

Mrs L Royle
BOWL Offshore Consents Manager
SSE Renewables Limited
1 Waterloo Street
Glasgow
G2 6AY

Our Ref: 003/OW/BOWL - 8

8th December 2017

Dear Mrs Royle,

MARINE AND COASTAL ACCESS ACT 2009, PART 4 MARINE LICENSING

Offshore Transmission Works (“OfTW”) Marine Licence Condition 3.1.7 – Chemical Usage

Thank you for your correspondence regarding the use of Molub-Alloy 777-1 lubricant grease, used during the backhoe trenching campaign undertaken for Beatrice Offshore Wind Farm Limited (“BOWL”) by Nexans. Marine Scotland Licensing Operations Team (“MS-LOT”) have been corresponding with BOWL regarding the use of this chemical since May 2017 because this chemical does not appear on the Offshore Chemicals Notification Scheme (“OCNS”) list and it was not used in a closed system resulting in its release in to the Marine Environment.

BOWL previously detailed (prior to commencement of the works) that this is a ‘lubricant grease, routinely been used during backhoe operations in UK waters. The grease is non-soluble and designed for use in water. The grease will be pumped into the excavator bearings to maintain lubrication during operations. The pump system is semi-closed as inevitably some small quantities of grease will be released via the seals. The contractor has stated that the release will be no greater than 20 gr/hr.’

On 23rd August 2017, BOWL provided additional information in response to a request from MS-LOT requiring;

- details of where and when this grease had been used in UK waters,
- how the grease was used,
- why this grease is used rather than a product present on the OCNS list,
- how long (approximately) the grease will be released in to the water (at 20gr/hr).

BOWL confirmed that this lubricant grease has been used in various UK projects including dredging in Portsmouth, Rampion Offshore Windfarm works and Teesdock works.

In response to how the grease is used, BOWL advised that: *‘The grease is used in an automatic greasing system to lubricate the pin and bushes on the excavator attachment and the swing bearing, i.e. to lubricate the hinges on the excavator bucket. It lubricates bearings and bushings which allow movement between 3,4 and 5 in the illustration below. The grease is pumped to these bearings via a line of hoses from grease drums held below deck (please see the photo below; the larger diameter hoses are hydraulics, the narrow hoses are grease supply lines).*

As the excavator is used some grease works out of the hinges and bearings and this is replenished by pumping more grease in to the system to maintain lubrication. The same grease system is also used for systems on board that are not in contact with the water.'

BOWL stated that this grease was chosen because no other product on the OCNS list was suitable for the machinery to be used, when the list was considered by Nexans and the sub-contractor Boskalis. *'The Molub Alloy 777-1 is specifically designed for use in bearing / bushes with low rotating speeds and high impact resistance, such as ball and roller bearings, bushings, slides, screws, kingpins, sleeve bearings, U-joints, chassis, ball/spherical bushes and general lubrication, even where loads may be quite high and speeds low. The grease properties are highly resistant to water wash out, reducing possible losses into the water.'*

BOWL did confirm the exact duration of the release after the works had taken place; [the vessel]...*'worked on the BOWL project for a total of 48 days. During this time it was actively trenching for 740hrs. With the anticipated release rate of max 20g/ hr the total volume that may have been released into the marine environment over these 48 days is approximately 14.8 kilograms'*.

As prior written approval was sought by BOWL from MS-LOT but not granted by MS-LOT prior to using this product, the Environmental Clerk of Works ("ECoW") for BOWL has recorded this use of the Molub Ally 777-1 (and it's consequent discharge into the Marine Environment) as an environmental management issue and raised that this as a minor non-compliance with the requirement of the Offshore Transmission Works ("OfTW") Marine Licence condition 3.1.7. This environmental management issue and minor non-compliance event has been discussed with MS-LOT, the ECoW and BOWL, Scottish Natural Heritage ("SNH") were also made aware of the non-compliance through the ECoW report which is forwarded to them on a monthly basis.

Following further correspondence between MS-LOT and BOWL where additional information was requested, BOWL did discuss the issue with Nexans as their Key Contractor who requested information from the sub-contractor Boskalis. In turn and in order to obtain additional information approached they approached the manufacturer of the grease, Castrol (BP).

Castrol (BP) have stated that with regard to biodegradation of the Mollub Alloy 777-1: *"Biodegradation tests are applicable for individual components, not fully formulated products. Individual components will biodegrade at different rates, therefore testing in this way provides a better understanding of how an overall product will biodegrade."*

On receipt of information forwarded by BOWL, which includes chemical data sheets describing Molub Alloy 777-1 as *'not-volatile...with no known signification effect or critical hazards'* and before receiving additional information, MS-LOT have undertaken research and modelling of the chemical and have obtained advice from an Offshore Chemical Risk Assessor from the Offshore Energy Environmental Advice Group department of Marine Scotland Science.

MS-LOT are content that BOWL have carried out extensive research and have endeavoured to obtain all of the information requested with regard to this product and gone so far as to approach the manufacturer.

In summary, Marine Scotland on behalf of the Scottish Ministers, are content that even though this has been an environmental management issue and a minor non-compliance event, BOWL have attempted to provide as much evidence as possible to demonstrate that the discharge of the Molub Alloy 777-1 during the works has not posed a risk to the marine environment. Through the research and modelling undertaken by MS-LOT it was agreed that it is unlikely that the discharge of this chemical has posed a risk to the Marine Environment.

Yours sincerely,

Nicola Bain
Marine Scotland Licensing Operations Team