

HELICOPTER SAFETY RESEARCH MANAGEMENT COMMITTEE

Minutes of the 64th Meeting held on 16 May 2012
Aviation House, Gatwick

Present:	Capt. C. Armstrong	UK CAA, Mgr Flt Ops H (2) (Chair)
	Mr. D. Howson	UK CAA, Flt Ops Research Manager
	Mr. V. Reed	UK CAA, Flt Ops H (Secretary)
	Mr. K. Payne	UK CAA, Flt Ops H
	Mr. T. Eagles	UK CAA, Head Flt Ops Policy GA
	Mr. W. Kleine-Beek	EASA
	Mr. J. Steel	IAA.
	Mr. J. Lyons	EHA
	Mr. G. Hamre	N CAA
	Mr. B. Finlay	DSTL
	Mr. M. Ruelokke	C-NLOPB
Apologies:	Capt. G. Porter	UK CAA, Hd Flt Ops Inspectorate
	Mr. A. Knight	HCA
	Mr. R. Decoster	Belgian CAA
	Mr. D. McLean	BP
	Mr. E. Hamremoen	OLF/ Statoil
	Mr G Robb	Danish CAA
	Mr. P. Halldorsson	Iceland CAA
	Mr. P. Naylor	HSE, OSD
	Mr. P. Heeney	HSE, OSD
	Mr. D. Trapp	CHC/BHA
	Capt. S O'Collard	CHC /BHA
Mr T Cramp	Shell Aircraft	
Capt. P. McKeage	C-NLOPB	

1 Introduction

Captain Armstrong welcomed everyone to the 64th meeting, in particular Max Ruelokke for whom this was to be his last HSRMC meeting.

2 Review of Minutes of 63rd Meeting (8 November 2011)

2.1 Accuracy

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

2.2 Matters Arising

- ACTION 311 - Mr. Hamremoen to establish whether FMECAs would be included in the forthcoming SINTEF Helicopter Safety Study – 3. **Mr. Hamremoen (OLF) Open**

Mr. Hamremoen had been unable to attend. Action to remain open for next meeting. Mr Hamre said that either OLF, CAA Norway or Sintef would give the presentation at the next meeting and asked that all three be reminded nearer the time.

- ACTION 327 - Capt. Armstrong to discuss the publication of HSRMC documentation with Capt. Porter.

Permission had been given to CAA Norway to put the research progress reports on its website as these were already in the public domain. As regards other documentation, Capt. Porter said that it would be more appropriate for UK CAA to put the material on its website and to provide CAA Norway with a link.

Mr Reed was addressing this with CAA's IT department and the item is to remain open until the next meeting by which time the action should have been completed.

**Mr. Reed
(CAA)
Open**
- ACTION 328 – Mr Cramp to circulate Grant Campbell's report on the Sikorsky S92 enhanced HUMS VHM data analysis system.

Mr Cramp had been unable to attend. Action to remain open for next meeting.

**Mr. Cramp
(Shell Aircraft)
Open**
- ACTION 329 – Mr. Howson and Mr. Payne to review the CAP 437 wording relating to the use of skidded helicopters on helidecks with 'H' and Circle lighting systems.

The wording had been reviewed and the CAP 437 had been amended.

Mr. Howson/
Mr. Payne
(CAA)
Closed

3 Review of Current Research Projects

3.1 UK CAA Managed Projects

Mr. Howson reviewed the highlights of the latest Research Update (see Attachment 1) which he had circulated by e-mail on 11 May 2012. The following additional points were noted:

- (1) HUMS – EASA had accepted the UK AAIB Safety Recommendation from the G-REDL accident regarding health monitoring of epicyclic stages and noted the need to develop the area of research starting by drafting the terms of reference. The aim of the project will be to produce a Rule or Safety Information Notice.

It was agreed that EASA and the CAA should coordinate on this work to ensure that EASA has access to previous relevant work and takes due account of it. It was suggested that Mr. Howson be included on the internal EASA project team set up to monitor/direct this work.

NEW ACTION 330 – Mr. Kleine-Beek to investigate including Mr. Howson on the EASA internal project team.

**Mr. Kleine-Beek
(EASA)
Open**

- (10) Tail Rotor Strike Warning – Mr. Lyons noted that he had reported some relevant work taking place at Eurocopter and had provided a link (<http://www.ainonline.com/node/103533>). Mr Finlay said that he was aware of some work on 'electronic bumpers' at EADS.

- (11) TCAS – Mr. Finlay advised that a study of 800 military airprox events had been completed and, as a result, it had been proposed that ACAS (1?) be fitted and that the Salisbury Plain flight planning system should be introduced nationwide on a web-based system which identifies potential conflicts. Mr. Eagles noted that it is a requirement that flight crews be trained if ACAS 2 is installed.

Mr. Eagles noted that all work on TCAS is complete. There is no ongoing research requirement and the system now being installed on new deliveries by the helicopter manufacturers. Mr. Howson undertook to obtain an update from Bristow Helicopters and produce an appropriate closing statement for the next research update.

NEW ACTION 331 – Mr. Howson to review the TCAS/ACASII research project with a view to ‘closing’ it if it has been completed.

**Mr Howson
(CAA)
Open**

3.2 C-NLOPB Initiatives

Capt. Ruelokke advised that the S92 emergency flotation scoping study at Oceanic Consulting Corporation in Newfoundland was nearing completion. He expected TORs for the model test programme to be issued in September with testing starting around October/November. He added that C-NLOPB was also liaising with Sikorsky.

3.3 EASA Managed Projects

Mr. Kleine-Beek presented the EASA Helicopter Research Projects and Research Co-operation. The presentation slides are attached (Attachment 3). The presentation indicated the background, objectives and status of each of the following projects:

- Helicopter Flight in Degraded Visual Environment (HDVE) – this work had been contracted to NLR in The Netherlands.
- Helicopter Foreign Object Damage (HFOD) – this work was focusing on tail rotor damage tolerance and was being performed by DLR in Germany.
- Helicopter Main Gearbox Loss of Oil Performance Optimisation (HELMGOP) – this work was at Cranfield University in the UK; it was noted that the scope should include loss of oil pressure as well as loss of oil.
- Helicopter Vibration Health Monitoring (VHM) – the focus for this work was to be improved monitoring of epicyclic stages; the contract had not yet been awarded.
- Helicopter Low Airspeed and Warning Device (HELOAS) – in view of the previous HSRMC work in this area, it was agreed that Mr. Howson should review the EASA TOR for this project soonest.

Post Meeting Note: Mr. Howson reviewed and commented on the HELOAS TOR immediately after the meeting.

- Wave Simulations (not yet launched) – this work is aimed at replacing wave tank testing with computer simulations. Mr. Howson thought that, based on earlier expert advice received, this was unlikely to be successful and, in any event, was aimed at reducing certification costs rather than improving safety.

The issue of NAA input to the EASA research programme was highlighted, and it was suggested that EASA circulate proposals to NAAs for comment prior to TORs being finalised and tendered.

4 Research Programme Funding Update

4.1 Funding Status of Current Programme

Mr. Howson had circulated the project funding table (see Attachment 2) on 11 May 2012 and reviewed the changes. In particular, he advised that HSE had confirmed the funding for the work on helideck nets at NLR (£22k) and that OGP and BP had provided the remaining additional funding required for the EGPWS second helicopter type work (£5k and £3.5k respectively). He added that a further £32k was needed for the second lightning strike forecasting trial.

4.2 Status of Funding Contributions

Covered under 4.1 above.

4.3 Status of UK CAA/EASA MoU

Mr. Kleine-Beek explained the situation regarding the EU/US MoC on research Co-operation. This agreement had the following three annexes:

- Annex 1 – SESAR
- Annex 2 – ATM Performance Management
- Annex 3 – Aviation Safety

Annex 3 had been delivered to the EC in September 2011 but had not progressed much due to priority being given to Annex 2. Once Annex 3 is in place, however, it could be used as a template for similar arrangements between EASA and NAAs.

5 Presentations

5.1 Helideck Friction

Mr Payne repeated the presentation on helideck friction that he had given at a recent helideck seminar in Brazil. A copy of the presentation is attached to these minutes (Attachment 4). The following points were raised:

- It was noted that the origin of the 0.65 μ friction value had recently been questioned. This criterion had been 'inherited' from the preceding DEn Section 55 guidance material and incorporated in CAP 437. Initial investigations have confirmed the criterion but a more detailed study is planned using the model developed for the work on operations to moving decks.
- The question of the surface beneath a landing net was raised; this is considered largely academic as the net should always result in an improvement.

A paper covering all of the work on helideck friction is due to be published in 2013 and CAP 437 will then be reviewed.

5.2 Rotorcraft Technology Validation Programme

Mr. Howson gave a presentation on the RTVP, noting that the information content was to be treated as strictly commercial in confidence. The programme is scheduled to complete in December 2013. If any of the committee members wish to obtain further information they should make contact with AgustaWestland, the programme owners.

NEW ACTION 332 – Secretary to forward contact details for RTVP to HSRMC members. **Mr Reed (CAA) Open**

6 AOB

- 6.1 The HSE representatives had requested that the committee consider starting future meetings at 11.00 to avoid them needing to night-stop. A number of members indicated that they preferred the current earlier start to fit in with return flights. The start time of HSRMC meetings would be discussed with Capt. Porter with a view to maximising attendance.

NEW ACTION 333 – Start time of HSRMC meetings to be reviewed with Capt. Porter.

Capt. Porter
Capt. Armstrong
Mr. Howson
(CAA)
Open

- 6.2 At the previous meeting, the helicopter operators had requested that research be instigated to provide guidance on operations to offshore wind farms addressing, in particular, the issue of wake turbulence.

Mr. Howson said that potential for synergy with another ongoing CAA research initiative at Liverpool University he had been identified. He had produced a draft project specification which he had discussed with Liverpool, but initial cost estimates were prohibitive. Opportunities for sourcing the funding required were being pursued, but he was not optimistic. A reduced scope of work would be investigated.

- 6.3 The question of whether or not to invite helicopter manufacturers was raised. This would be considered. Mr Howson said he would contact Westland Helicopters for advice.

NEW ACTION 334 – CAA to consider inviting helicopter manufacturers and/or an appropriate industry body to join the HSRMC.

Capt. Porter
Mr. Howson
(CAA)
Open

- 6.4 Capt. Ruelokke had earlier advised the committee that this would be his last meeting representing C-NLOPB. The Chairman thanked Capt. Ruelokke for his participation and valuable contributions to the HSRMC.

7 **Date of Next Meeting**

The 65th meeting of the HSRMC will be held on Tuesday 20 November 2012 commencing at a time to be confirmed (otherwise 10.00), Aviation House, Gatwick.

8 **Attachments to e-mail**

1. CAA Research Update
2. CAA Research Programme Funding Update
3. EASA Helicopter Research Projects Presentation
4. Helideck Friction Presentation

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HELICOPTER SAFETY RESEARCH MANAGEMENT COMMITTEE

Agreed Actions from the 64th Meeting

ACTION 311 - Establish whether FMECAs would be included in the forthcoming SINTEF study. <i>Action to remain open for discussion at next meeting.</i>	Mr. Hamremoen (OLF) Open
ACTION 327 - Capt. Armstrong to discuss with Capt Porter the publication of HSRMC documentation. <i>The item is to remain open until the next meeting by which time the action will have been completed.</i>	Capt. Porter (CAA) Open
ACTION 328 – Mr Cramp to circulate Grant Campbell’s report on the Sikorsky S92 enhanced HUMS VHM data analysis system.	Mr. Cramp (Shell Aircraft) Open
NEW ACTION 330 – Mr. Kleine-Beek to investigate including Mr. Howson on the EASA internal project team.	Mr. Kleine-Beek (EASA) Open
NEW ACTION 331 – Mr Howson to review the TCAS/ACASII research project with a view to ‘closing’ it as it has been completed.	Mr Howson (CAA) Open
NEW ACTION 332 – Secretary to forward contact details for RTVP to HSRMC members.	Mr Reed (CAA) Open
NEW ACTION 333 – Start time of HSRMC meetings to be reviewed with Capt. Porter.	Capt. Porter Capt. Armstrong Mr. Howson (CAA) Open
NEW ACTION 334 – CAA to consider inviting helicopter manufacturers and/or an appropriate industry body to join the HSRMC.	Capt. Porter Mr Howson (CAA) Open