



ALEX CHALK KC MP
MINISTER OF STATE FOR DEFENCE PROCUREMENT

MSU/4/8/1/2/ap

3 April 2023

Dear Tobias,

HMS PRINCE OF WALES DEFECT INVESTIGATION OUTCOME

Further to the House of Commons Defence Committee session on 31 January 2023, the Department committed to providing the House with an update on the outcome of the investigations into the defects with HMS PRINCE OF WALES (PWLS).

I can confirm that a Non-Statutory Investigation (NSI) has now concluded, and I am able to provide an update.

The NSI was commissioned by Defence Equipment and Support (DE&S) and the Royal Navy (RN) on 12 September 2022 after PWLS suffered a starboard shaft coupling failure upon sailing from Portsmouth in August 2022. The NSI sought to review the full circumstances surrounding why the incident occurred and make recommendations based on its findings. This covered PWLS' design, build and acceptance phases, together with the ship's operations during Fleet time. In addition, it considered training, processes, policy, assurance, relationships, resources, behaviours, and decisions. The NSI identified one causal factor and numerous contributory and aggravating factors which led to the defect occurring.

The causal factor identified in this instance was that PWLS starboard shaft was misaligned from build, and that the incorrect installation of key components resulted in the defect suffered.

Several contributory factors led to this misalignment and the subsequent incorrect assessment that the starboard shaft and couplings would perform as required. Following reviews of the impact of the shaft misalignment, a decision was made that PWLS should proceed to sea for trials and that further monitoring would be conducted.

The Rt Hon Tobias Ellwood MP
Chair, Defence Select Committee
House of Commons
London
SW1A 0AA

During PWLS' sea trials, both shafts were extensively tested over several weeks and thousands of nautical miles in the Northern North Sea and UK South Coast Exercise Areas. Vibration readings remained within limits at all times. Accordingly, no issues, conditions of class or actionable items were transferred into service from the Aircraft Carrier Alliance (ACA) to the Ministry of Defence (MOD) in 2019 at Vessel Acceptance.

As a prerequisite for Vessel Acceptance, PWLS was provided with a Naval Authority Certificate for Propulsion, Manoeuvre and Navigation Systems as the over-arching record of conformity and suitability for use. This was supported by a Lloyds Register Class Certificate of machinery installation, which was a further measure of conformity and material state assurance. The propulsion power statement that was derived from these certificates did not place any restriction on the propeller shafts or note any requirement for further monitoring.

Thereafter, during PWLS' subsequent operational time at sea, which included exercising and NATO tasking in the Mediterranean in June 2022, no abnormalities associated with either shaft were reported.

Following the coupling failure in August 2022, an alignment issue was also identified with her port shaft. Rectification work was initiated and is expected to be completed in time for PWLS to commence her operational programme, as planned, this autumn.

PWLS was always scheduled to be alongside and undergo upgrade work for the majority of 2023 in preparation for taking over as the UK Very High Readiness Strike Carrier in 2024. Such work includes updates to the flight deck to expand F35 operations, upgrades to communications and information systems and upgrades to combat management systems architectures. Consequently, over this period capability upgrades have been conducted in parallel to the shaft repairs to ensure efficiency and value for money.

I can confirm that the defects with PWLS shafts are not a Class issue and HMS QUEEN ELIZABETH (QNLZ) installation alignment readings have been checked and no abnormalities have been detected.

The operational impact has been limited. HMS QNLZ undertook PWLS's operational tasking from September to December 2022, after which she took over, as scheduled, as the Very High Readiness Strike Carrier. At all times the RN has delivered its Carrier commitments to NATO.

The financial cost is estimated to be approximately £25 million. Responsibility for payment has not yet been established therefore it would be inappropriate to comment further at this stage.

I can confirm that the Department has also conducted a preliminary examination of the NSI and the events that contributed to the defect and directed an urgent review of the

NSI recommendations with former members of the ACA, and current industrial partners, to prevent any repetition.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Alex Chalk". The signature is written in a cursive style with a large, stylized initial 'A'.

ALEX CHALK KC MP