

HELICOPTER SAFETY RESEARCH MANAGEMENT COMMITTEE

Minutes of the 70th Meeting held on 13th July 2015
Aviation House, Gatwick

Present:	Capt. R. Newson	UK CAA, Flt Ops Mgr H (Chair)
	Mr. D. Howson	UK CAA, ISP Policy Specialist Research
	Mr. K. Payne	UK CAA, Flt Ops H (Secretary)
	Ms. C. Muir	UK CAA, ISP Manager Safety Programmes
	Mr. S Wheeler	UK CAA, ISP Policy Specialist ATS
	Mr. F Nascimento	UK CAA, Flt Ops H Safety Programme Mgr
	Mrs. G. Haskins	HeliOffshore
	Mr. A. Wilson	AgustaWestland
	Mr. T. Neville	AgustaWestland
	Mr. J. Lyons	EHA
	Capt. S. Harlow	Bond Offshore Helicopters
	Mr. A.Knight	HCA
	Capt. P. McKeage	C-NLOPB
	Mr. S. Brailsford	BP Aviation
	Mr. P. Chittenden	EASA
	Mr. N. Taylor	DSTL
	Ms. S Coleshaw	Safety and Survival Consultant
	Mr. D J. Goncalves-Collins	RenewableUK
	Mr. M. Cerneck	Sikorsky Helicopters

The following attended for the One Atmosphere presentation (item 2) only:

Mr N. Bartels	One Atmosphere
Mr T. Lyons	One Atmosphere
Mr. L. Smith	Bristow Helicopters
Mr P. Nouch	Bristow Helicopters

Apologies:

Mr. R. Decoster	Belgian CAA
Mr. O. Lien	N CAA
Mr. G. Hamre	N CAA
Capt. S. O'Collard	CHC Scotia
Mr. G. Bruniaux	Airbus Helicopters
Ms. E. Armstrong	HSE
Mr J. McColl	UK CAA, Airworthiness
Mr. T. Andersen	Danish Transport Authority
Mr. T. Eagles	UK CAA, ISP
Mr. S. deBoer	Shell Aircraft
Mr. B. Pattinson	UK CAA
Mr. E. Hamremoer	Statoil

1 Introduction

Capt. Newson welcomed members to the 70th meeting, in particular Mrs. Gretchen Haskins of HeliOffshore, who were being represented for the first time, and Mr. Nick Bartels and Mr. Tim Lyons of One Atmosphere who were attending the HSRMC to deliver a presentation on the Pegasus Post-Crash Buoyancy System (see item 2 below). On 3rd July 2015, given the relevance of the One Atmosphere presentation to the EASA Rule Making Task (RMT.0120), Mr. Howson had invited members of the Rule Making Task to attend the briefing. A number of additional attendees were therefore present for item 2 and several stayed on for the remainder of the meeting.

2 Presentation of Pegasus Post-Crash Buoyancy System

Nick Bartels and Tim Lyons from One Atmosphere delivered a presentation on the development of the Pegasus Post-Crash Buoyancy System. One Atmosphere confirmed they are fully funded by the Australian Government both for the original military application to the Tiger attack helicopter and to exploit the technology for commercial aviation applications. They said that the Tiger system should be ready to go in 12 to 18 months' time and undertook to keep HSRMC members apprised of developments. After the presentation Mr. Bartels and Mr. Lyons took questions from members.

The system uses pyrotechnics to generate the gas to inflate the bags. The bags are constructed using 'superfibre' technology (titanium woven into carbon fibre). The bags can be moulded to almost any shape and can withstand high temperatures. The weight of the basic system to generate 1.5T of buoyancy is approximately 25kg; an additional weight of 3kg would be incurred for each additional tonne of buoyancy required. The system is battery powered and completely autonomous. From considerations of integrity, the system is triggered by water pressure.

The presentation was circulated on 28th July 2015 as a pdf file to all members, including those involved in the EASA RMT.

3 Review of Minutes of 69th Meeting (18th November 2014)

3.1 Accuracy

There were no comments or corrections and the minutes of the previous meeting were agreed.

3.2 Actions/Matters Arising

- **ACTION 334** – CAA to consider inviting helicopter manufacturers and/or an appropriate industry body to join the HSRMC. Mr. Howson (CAA)

CLOSED

Mr. Howson had proposed that, given Sikorsky, AgustaWestland and Airbus Helicopters are now all represented on the HSRMC an invitation to join the group should be extended to a fourth OEM, Bell Helicopter. This was agreed and Mr. Howson made contact with Ed Lambert from Bell inviting him to participate in the 70th meeting in July 2015. Mr. Lambert was unable to attend on this occasion but will be invited to attend subsequent meetings.

- **ACTION 338** – Mr. Robb to establish the form and format of any DONG Energy wind turbine wake data that could be made available. Mr. Robb (DONG)

CLOSED

It was earlier agreed that this action had to a large extent been superseded given the turbulence work about to be completed by Liverpool University with the publication of a report published in December. Mr. Goncalves-Collins had suggested that the current action assigned to Mr. Robb be kept open at least until the 70th meeting. However, since Mr. Robb has now left the employment of DONG Energy it was agreed that the action should be closed. Mr. Goncalves-Collins said he would nominate a replacement for Mr. Robb. See also Presentation at item 6 given by Mr. Stephen Wheeler on Wind Turbine Research.

Post meeting note: Mr. Robb's replacement at DONG Energy is Mr. Gorm Muller who is proposed as their new member of HSRMC from the 71st meeting.

- **ACTION 345** – All members to gather and feedback data for discussion and collation at 69th (November 2014) meeting for Tail Rotor Strike Warnings. All Members

OPEN

Between the 68th and 69th meetings CAA's Safety Data Unit performed an interrogation of the database but identified fewer instances of tail rotor strikes than had been expected (there were less occurrences flagged up by the 2014 interrogation than was identified in CAA Paper 2003/01 published 10 years earlier). CAA has agreed to re-run the analysis but this had not been completed. Mr. Wilson had performed a similar analysis for AgustaWestland reported 17 recorded

incidents for the A109/ A119 helicopter fleets as a result of more than 3.3 million flying hours, but only one incident for each of the AW139 (1million flying hours) and for the AW101. Mr. Cerneck said that he had some data to contribute. Mr. Taylor advised that the study for the MoD had been cancelled due to competing priorities. It was noted that the new Bell 525 will incorporate a tail rotor strike warning system. Mr. Lambert from Bell Helicopter will be invited to comment on this at the next meeting – see action 334. As Mr Lambert was unable to attend the 70th meeting this action is carried forward to the 71st meeting.

- **ACTION 346** – Capt. Armstrong and Mr. Tauszig to progress the funding issue. Action not completed and passed on to incoming HSRMC chair. The MoU is currently sitting with EASA. However, there are zero funds available in the EASA R & D budget. It was agreed that this item be closed. Capt. Newson (CAA) **CLOSED**
- **ACTION 347** – Mr. Howson to contact Gretchen Haskins of HeliOffshore to invite a representative to join from the 70th meeting in May 2015. Mrs. Haskins attended the 70th meeting (July, 2015) and accepted the offer of membership. Mr. Howson (CAA) **CLOSED**
- **ACTION 348** – Mr. Ward to liaise with Duncan Trapp (at JOR) to discuss appropriate support for helicopter operator FDM programmes. In Mr. Ward's absence Mrs. Haskins explained initiatives being taken to reinvigorate the operators FDM interface with the Authorities. Mrs. Haskins added that, in her opinion, FDM Managers are still very engaged. Mr. Ward (Shell) **OPEN**
- **ACTION 349** – Mr. Howson to discuss with the Helideck Certification Agency Helideck Steering Committee (HCA HSC) how it is the UK Helideck Limitation List (HLL) is addressing restrictions or limitations in respect to temperature gradient and WAT limits. Mr. Howson (CAA) **CLOSED**

Mr. Howson confirmed that a joint HCA HSC / UK CAA response had been sent to Mr. Hamremoen at Statoil acknowledging their good work but citing some reservations. In particular, HSC members believed that helicopters should be keeping well clear of turbine plumes. Mr. Howson undertook to circulate the HSC response to all members.

Post meeting note: HSC paper circulated on 15th July 2015.

Mr. Howson noted that, for operations by day, a good solution would be to make plumes visible by injecting a glycerol solution. This had been investigated and trialled onshore under an earlier HSRMC research project and is reported in CAA Paper 2007/02. Such a scheme might also be used to validate the Norwegian modelling work.

4 Review of Current Research Projects

4.1 UK CAA Managed Projects

Mr. Howson reviewed the highlights of the latest Research Update (see Section 9) which he had circulated in written form to members by email prior to the meeting. His slide presentation was circulated to members on 28th July. The following additional points were noted (NB: paragraph number corresponds to the numbering in the Research Update paper):

- (4) Helideck Lighting – Mr. Howson noted that implementation of the new circle and H lighting system had been slow in the UK sector despite a letter going to the helicopter operator accountable managers more than two years ago requiring that the new lighting be fitted to all installations and vessels operating in the UK sector by 31st March 2018. Discussions with several lighting manufacturer's has indicated that of all the systems so far sold, approximately 90% were provided for installations and vessels operating outside the UK continental shelf. The modest take-up for UK installations remains a source of concern especially as CAA is

mindful not to allow any dispensations for continued night operations after the cut-off date for compliance (31.3.18). Mrs Haskins suggested that this message needed to be strongly emphasised to the industry so they are in no doubt as to CAA's position on the matter and for CAA to encourage duty holders to put action plans in place to ensure they can implement lighting improvements by the deadline for compliance.

- **NEW ACTION 350** – Capt. Newson to raise with Mr. Swan, at the next Offshore Helicopter Safety Action Group (OHSAG), the importance of duty holders drawing up detailed plans to ensure fitment of circle and H lighting by the final deadline for compliance date of 31st March 2018.

Capt.
Newson
(CAA)
OPEN

- (6) GPS guided offshore approaches – Mr. Howson noted that the three OEMs were each progressing their own systems and full details were not available. Although all three are understood to be similar to the SBAS Offshore Approach Procedure (SOAP) developed and trialled under the HSRMC research project and in conjunction with EU Framework projects, none are believed to address all aspects. For example, it is known that the Sikorsky S92 system still relies on the aircraft's weather radar for detecting uncharted obstacles. It was agreed that a good way forward would be to perform a gap analysis between the three OEMs' systems and SOAP.

4.2 C-NLOPB Initiatives

Mr McKeage advised that the request for proposals (RFP) for safety oversight of the Eastern Seaboard operation had been issued, but there were some contractual issues.

Mr McKeage described the difficulties being faced with the long flights required to support operations in Canada, and noted that the offshore workforce is set to double within a year. A total flight time of around 5 hours has to be allowed for in the event of being unable to land. This requires auxiliary fuel tanks mounted in the cabin and also dramatically reduces the passenger load that can be carried. The lack of toilets on board is a significant issue. The AW101 would be the perfect aircraft for this operation but, unfortunately, is not civil certified and AW have no plans to address the situation.

4.3 EASA Managed Projects

Mr. Howson had included relevant EASA projects in his presentation. Following the meeting, Mr. Tauszig clarified that the MH60 pitch link project noted on slide 16 of the presentation was not funded by EASA; it was included as an example of existing work. Mr. Chittenden advised that at present there is no EASA/ commission money available for funding research projects.

5 Research Programme Funding Update

5.1 Funding status of current programme

Mr. Howson advised that there was nothing new to report.

6. PRESENTATIONS

6.1 Wind Turbine Research

Mr. Wheeler delivered a presentation entitled "Project to create and validate a Computer Generated Wind Turbine Turbulence Model". The presentation was circulated to members after the meeting (see section 9). A link to the completed University of Liverpool Wind Turbine Wake Encounter Study 2015 may be accessed through the following link – see IN-2015/038, paragraph 3.1:

<http://www.caa.co.uk/application.aspx?catid=33&pagetype=65&appid=11&mode=detail&id=6756>

Mr. Knight said it would be helpful to know what wind farm developments were expected in the near future (1 – 2 years). Mr. Goncalves-Collins agreed to assist.

Post meeting note: Mr. Goncalves-Collins provided the link below to information on Offshore Wind Project Timelines.

<http://www.renewableuk.com/en/publications/guides.cfm/Offshore-Wind-Project-Timelines-2015>.

NEW ACTION 351 – Capt. Newson to discuss with Mr. Swan at the next Offshore Helicopter Safety Action Group (OHSAG) the interface between the oil and gas industry and the renewable energy industry.

Capt.
Newson
(CAA)
OPEN

7. AOB

Mr M. Cerneck reported that United Technologies were no longer part of the parent company holding for Sikorsky helicopters. A decision on the future was still pending; whether a new parent company would be sought or whether Sikorsky would trade in its own right.

There was no further AOB.

8. DATE OF NEXT MEETING

The 71st meeting of the HSRMC is to be held on Tuesday 24th November 2015 commencing at 1230 hrs, at Aviation House, Gatwick.

9. ATTACHMENTS (CIRCULATED BY E-MAIL)

1. UK CAA Research Update paper (3rd July 2015)
2. One Atmosphere presentation – Pegasus Post Crash Buoyancy System (28th July 2015)
3. Pro-active approach to control the risk of exposure to hot gas emission during helicopter operations - HCA Helideck Steering Committee Response (15th July 2015)
4. UK CAA Research Update presentation (24th July 2015)
5. Project to create and validate a Computer Generated Wind Turbine Turbulence Model (24th July 2015)

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HELICOPTER SAFETY RESEARCH MANAGEMENT COMMITTEE

Agreed Actions from the 70th Meeting

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