

HELICOPTER SAFETY RESEARCH MANAGEMENT COMMITTEE

Minutes of the 58th Meeting held on 27th May 2009
Aviation House, Gatwick

Present:	Mr. A. Sayce	CAA, Head SIDD (Chairman)	
	Capt. C. Armstrong	CAA, Head Flt Ops H	
	Mr. T. Eagles	CAA, Head Flt Ops Policy GA	
	Mr. C. Taylor	CAA, Aircraft Certification	
	Mr. D. Howson	CAA, RASA	
	Mr. W. Kleine-Beek	EASA	
	Mr. J. Lyons	EHA	
	Mr. E. Hamremoen	OLF/ Statoil	
	Mr. R. Martin	CAA, Engineering	
	Capt. N. Norman	BHA	
	Mr. V. Reed	CAA, Flt Ops H	
	Mr. M. Stevens	Shell Aircraft	
	Mr. D. Trapp	BHA	
	Mr. A. Veale	HCA	
	Mr. M. Lillywhite	CAA, RASA (Secretary)	
Apologies:	Mr. G. Campbell	Oil & Gas UK	
	Mr. J. McColl	CAA, Aircraft Certification	
	Mr. K. Dodson	CAA, Strategy and Policy	
	Mr. B. Finlay	DSTL	
	Mr. G. Hamre	N CAA	
	Ms. M. Kirkesæther	N CAA	
	Mr. M. Lunt	HSE, OSD	
	Capt. M. McDougall	CAA, Flt Ops H	
	Mr. K. Payne	CAA, Flt Ops H	
Mr. J. Steel	IAA		
In attendance:	Miss. R. Christou	CAA, RASA	(For Agenda Item 2)

1 Introduction

Mr. Sayce welcomed everyone to the 58th meeting of the HSRMC and introduced Mr. Veale, replacing Mr. Monaghan from the Helicopter Certification Agency (HCA); Capt. Armstrong, replacing Capt. Porter as Head Flt Ops H, CAA; Mr. Martin (CAA, Aircraft Certification) in attendance on behalf of Mr. McColl for Agenda Items 3 and 4; and Miss R. Christou in attendance for Agenda Item 2.

2 Review of Minutes of 57th Meeting (18th December 2008)

Accuracy:

The minutes of the previous meeting were agreed.

Matters Arising:

2.1 Action 249 - Review of HOMP/FDM implementation in Norway.

Mr Hamremoen reported that FDM was now operational on all Norwegian offshore helicopters.

ACTION NO. 249: COMPLETED

- 2.2 Action 296 - Coordinate a response to NPA Ops when issued in January 2009 regarding the omission of a HUMS requirement.

Mr. Eagles updated the meeting on the moves to see the VHM requirement addressed in the future EASA regulations. In response to NPA-OPS 2009-02, a comment has been made regarding the lack of inclusion of any part of the draft JAA HSST NPA on VHM which was passed to EASA in 2007. Additionally, the progress of various VHM proposals being conducted by EASA will be questioned at the next meeting of the AGNA and followed up with a more formal paper on the subject if clear indications of intent are not forthcoming. Ultimately, if there are no EU rules or requirements established for VHM, then the UK will address its safety concerns through the Article 14(1) process.

ACTION 296: COMPLETED

Mr. Martin asked whether the HUMS AD would continue to apply in the UK until the EASA rules are implemented? Mr. Eagles confirmed that it would.

- 2.3 Action 297 – Use of MoD PSTASS units

Mr. Finlay had arranged the loan of PSTASS units from the MoD on behalf of Dr Coleshaw, the CAA's contractor for the work on the production of a specification for EBS.

ACTION 297: COMPLETED

- 2.4 Action 298 – CAA/EASA collaboration on offshore approach research project

Mr. Howson and Mr. Kleine-Beek had met in March and were aiming to establish a Memorandum of Understanding to allow joint funding of this and other research projects.

ACTION 298: COMPLETED

- 2.5 Action 299 – DSTL/MOD vibration research presentation

Mr. Finlay asked that the presentation be deferred to the 59th meeting.

ACTION NO. 299: Open – DSTL/Mr. Finlay

- 2.6 Action 300 – Industry contact to comment on proposed HUMS for main rotors PhD.

Mr. Finlay had suggested Alan Irwin of AugustaWestland.

ACTION 300: COMPLETED

- 2.7 Action 301 – Industry comment on proposed HUMS for main rotors PhD.

Action completed and discussed under Agenda Item 4: New Research Projects (see Section 4.1 of these minutes).

ACTION 301: COMPLETED

- 2.8 Action 302 – Triggered lightning forecast service project, production of ITT/Notice of Interest.

Action completed and discussed under Agenda Item 4: New Research Projects (see Section 4.2 of these minutes).

ACTION 302: COMPLETED

- 2.9 Action 303 – Helicopter Accident Statistics

Miss Christou provided a brief on helicopter safety statistics. This can be found at Attachment 1.

Mr. Sayce raised the issue of monitoring safety performance and noted the introduction of Safety Performance Indicator 2 (SPI2) which was targeted at helicopters. He reported that a number of task forces were being established following the January 2009 CAA-Industry Safety Conference, but that it had been agreed that the HSRMC would substitute for a task force in the area of helicopters.

It was noted there had been a number of significant events in the preceding three months and that an industry-led Helicopter Task Group (HTG) was being established following the fatal North Sea accident on 1 April 2009. In the absence of Mr. Campbell, Mr. Stevens explained that the HTG had recently been formed and that its objectives were yet to be established. However, one area that would be considered is the post-crash response plan of an operator, an issue currently not considered by the AAIB. The meeting welcomed the HTG initiative but noted that it might have been more effective if it had been implemented via the existing Oil & Gas UK ASTG.

ACTION 303: COMPLETED

2.10 Action 304 – Progress update on EASA helicopter research projects.

Mr. Kleine-Beek provided an update during Agenda Item 6: AOB (see Section 6.1 of these minutes).

ACTION 304: COMPLETED

2.11 Action 305 – FAME Fuel Contamination Note.

Mr. McColl had circulated an update following the meeting.

ACTION 305: COMPLETED

2.12 Mr. Sayce concluded matters arising by briefing a change in CAA organisation structure. He advised that a new division had been formed, Group Safety Services (GSS), which would co-ordinate cross-divisional activities such as strategic analysis, health and safety and European affairs.

3 Review of Current Research Projects

3.1 Mr. Howson distributed copies of the Research Update (see Attachment 2) and reviewed the highlights. The following additional points were noted:

3.2 HUMS: The Advanced Anomaly Detection (AAD) is to be implemented via the OEMs for helicopters with OEM-supplied HUMS. GE Aviation were in the process of negotiating with all the major OEMs apart from Bell Helicopters - there are not many Bell aircraft operating in the North Sea. It was noted that the estimated hourly cost of AAD of \$10 per hour had raised concerns, but the meeting recognised that costs would depend on the demand for the system and, in particular, how the per aircraft type set-up costs were to be recovered.

3.3 Helideck Lighting: Mr. Hamremoen asked whether it would be possible to introduce the new helideck lighting into the Norwegian Sector. Mr. Howson replied that this would be highly desirable and undertook to forward details to Mr Hamremoen.

NEW ACTION NO. 306: Open – CAA/Mr. Howson

3.4 Helideck Friction: The Findlay Irvine GripTester had emerged as the best measuring technique but its practical disadvantages were recognised. It was known that another tester using the same measuring principle as the GripTester but in a significantly smaller and lighter device (the ASFT T2GO tester) was now available. The English XL tester results were disappointing, the main problem being the poor repeatability of friction measurements.

- 3.5 Turbulence Criterion: Mr Howson reported that there had been some enquiries from the Brazilian offshore industry regarding this work. It was noted that they were also seeking to extend their knowledge base through North Sea operations in the areas of night approaches and offshore re-fuelling.
- 3.6 TCAS: The meeting was advised that Bristow Helicopters were considering the use of a smaller TCAS aerial to make it compatible for a retrofit to EC225s. However, to make retrofit compatible with the EC225 a smaller aerial would be required resulting in reduced bearing accuracy for the TCAS unit.

4 New Research Projects

- 4.1 HUMS for Main Rotors; Glasgow University PhD Study: Mr. Howson reported that, following consultation with AgustaWestlands (Action no. 301), it had been agreed not to proceed with the Glasgow University PhD proposal. The CAA had met with AgustaWestlands on 20 May and potential alternative opportunities for collaborative work in this area were identified for HSRMC to consider in due course. Mr. Howson noted the possible need to fund CAA specialist time as well as subcontract costs.
- 4.2 GPS-Guided Offshore Approaches; Helios HEDGE Project: Mr. Howson advised that the duration of the project was 18-24 months and forms part of an EU 7th Framework project. It was proposed that HSRMC's involvement be through the following six potential add-ons to the project:
- i demonstration of the integration of the SOAP procedure with the enhanced helideck lighting;
 - ii safety assessment of the visual segment;
 - iii integration of AIS into the navigation display;
 - iv addition of RNAV guidance to assist shuttling;
 - v database accuracy offshore; and
 - vi uplinking data to helicopters.

The group agreed it would be useful to pursue Items i through iv.

With regard to the safety assessment of the visual segment (Item ii), Mr. Howson noted that a student at Cranfield University, Mr. Nascimento, was undertaking an MSc in this area. The first stage of his project would be to interview approximately 20-30 pilots to gain their views. Capt. Norman and Mr. Trapp agreed to assist in supplying candidate pilots. Mr. Lyons also kindly agreed to assist in setting up an appropriate interview format.

NEW ACTION NO. 307: Open – BHA/Capt. Norman and Mr. Trapp

NEW ACTION NO. 308: Open – EHA/Mr. Lyons

Lastly, it was suggested that the effectiveness of Item iii, integration of AIS into navigation displays, may be limited as it may not include all vessels that might pose a risk to helicopters; only those in excess of 300 tonnes are required to carry AIS transponders. Mr. Howson did not believe this limitation to be significant.

- 4.3 Lightning Forecasting: Mr. Howson reported that the project specification had been circulated for comment. He confirmed that the forecasting system would address both positive and negative lightning strikes. The group agreed that it was impracticable to raise standards for aircraft protection worldwide, and that increasing aircraft lightning protection would likely be an expensive and long-term mitigation. Seeking ways of reducing exposure to lightning strikes was seen to be a more effective solution. The group agreed that Mr. Howson should circulate the draft specification to the HMLC and ASTG for comment.

NEW ACTION NO. 309: Open – CAA/Mr. Howson

- 4.4 EGPWS / TAWS envelopes: Mr. Howson advised that the CAA had been approached by Capt. Mark Prior (Bristows Test Pilot) on behalf of the operators to manage a small project to develop modified EGPWS / TAWS warning envelopes for helicopters. The 'enhanced' functionality of EGPWS is ineffective offshore and the present Mode 1-6 warnings are based on fixed-wing envelopes which are considered unsuitable for helicopter offshore operations. The initiative was related to the accident at the ETAPS platform in February 2009.

Mr. Stevens said that Capt. Prior and Mr. Lyons had approached Honeywell with the work but they had insisted on owning the IPR which was considered unacceptable. It was now proposed that HOMP data be used to establish the envelope of normal operations, outside of which EGPWS alerts should activate, and that this work be undertaken by the operators working with GE Aviation, Bristows' HOMP supplier.

Mr. Howson agreed to contact Capt. Prior regarding a project description document to form the basis of a project specification.

NEW ACTION NO. 310: Open – CAA/Mr. Howson

- 4.5 Failure Modes Effects Critically Analysis: Prior to the meeting Mr. Lyons had raised the topic of FMECAs. It was noted that the related Action 258 had been closed in error at the 52nd HSRMC in April 2006. At that time it was believed that a previous study had considered FMECAs and the meeting had concluded that no further attention was required. It subsequently emerged that the report had not covered FMECAs. Furthermore, it was noted that CS-29 provided little guidance in this area and a recent fatal accident in Canada involving an S-92 suggested that a fresh look into at FMECAs warranted.

Mr Hamremoens agreed to establish whether FMECAs would be included in the forthcoming SINTEF study; this would dictate whether further work should be considered elsewhere.

NEW ACTION NO. 311: Open – OLF/Mr. Hamremoens

5 Research Programme Funding Update

- 5.1 Mr. Howson thanked the meeting for their funding contributions to date and presented the project funding table; this can be found at Attachment 3.

6 AOB

- 6.1 Mr. Kleine-Beek provided an update on existing EASA helicopter research projects and proposals for new projects. This presentation can be found as Attachment 4. The following points were noted:
- The research on side-floating helicopters (Section 2, Item 6 in the HSRMC Programme) was being managed by Mr. Haddon in the Certification Directorate at EASA. The work had been completed and the Eurocopter final report had been placed on EASA's website.
 - The GPS-guided offshore approach work (Section 1, Item 2 in the HSRMC Programme) was Priority 1 for funding but was dependent on the establishment of an MoU between EASA and UK CAA.
 - There are two Priority 2 projects:
 - provision of 2 min contingency power (e.g. using tip jets) to bridge the gap between single and twin turbine aircraft; and
 - icing of small helicopters.
 - HUMS for small helicopters - there had been problems with this project; the trials had not been performed and there was no report yet.

7 Date of Next meeting

The date of the next meeting was not set and it was agreed the secretary would select and notify group members of the most suitable date.

Post-Meeting Note: The 59th meeting of the HSRMC will be held on Monday 7 December 2009 commencing at 10:00, Aviation House, Gatwick.

8 Attachments

- 1) Offshore Helicopter Safety Statistics
- 2) Research Update
- 3) HSRMC Funding Table
- 4) EASA Rotorcraft Safety Research Projects

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