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23<sup>rd</sup> February 2017

Dear Mr Bedford,

## **INQUEST INTO DEATH OF BENJAMIN WYLIE - HSE RESPONSE TO REGULATION 28 REPORT**

May I thank you for extending the timeframe allowed for HSE to respond to the Matters of Concern set out in your Regulation 28 report following the Inquest into the death of Benjamin Wylie held last October. I can confirm that I have seen the responses you have received from Soilmec (UK) Ltd and the Federation of Piling Specialists (FPS) and have taken those into account when drafting this response. I address each of the Matters of Concern in sequence below.

- (1) In the course of the evidence at the Inquest it was acknowledged that the risk of grease being expelled from the grease nipple at high pressure was recognised. No permanent warning plate or sign was attached to the machine beside the grease nipple.**

HSE notes that other respondents have stated that a warning sticker/plate will be affixed to machines adjacent to track tensioning grease nipples in the future. The legislation which machine manufacturers are required to comply with when designing, manufacturing and supplying machinery for use at work, the Supply of Machinery (Safety) Regulations 2008 (SMSR) require that risks be eliminated by design wherever possible. Where the designer considers that residual risks exist that cannot be designed out, the Regulations state that necessary warnings must be provided. This allows the manufacturer to choose whether to place warnings that will be needed less frequently in the operation and maintenance manual and/or to affix a warning to the machine part itself. However, the only requirement to provide warnings directly on machine parts is where that is necessary to prevent incorrect fitting of parts or to illustrate the direction of rotating parts.

- (2) The grease nipple(s) of which there is one on each side of the machine was orientated on the SR70 machine so that it was perpendicular to, rather than parallel to, the tracks. This meant that the nipple faced out towards the greasing operator. Evidence suggested that other manufacturers have the grease nipple orientated parallel to the tracks.**

HSE recognises that prima facie, a failure of a grease nipple that is positioned at or near to perpendicular to the machine tracks and facing toward the space workers could occupy is more likely to result in the ejection of failed components and high pressure grease in a direction moving away from the machine

body. However, the opinion of its relevant Specialist Inspector of Mechanical Engineering is that the critical issue is to ensure that the parts specified are suitable for expected operating pressures so as to ensure failure is prevented, so far as is reasonably practicable. HSE intends to address this issue in a further Safety Alert to be issued to industry, which is currently in draft form.

- (3) The evidence also given was that other piling rig manufacturers install pressure release valves within the grease nipple unit that prevents pressure building up to the force that struck Ben Wylie.**

The opinion of HSE's relevant Specialist Inspector of Mechanical Engineering is that if a valve, designed to dissipate pressures well below component failure design pressures, were fitted within the grease nipple assembly, failure of an undamaged grease nipple would be very unlikely. However, HSE notes the differing opinions of the members of the FPS regarding the possibility of other risks being created through the fitting of such devices. When designing machinery, especially where it will be operating in harsh environments, one consideration would be to minimise the number of small devices which could fail or be incorrectly adjusted or replaced. Eliminating or reducing associated risks by other means would generally be preferable. HSE has no plans to conduct research into the designs of grease nipple assemblies.

- (4) The Jury heard that, in the ordinary course of use of the machine, the grease nipples were covered by a metal plate. However, this had to be removed in order to carry out the greasing of the tracks. Evidence was given that new machines allow greasing of the tracks with the plate in place but there are a number of existing machines in use which do not have that adaptation.**

HSE will make mention of this point in its new Safety Alert, currently in draft.

- (5) It is understood that no warning bulletin has been issued to existing users of the relevant piling rig machines warning of the risk of the grease nipple failure and potential consequences.**

In 2015 HSE issued a general Safety Alert relating to the circumstances of the incident which led to Mr Wylie's death. HSE is aware that Soilmec (UK) Ltd have issued two Safety Alerts relevant to the incident which occurred with one of their machines. Following conclusion of the Inquest HSE has been preparing a more detailed Safety Alert, taking account of further evidence and the results of component testing which became available after the issue of its first general Safety Alert. The new Safety Alert is due to be published shortly. It is aimed at a broad audience which will include those working in the piling industry, but also those working in other industries where the use of tracked plant is commonplace. Please let me know whether you would like me to send you a copy of the Safety Alert when it is issued.

- (6) It was heard that the manual for the SR70 piling rig machine is always kept in the cab of the machine for use by the operator. This was described as a 350 page manual. No quick reference condensed version of key matters is available.**

The legal requirement under SMSR is for manufacturers to provide "the information necessary to operate it [*ie the machine*] safely, such as instructions."

- (7) The manual does not contain a warning to always replace failed parts on piling rigs with new units. There is no statement that repairs or modifications to failed parts should not be carried out.**

The wording of the Soilmec manual is clearly a matter for that company, taking account of the legal requirement set out in my response to Concern (6) above. However, the risks associated with the re-use of damaged hydraulic components will be addressed by the new HSE Safety Alert.

- (8) The evidence suggested that certain piling rig workers were not following the correct procedures for greasing the tracks suggesting that there was a training issue that needed to be addressed and possibly incorporated into the manual.**

There are several legal requirements on employers and contractors to ensure that those who operate or maintain machinery used on construction sites or elsewhere are properly trained and competent to carry out both scheduled and unplanned maintenance operations. Those with duties under health and

safety legislation are then required to determine the level of competence required of persons who need to carry out such operations. It is intended that mention will be made in the new HSE Safety Alert of the need for proper training of persons required to undertake track tensioning.

Yours sincerely

A handwritten signature in black ink on a light grey background. The signature appears to be 'A. J. H.' or similar, written in a cursive style.

  
**HM Principal Inspector Health and Safety**