Paper 2005/06: a Summary Report on Helicopter Ditching and Crashworthiness Research (completed on 29 September 2016). Mr Howson confirmed that CAA Paper 2005/06 summarises all CAA work on helicopter ditching and water impact apart from the development of the EBS standard.

Mr Brailsford, Mr Ward and Mr Hamremoens were all very supportive of the side-floating scheme and thought that additional efforts should be made to communicate the benefits. To this end, it was agreed that a one-page summary on the side-floating scheme for newcomers to the industry would be produced.

New Action 355: Mr Howson, Mr Brailsford and Mr Hamremoens to produce a one-page summary of the helicopter side floating scheme.

6. AOB

Mr Hamremoens advised that the Sintef Helicopter Safety Study 3B was nearing completion and the report was expected to be published around end October 2016. The study has reviewed the UK Offshore Review (CAP 1145), including aspects such as EBS, passenger size and wave height operating limits. It has also looked at the safety record over the last 5 years and draws on accident data from UK, Canada and Norway.

Mr Hamremoens added that the report on the Norwegian review of emergency response was due to be published in English soon. He noted that it contains some interesting recommendations.

7. Date of Next meeting

Mr Payne has confirmed that the 73rd meeting of the HSRMC will take place on Thursday 4th May 2017 at CAA, Aviation House, Gatwick between 1230 and 1700 hrs.

8. Attachments with the meeting notes

1. Response to Action 353.
2. Research Update Briefing for 29th September 2016 HSRMC
3. Pegasus Update on One Atmosphere 'Pegasus' side-floating helicopter scheme [Joe Rears, One Atmosphere]

Table 1: List of actions:				
Item	Action	Person Responsible	Deadline	Status
2-2	Action 345: All members to gather and feedback data for discussion and collation at the 73rd meeting for Tail Rotor Strike Warnings.	Mr Howson, Mr Brailsford, Mr Ward, & Mr Hamremoen	04.05.17	OPEN
3-6	New Action 354: Mr Howson to agree high level objectives with HeliOffshore, obtain a costed proposal from Helios for the desk study and proceed as appropriate.	Mr. Howson	04.05.17	OPEN
5-0	New Action 355: Mr Howson, Mr Brailsford and Mr Hamremoen to produce a one-page summary of the helicopter side floating scheme.	Mr Howson, Mr Brailsford & Mr Hamremoen	04.05.17	OPEN