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10/09/2018

Mrs Louise Hunt
HM Senior Coroner
Birmingham and Solihull Areas
50 Newton Street
Birmingham
B4 6NE

Dear Madam,

Inquest into the Deaths of Matthew Karl Hatfield - Deceased and Darren Paul Neilson - Deceased

We refer to the Regulation 28 Report to Prevent Future Deaths following the completion of the Inquest into the deaths of Matthew Hatfield and Darren Neilson. The information below is intended to provide assurance that the issue raised through the findings of your investigation, has been fully reviewed and adequately addressed by BAE Systems.

The Report raises three matters of concern. This letter responds on behalf of BAE Systems to the third concern which is directed to both MoD and BAE Systems (the other two matters of concern being directed to MoD alone).

The Inquest heard evidence that -

- the gun was designed by the Government owned Royal Armaments Research and Development Establishment (RARDE) and that thereafter it was brought into production by the Government owned Royal Ordnance Factory Board, working together with RARDE.
- there was a Design Freeze in 1987. After that date any modifications to the design had to be approved by MoD.
- the safety of the gun design and its suitability for use was separately assessed by the MoD's Ordnance Board in 1989 and 1994.

In your narrative setting out the Circumstances of Death you accurately summarise that evidence above *"The gun was designed and manufactured in the 1980s coming into use in Challenger 2 in 1994"*.

BAE Systems, as you are aware, had no involvement with the gun during this period and did not come into existence until 1999. British Aerospace, a predecessor company of BAE Systems, bought Royal Ordnance plc in 1987 after the design freeze was in place for the gun. As detailed above, the work carried out prior to Design Freeze by Royal Ordnance in productionising the gun was carried out when it was in government, rather than private ownership.

You also heard evidence that BAE Systems was not tasked by the MoD during the safety case reports that were undertaken for the tank in 2010 and the gun in 2014 to review the original design itself, as they were "in service" assessments based on user experience and upon assumptions that training/procedures would be followed.

We set out such matters not because they diverge from your findings (they do not), but because this letter may be published by the Chief Coroner and we therefore wish to make the position clear, so that it is not misunderstood. Following your findings of fact at the conclusion of the inquest, there was some general misreporting in the media that BAE Systems had designed the gun, when in fact it had not.

We understand, therefore, that your concern directed at BAE Systems relates to the company's role in any future design or design review of such armaments, and to seek reassurance that the risk assessment processes that will be undertaken on those occasions will be suitable and will take into account the way they will be used according to the army's drills.

We can confirm that, were BAE Systems to be contracted in the future to design any such armament, it would follow a thorough design analysis, in conformity with the current design standards identified by ████████ HM Principal Inspector of Health and Safety (Explosives). As part of that process, BAE Systems would apply the current MoD Defence Standard (07-085), which in relation to obturation specifically states "It should not be possible to fire the ordnance if any component of the obturation system is missing". The Standard goes on to reference how ideally the design should prevent that from happening.

Accordingly, the current Design Standard, which BAE Systems, or any other designer, is currently required to follow specifically identifies the issue you are concerned about. It requires the designer to consider design solutions and their adherence to the relevant Standard, which would prevent the issue from arising, whether in combination with the undertaking of a TVEDU red drill, or otherwise.

We can also confirm that any such design or assessment of design would take account of the foreseeable use of the armament in practice, which would incorporate the army drills for training and operations. The specific content of those drills is obviously a matter for the MoD but they would be considered as part of any design process. However as explained above, such a gun designed today in accordance with the relevant Standard should not *be able to fire* at all if a component of the obturation system is missing.

While the concern expressed in your letter was to cover future designs, after the incident in June 2017 the MoD and BAE Systems are developing a design solution to eliminate the risk of this happening again and to bring the current Challenger 2 gun up to date with the Standard outlined above. At the Inquest two potential engineering solutions to prevent the gun being fired without the BVA Assembly being present were highlighted. Following the inquest two additional proposals are now also being considered further. Progress on all four solutions will be reviewed by the MoD Challenger 2 Safety and Environmental Management Panel in October 2018.

We trust that the information contained in this letter and our commitment to continue working jointly with the MoD on future solutions helps to address your concern.

Yours faithfully,

A handwritten signature in black ink, consisting of a series of connected loops and a long horizontal stroke extending to the right.

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