



Meeting of the eVTOL Safety Leadership Group (eVSLG)
16 July 2024 13:30-16:00 BST
MINUTES

In attendance:

Simon Meakins	Bristow Helicopters
Rick Newson FRAeS	Civil Aviation Authority
Kirsten Rienzeema FRAeS	Civil Aviation Authority
Chris Booth	Civil Aviation Authority
Michael Pryce	Civil Aviation Authority
Darius Mikulenas	Civil Aviation Authority
Mark Wallis	Civil Aviation Authority
James Gillian	Volocopter
Steve Hazlehurst	HeliOffshore
Brian Davey	Joby
Verity Richardson	Archer
Juliana Carolina Kiraly Thomaz Rodrigues	Eve Air Mobility
Wg Cdr Alex Brassington	Military Aviation Authority
David Stepanek	Bristow Helicopters
Mike O'Donoghue	GASCO
Paul Barker	Marsh
Sam Wright	NATS
Gavin Moir	NATS
Robin Milan	Marsh
Claire Hibbert	Global Aerospace
Lisa Fitzsimons	AAIB
Ollie Dismore	European Helicopter Association
Tim Fauchon	British Helicopter Association
Simon Whalley	Skyports
Will Nathan	Vertical Aerospace
Marilyn Pearson	CAE

TABLE OF ACTIONS

Section	Deadline	Action	Responsible
UK Government and Regulatory updates	Next meeting	Garry Lathey to be invited to give an update at the next meeting.	Secretariat
Risk Sub-Group	July 2024	Chris Booth to issue invitations for the first workshop of the STPA to commence in mid-August	Secretariat
Setting up an Ops Sub-group	Next meeting	Rick Newson to share rotorcraft Key Risks with the EVSLG.	Rick Newson

Introductions, Updates and Matters Arising

The meeting commenced with the chairs thanking Marsh Aviation for hosting, enabling a rare in-person meeting of the group at an accessible central London location.

Simon Meakins introduced the meeting and what he sees as the on-going purpose of the EVSLG, from his perspective not just as co-chair, but as a relatively new member of the group itself. Both co-chairs believe there is an opportunity for shared working between the EVSLG and the Offshore Helicopter Safety Leadership Group.

Members were reminded of the antitrust and competition commitment for participants of the meeting. No objections or comments were raised.

The minutes of the last meeting were approved for publication on the CAA website.

UK Government and Regulatory updates

- **AAM Challenge Lead update**

Kirsten Rienzeema gave an update as AAM Challenge Lead on the CAA's policymaking activities pertaining to Advanced Air Mobility.

Four published policy papers have been consulted upon, namely:

- Flight Operations using VTOL aircraft
- Licensing of pilots of VTOL-capable aircraft
- Type-Certification of VTOL aircraft
- The regulatory basis for continued airworthiness of VTOL aircraft

The intent of giving an update on these consultations is to give the CAA's way of thinking on the CAA web site, and to improve engagement with industry.

Ollie Dismore asked whether there are any particular areas where FAA and European rules are likely to diverge from British policy. Kirsten responded that the CAA meets regularly with both organisations to minimise divergence with key publications such as the FAA Special Federal Aviation Regulation (SFAR) for powered-lift operations. It is not necessarily the CAA's position that the UK shall pursue a 'third way', just for the sake of creating difference. The CAA is also mapping policy gaps that came out of the reforms of the Airspace Modernisation Strategy.

Will Nathan asked how much data exists to inform knowledge of battery capability? Kirsten replied that the CAA only have data on ground-based electric vehicles, which is why they are commissioning independent research looking at battery robustness and capability in the aviation context.

Rick Newson reminded all that the CAA's Mandatory Occurrence Reporting scheme is the main way of evaluating safety performance, as well as Air Accident Investigation Branch reports. The CAA safety data team are currently looking at ways of using enhanced computing power and Artificial Intelligence to mine data records of MORs most effectively. Will Nathan added that OEMs do plenty of testing as part of their airworthiness and certification work – is there a missing link regarding passing of data on to the CAA's Design and Certification team routinely?

Next, Rick Newson confirmed that as part of the CAA's efforts to enable operations in the certified category of remotely piloted aerial systems (RPAS), he has recruited a Flight Operations Lead - Certified RPAS, Philip Lockey. Given the relevance of certified category RPAS to the EVSLG regulatory conversation, Philip will also attend EVSLG meetings in future.

- **D&C updates**

Garry Lathey was unable to attend this meeting, but the invite will be extended for him to present on the CAA's certification activities at a future meeting.

Action: Garry Lathey to be invited to give an update at the next meeting.

Emerging Risks

Downwash mapping research update

Dr Mike Pryce, an Emerging Policy Specialist at the CAA, gave the EVSLG an update on the downwash impacts research he has been conducting in collaboration with Dr Richard Brown, CTO of Sophrodyne Aerospace. Dr Brown previously presented his research into *'Understanding the downwash/outwash characteristics of eVTOL aircraft'* (CAP2576) in our meeting in September 2023.

The current step is to validate the downwash model that Dr Brown has been working on, with CAA staff undertaking ground-truthing sessions at the British Grand Prix and Llanbedr airfield during this summer.

CHIRP – way forward

Rupert Dent, Drone Programme Manager at CHIRP, gave an update on the organisation's efforts to recruit a full-time person with responsibility for monitoring Advanced Air Mobility incidents.

As part of this work, Rupert aims to set up a portal on the CHIRP website specifically for the reporting of AAM incidents. He added that they are not yet clear regarding how the page will be formatted and what its scope will be, so is very much seeking the feedback of the eVTOL community to help make the page as helpful as possible.

Rupert added that to aid his understanding of the eVTOL ecosystem, he would be very grateful if any members of the EVSLG were able to host him.

Risk Sub-Group's Systems Theoretic Process Analysis of eVTOL operations

Chris Booth gave an update on the EVSLG Risk Sub-Group's Systems Theoretic Process Analysis of eVTOL operations. This is currently the main output of the Risk Sub-Group, and is being undertaken in conjunction with WMG University of Warwick, thanks to funding from the CAA, made available by the Department for Transport's Future of Flight Action Plan.

He thanked the members of the EVSLG for their involvement in and engagement in the project so far, reminding colleagues that the forthcoming stages require good industrial engagement to succeed. He also made clear that a successfully delivered project will not only realise benefits

for the CAA in aiding the writing of air operations regulations, but will contribute to eVTOL stakeholders' Safety Management Systems.

A series of workshops with Warwick University researchers will commence in mid- August, continuing on a roughly monthly cadence until December, requiring participation from a number of organisations represented within the EVSLG. Invites for the initial workshop will be issued shortly.

Action: Chris Booth to issue invitations for the first workshop of the STPA to commence in mid-August

Presentation by Dave Stepanek, Executive Vice President and Chief Transformation Officer at Bristow Group – 'AAM: a philosophical guide for early operations'

The EVSLG received a presentation from Dave Stepanek, Executive Vice President for AAM at Bristow Helicopters, entitled 'AAM: a philosophical guide for early operations', which outlines the initial operational philosophy for eVTOL aircraft at Bristow.

Following the presentation, a question was posed regarding lessons Bristow have drawn from the commercialisation of the drone market. Dave Stepanek responded that this report does not address those comparisons directly, but he recognises that the potential lessons to be learned are numerous. He added that a key aim of this paper is to act as a catalyst for the eVTOL ecosystem to consider setting up a 'HeliOffshore for eVTOLs', in readiness for commercial operations launching at scale.

Airworthiness Sub-group

Mark Wallis, Airworthiness Manager at the CAA, gave a short update on the merits of setting up an Airworthiness Sub-Group. Many voices were heard during the ensuing discussion.

Will Nathan asked why a separate group needed to be created – is the main group best placed for these discussions? Mark Wallis responded that insufficient airworthiness specialists attend the main meetings, and a sub-group would have a narrower, more targeted participant list.

Setting up an Ops Sub-group – group discussion

A short discussion was had to examine whether now is the right time to set up an Operations Sub-Group. It would look at issues such as societal acceptance, and other more specific discussions that cannot be dealt with sufficiently in the wider EVSLG meetings. Rick Newson suggested the Royal Aeronautical Society's work looking at potential future accidents might offer useful information on this.

Ollie Dismore said that the Onshore Helicopter Safety Leadership Group's activity had slowed down since the Derriford accident report, and that the STPA of the Risk Sub-Group might lead to amendments to the Terms of Reference of other EVSLG sub-groups. It was therefore suggested that the establishment of the Operations Sub-Group should wait until the conclusion of the STPA. However, in the interim Rick Newson said that he would share with the EVSLG the current Key Risks for rotorcraft.

ACTION: Rick Newson to share rotorcraft Key Risks with the EVSLG.

AOB

Next meeting date: 22nd November 2024