

## HELICOPTER SAFETY RESEARCH MANAGEMENT COMMITTEE

Minutes of the 59<sup>th</sup> Meeting held on 7<sup>th</sup> December 2009  
Aviation House, Gatwick

|                |                    |   |
|----------------|--------------------|---|
| Present:       | Capt. G Porter     | UK CAA, Hd Flt Ops Inspectorate (2) (Chair) |
|                | Capt. C. Armstrong | UK CAA, Head Flt Ops H                      |
|                | Mr. T. Eagles      | UK CAA, Head Flt Ops Policy GA              |
|                | Mr. D. Howson      | UK CAA, RASA                                |
|                | Mr. J. Lyons       | EHA   |
|                | Mr. E. Hamremoén   | OLF/ Statoil                                |
|                | Capt. N. Norman    | BHA   |
|                | Mr. M. Stevens     | Shell Aircraft                              |
|                | Mr. P. Dawes       | BP  |
|                | Mr. M. Lillywhite  | UK CAA, RASA                                |
|                | Mr. V. Reed        | UK CAA, Flt Ops H (Secretary)               |
|                | 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                                    |
|                | Mr. J. Steel       | IAA   |
|                | Mr. K. Payne       | UK CAA, Flt Ops H                           |
|                | Mr. R. Decoster    | Belgian CAA                                 |
|                | Mr. W. Brandson    | Dutch CAA                                   |
|                | Mr. G. Robb        | Danish CAA                                  |
| Apologies:     | Mr. J. McColl      | UK CAA, Aircraft Certification              |
|                | Capt. M. McDougall | UK CAA, Flt Ops H                           |
|                | Mr. A. Knight      | HCA   |
|                | Mr. D. Trapp       | BHA   |
|                | Mr. C. Taylor      | UK CAA, Aircraft Certification              |
|                | Mr. W. Kleine-Beek | EASA  |
|                | Mr. R. Martin      | UK CAA, Engineering                         |
| In attendance: | Mr. P. Halldorsson | Iceland CAA                                 |
|                | Mr. Van Der Moors  | Dutch CAA                                   |

### 1 Introduction

Capt. Porter welcomed everyone to the 59<sup>th</sup> meeting of the HSRMC and introduced himself as the new chairman.

### 2 Review of Minutes of 59<sup>th</sup> Meeting (27<sup>th</sup> May 2009)

#### Accuracy:

Capt. Norman requested that paragraph 3.6 be changed from 'However, to make retrofit compatible with the EC225...' to 'However, to optimise with the EC225...'.

Other than the above the minutes of the previous meeting were agreed.

Matters Arising:

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

ACTION 296: COMPLETED

Mr. Eagles gave an update to the meeting. An OPS rule change was issued by the HSST (to reflect Annex 6, Part 3); this may be better pursued through the JAR-26 route. The VHM work went off track when it became mixed up with CS-27/29. Mr. Eagles has chased and raised the item via AGNA and it is now on the future rule making plan 2009-2012. The JAA work will be used as a basis for the submission. Currently, there is nothing in the rules to require VHM for offshore operations.

- 2.2 Action 299 – DSTL/MOD vibration research presentation

Mr. Findlay gave his presentation to the committee under Agenda Item 3 - see presentation slides attached.

ACTION 299: COMPLETED

- 2.3 Action 306 – Helideck Lighting details and introduction to the Norwegian Sector

Mr. Howson confirmed that the interim report had been sent to Mr. Hamremoens on 23 October 2009.

ACTION 306: COMPLETED

- 2.4 Action 307 – Assistance to Mr. Nascimento in supplying candidate pilots.

Mr. Howson confirmed that the thesis had been completed and received by the CAA. The document would be checked for accuracy and then circulated to all.

ACTION 307: COMPLETED

**NEW ACTION 312: Open - CAA/Mr Howson**

- 2.5 Action 308 – Assistance to Mr. Nascimento in setting up an appropriate interview format.

ACTION 308: COMPLETED

- 2.6 Action 309 - Circulate the draft specification for the lightning strike forecasting research to the HMLC and ASTG for comment.

Mr. Howson had completed the action and no issues had been raised.

Capt. Armstrong asked whether any consideration should be given to enhancing the aircraft lightning protection. Mr. Lyons said that it had been looked at before and it had been concluded that a change to the standards was inappropriate due to the limited applicability.

ACTION 309: COMPLETED

- 2.7 Action 310 - Contact Capt. Prior regarding a project description document for the proposed work on EGPWS warning envelopes to form the basis of a project specification.

Mr. Howson confirmed that the specification had been produced and circulated. This is now a project.

ACTION 310: COMPLETED

- 2.8 Action 311 - Establish whether FMECAs would be included in the forthcoming SINTEF study.

This had been discussed and FMECAs are included. The study report is due in March 2010. Action to remain open for discussion at next meeting.

**ACTION 311: Open - OLF/Mr. Hamremoens**

### 3 Review of Current Research Projects

3.1 Mr. Howson distributed copies of the Research Update (see Attachment 1) and reviewed the highlights. The following additional points were noted:

3.2 Item 1 - HUMS: Mr. Stevens suggested that GE were now the lead provider of HUMS equipment; however, there had been a mixed response from customers. AgustaWestland had adopted Advanced Anomaly Detection (AAD) and are now offering it to customers. An update meeting had taken place two weeks before the HSRMC; notably, Sikorsky had not attended. Mr. Stevens considered this project a significant success.

Mr Lyons suggested that AAD was perhaps a better option for lighter helicopters.

3.3 Item 4 - Helideck Lighting: Capt. Porter noted that Bond helicopters had now taken over the contract flying to the CPC-1 out of Blackpool. This should provide further views from pilots regarding the effectiveness of the new lighting arrangement. The issue of all green platform cultural lighting as trialled in the Dutch sector was raised. It was confirmed that this form of platform lighting was not acceptable to the aviation industry.

3.4 Item 6 - Offshore Approaches: Capt. Norman confirmed that Eurocopter were working on advanced approach procedures, improving the Ground Speed hold mode.

3.5 Item 9 - Extension of HUMS to Rotors: Although the AAD analysis was successful in detecting the example defects prior to the last flight, it was highlighted that a cockpit warning system would be required to prevent the subsequent departure and accident. Better results were obtained where both axial and radial vibration data were available.

Capt. Norman asked whether fault detection would be easier or harder on more modern elastomeric designs. Mr. Steel asked whether it would work on fenestrans. Neither of these questions could be answered. Mr. Finlay considered it a good idea to investigate elastomeric designs and thought that it might be possible to access some suitable data on the Cormorant from Canada. Mr. Finlay agreed to provide contacts for CAA to follow up.

#### NEW ACTION 313: Open – DSTL/Mr Findlay

3.6 Item 11 - TCAS: The meeting was advised that Bristow Helicopters had four Super Pumas which had TCAS fitted. Capt. Norman advised that Eurocopter had now 'woken up' regarding TCAS and were now looking into automatic responses to RAs. Mr. Lyons confirmed that ICAO now say that the RA must be obeyed over ATC.

3.7 Item 12 - EGPWS Warning Envelopes: Mr. Stevens confirmed that OGP would help fund this research. It was suggested that the scope of the work should be extended to cover integration issues but it was accepted the warning envelopes were a good place to start.

### 4 New Research Projects

#### 4.1 Proposal to Research PC2e

Capt. Armstrong proposed undertaking research into PC2e. It was considered by Capt. Armstrong that there may be some gains in safety with the introduction of PC2e, but also increased risk due to the consequent increase operations anticipated. He thought that there was a case for re-assessing PC2e and producing a revised proposal. A meeting of North Sea NAAs was to be held to discuss this subject the day after the HSRMC at which it was hoped to establish a harmonised approach across the North Sea States.

Mr Lyons confirmed that the basis for PC2e was PC1, and that PC2e represented an intermediated standard greater than PC2 but without the complication of PC1. He added that he did not agree with some of the elements of the operators' paper. PC2e was really only a problem for some older aircraft.

Capt. Armstrong thought that the operators' paper should be re-assessed and a revised paper produced. Capt. Porter suggested that a proposal be produced and circulated following the 8 December meeting.

**NEW ACTION 314: Open – CAA/Capt. Armstrong**

4.2 FMECAs

Mr Lyons had discussed this issue with SINTEF who appear to be addressing it. It was agreed that it be parked pending the results of the work by SINTEF. Mr Hamremoens would contact SINTEF to enquire if any assistance was needed.

**NEW ACTION 315: Open – OLF/Mr Hamremoens**

4.3 Top Safety Concerns of Operators

Of the four UK offshore operators only Bristow Helicopters had produced a list of their top 10 safety concerns. It was considered that this should be progressed further at the next HMLC. Mr. Eagles asked whether any issues had been identified from the investigation of the Canadian S-92 accident. Mr Lyons thought that only the accident sequence.

**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 2.
- 5.2 Bristow Helicopters had agreed to provide half the funding (up to £15k) for the work on EGPWS warning envelopes; the other half to come from OGP via Mr. Stevens.
- 5.3 Mr. Hamremoens stated that OLF's research funding was being spent on the SINTEF study in Norway.
- 5.4 Mr. Finlay said that the MoD had different priorities but some thought was being given to aligning with civil priorities. The ALICIA project may assist with this.
- 5.5 Mr. Lunt noted that the MoU between the HSE and the CAA was due to expire at the end of March 2010. Thought should be given by HSE to funding new projects such as lightning forecasting.

**NEW ACTION 316: Open – HSE/Mr Lunt**

**6 Presentations**

- 6.1 A presentation was given to the meeting by Sim Wincott of AgustaWestland regarding the ALICIA EU 7<sup>th</sup> Framework Project. The slides can be found at Attachment 3.
- 6.2 Bryan Findlay presented information relating to vibration monitoring. The Secretary of State had determined that the MoD would comply with the EU Physical Agents Directive (PA(V7D)). The PA(V7D) legislation came into force 2005. The process of data capture and assessment was described to the meeting. This included the relative amount of the data collected and the differences between helicopter types and location within each helicopter type. Mr Findlay was asked to supply a copy of the slides to Mr. Howson for circulation with the minutes.

**NEW ACTION 317: Open – DSTL/Mr Findlay**

**7 AOB**

- 7.1 Capt. Porter suggested that representatives of Bond Offshore Helicopters and BIH should be invited to attend future meetings of the committee. There were no objections and it was agreed that BHA be asked how they wanted to proceed.

**NEW ACTION 318: Open – CAA/Mr Reed**

AgustaWestland and Eurocopter could also be asked if they would like a representative to attend. Mr. Stevens noted that the presence of the OEMs at meetings can impede discussions. It was agreed not to invite any OEM representation at this time.

- 7.2 Mr. Dodson asked why the subject of wind farms was not being discussed. It was felt that there was no specific demand for research into the safety of these operations at present. General issues could be addressed through the HMLC.
- 7.3 Mr. Robb and Capt. Armstrong said that they would endeavour to coordinate future meetings of the North Sea NAAs to allow wider participation in the HSRMC which had been considered beneficial.
- 7.4 Mr Lunt suggested that the meeting should consider inviting a representative from Transport Canada or one of the Operators to give their views on Offshore Operations and the S-92 accident. Mr Howson would investigate the possibility of such a presentation.

**NEW ACTION 319: Open – Mr Howson**

**8 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 60<sup>th</sup> meeting of the HSRMC will be held on Tuesday 11<sup>th</sup> May 2010 commencing at 10:00, Aviation House, Gatwick.

**9 Attachments**

- 1) Research Update
- 2) Research Programme Funding Update
  
- 4) List of Actions

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