

SECRETARY OF STATE

MINISTRY OF DEFENCE FLOOR 5, ZONE D, MAIN BUILDING WHITEHALL LONDON SW1A 2HB

7 March 2022

Dear Ms Sutherland,

Thank you for your letter of 7 December 2021 with which you enclosed a copy of your Regulation 28 report following the inquest into the tragic death of Corporal Jonathan Harvey Bayliss, when a Royal Air Force Aerobatic Team (RAFAT) Hawk T Mk1 aircraft crashed at RAF Valley on 20 March 2018. I very much share your desire to prevent any recurrence of such a terrible event and I am grateful to you for bringing your findings to my attention.

I understand that you heard evidence of how changes have been made following the recommendations of the Service Inquiry. These include a review of flying training publications, pilot currency requirements and training objectives for Supernumerary Crew. In addition, key safety enhancements such as the creation of a RAFAT-focused Air Safety Management Team, the development of a Command Ejection capability, and the incorporation of a Cockpit Voice Recorder are already in train.

Addressing the matters of concern, you have raised, I set out below the steps already been taken, and the further action planned.

Matters of Concern 1 – "As identified by the Service Inquiry the cause of the crash was the aircraft stalling with insufficient height to recover. It was also recognised that the aircraft may in certain circumstances stall without pre-stall buffet. The pre-stall buffet remains the warning sign to the pilot of an impending stall. The Service Inquiry recommended that urgent investigations be undertaken into the incorporation of an artificial stall warning capability in the Hawk T Mk1 to provide sufficient warning to pilots during low-speed low-altitude manoeuvring. Whilst a feasibility assessment and cost benefit analysis have been undertaken a final decision is yet to be made as to whether or not the recommendation will be adopted."

Ms Sutherland HM Coroner's Office Shirehall Street Caernarfon Gwynedd LL55 1SH As you observe, further analysis and evaluation has been carried out after the sad death of Corporal Bayliss. I am pleased to say that this has concluded that the incorporation of a combined ASWS and Angle of Attack (AoA) gauge to enhance stall mitigation is feasible and proportionate. The RAF will now take forward work to fit a combined ASWS and AoA gauge to the remaining RAFAT Hawk T Mk1 aircraft. This will require significant test and evaluation, which will be a high priority. The exact timelines for test, evaluation, development and embodiment of the combined ASWS/AoA gauge will be determined this year.

RAFAT pilots are regularly required to practice and demonstrate their competence to complete a forced landing. The potential for airframe buffet to be masked by both the 'smoke pod' and when the landing gear is down has been, and will continue to be, a key focus of Hawk T Mk1 pilot training, combined with the ability to correctly assess a safe approach. The requirement to practise 'live' forced landings will be constantly reviewed, in-line with the development of a combined ASWS/AoA gauge and as future RAFAT Hawk T Mk1 synthetic developments are realised.

Continued training and the application of both a combined ASWS and AoA gauge, will collectively aim to ensure pilots are prepared and have sufficient warning during *low-speed low-altitude manoeuvring*.

Matters of Concern 2 – "It was recommended by the Service Inquiry that the Hawk T Mk1 simulator training accurately reflects an aerodynamic model of a RAF aerobatic aircraft with smoke pod fitted, given that this may soon become the only Hawk TMk1/1A operated by the RAF and the current training simulator did not have the effect of a smoke pod fitted. Whilst there are developments in this respect there is no new synthetic trainer in place as yet."

The Ministry of Defence (MOD) recognises that the Hawk Synthetic Training Facility at RAF Valley provides a generic platform for procedural and emergency training, for pilots that operate all types of Hawk T Mk1 aircraft. The retirement of the 'black' Hawk T Mk1, which includes 736 Royal Naval Air Squadron and Number 100 Squadron, on 31 March 2022, provides an opportunity to deliver a bespoke Hawk Synthetic Training Facility for RAFAT pilots. The RAF has begun to identify potential RAFAT focused Hawk Synthetic Training Facility options, to be co-located with the Team at their new home of RAF Waddington. The new Facility will correctly reflect the aerodynamic model of a RAFAT aircraft, with a smoke pod fitted. A detailed procurement timeline is being developed, with the expectation that the new Facility will be in place by 2025.

Prior to this being completed, it is important that RAFAT pilots can train synthetically on an aircraft that is truly representative of the one they fly. MOD has therefore taken steps to ensure that, following the retirement of the 'black' Hawk T Mk1 aircraft, the current Hawk Synthetic Training Facility software is updated to closely reflect the aerodynamic model of a RAFAT aircraft with a smoke pod fitted. A period of test and evaluation will be required, although it is expected that the remodelling of the software to replicate a RAFAT Hawk T Mk1

aircraft, that enables the Hawk Synthetic Training Facility at RAF Valley, will be ready for use in 2023. Collectively, this will aim, as far as possible, to accurately replicate flying scenarios for our pilots.

Thank you for writing to me about these important matters. I hope that my response has demonstrated that the MOD has learned and will continue to learn lessons from this dreadful event. I hope too that Corporal Bayliss' family will draw some comfort from the knowledge that your report has prompted action. As ever, my thoughts remain with them, and with all those friends and colleagues who continue to feel his loss so acutely.

Yours sincerely,

THE RT HON BEN WALLACE MP