



Introduction

This advice is provided following a review of: *VALERO PEMBROKESHIRE OIL TERMINAL LTD JETTY – BERTH 2 PILE REPAIR Preliminary Marine Environmental Appraisal EOME0518* dated 18 January 2024.

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Specialisms consulted on:

Marine Topics

Benthic Ecology

Fish

Marine Mammals

Physical Processes

Marine Advice

Benthic Ecology

Section 3.2.3 Construction Method - Clarification required

NRW (A) advise that the likelihood of grout being spilled into the marine environment should be assessed. If so, consideration of the mitigation measures required to negate this potential impact should be provided

Section 3.4 Embedded Mitigation Measures - Further assessment required

“Disturbance of seabed outside works area footprint will be minimised where possible i.e. only one or two placement(s) of the jack-up barge spud legs.” - NRW (A) advise that the worst-case scenario should be assessed i.e. two placement (s) of the jack-up barge spud legs.

Section 4.4 Benthic Ecology - Further assessment required

NRW (A) advise the zone of influence (Zol) should be defined in order to assess the spatial extent of the impacts i.e. spatial extent of suspended sediment plume. Please refer to NRW Physical Process Specialist for further details.

Section 4.4.1 (Intertidal) & 4.4.2 (Subtidal) - Further assessment required

It is unclear what data sources will be used to characterise the benthic habitats potentially impacted by the development. This information has not been defined in the PEA although it is noted that a high level desktop review has been provided in these sections.

Section 4.4.3 Effects to be considered in Marine Environmental Appraisal - Further assessment required

Temporary/long term habitat loss/disturbance

NRW (A) advise these impacts are assessed separately in order to differentiate between those impacts that could result in temporary loss and/or disturbance of habitat vs those that could result in long term habitat loss. The assessment should consider not only the potential impacts from the installation of the new monopile (including drilling of a new socket, installation of permanent casing etc), but also from the removal of the historic dolphin (potentially leading to temporary habitat disturbance) and the placement of the jack up barge legs.

Introduction of Invasive Non-Native Species (INNS)

NRW (A) agree this impact should be scoped in and advise that a full Biosecurity Risk Assessment and invasive non-native species (INNS) Management Plan is completed in relation to all marine operation activities associated to the current proposal (We note this is being proposed under 3.4 Embedded Mitigation measures).

The risk assessment and management plan should include consideration of all activities, vehicles and equipment used as well as how the risk will be minimised through appropriate mitigation and adherence to best practice guidance and management measures. The risk assessment should include a review of all the available data in relation to the presence of marine INNS where applicable to the current proposal, and the potential risks associated to each species identified. Consideration of INNS is particularly important in Milford Haven

due to the presence of invasive species such as the slipper limper *Crepidula fornicata* and the the carpet sea squirt *Didemnum vexillum*, recently recorded in the area.

Increased suspended sediment concentration (SSCs) and associated sediment deposition

NRW (A) agree this impact should be scoped in for the potential activities identified. We advise the assessment should consider impacts to all benthic receptors but in particular to Maerl, which are highly sensitive to changes in suspended sediment concentrations and are found in close proximity to the proposed activity.

Accidental release of pollutants

NRW (A) agree that this impact can be scoped out provided standard pollution prevention control measures are followed such as production and adherence to a CEMP.

Release of sediment bound contaminants

NRW (A) advise this impact should be scoped in as disturbance to intertidal/subtidal habitats associated with construction activities could lead to remobilisation of sediment bound contaminants that may impact benthic communities. Please also refer to NRW Physical Process Specialist comment for further detail.

Fish

Section 4.5.2 Effects not considered in Marine Environmental Appraisal - Further assessment required

'Project activities which may result in noise emissions leading to disturbance of fish' has been scoped out of the assessment. NRA (A) do not agree with the statement that 'vibro piling...is determined as having negligible impact to the marine environment such that would represent a risk of injury or disturbance to fish or shellfish species'. Although vibro piling can result in less noise impacts than impact piling, it is not without any impact. As piling and other construction work could have an adverse impact on fish species from underwater noise and vibration, especially for sensitive species including those migrating or utilising nursery areas, NRW (A) advise that noise impacts from construction activities are scoped in for fish.

This should contain an assessment of the potential noise impacts on the fish species present with quantification of that risk in relation to the 'worst case scenario' that may be encountered through the proposed works. Information that would be helpful to document, includes the timing, duration and method of piling, with specific information on the sound source levels for the piling methods, working hours and amount of non-piling time during the installation period.

The information used in the document to justify scoping out noise (RPS 2019b noise assessment) relates to sheet piling using a vibro hammer with impact driver. The work proposed for the monopile work within this project will use vibro piling on a 2.35m diameter steel pile which is likely to create a different sound profile to sheet piling. Although the works used in the RPS assessment are based in close vicinity to the proposed works, the methodology, timeframe and type of piles used are not the same, so it is not a suitable assessment to use as a proxy. In addition, where this information has been used there remains potential impacts to fish species as illustrated in table 4.4 of the referenced

document RPS 2019b. This illustrates a risk to behavioural impacts from non-impulsive sound ranging from high within 'near' field for fish utilising their swim bladder in hearing and moderate for other fish receptors. Table 4.3 also shows an exceedance in the criteria for onset of injury within the recoverable injury column for fish that utilise their swim bladder in hearing.

Figure 3-2 (Defective dual pile) & Figure 3-3 (Monopile replacement) - Clarification required

The methodology states that vibro piling will be used until bedrock refusal, but does not state what method will be then utilised. The provided diagrams seem to show the pile extending below the level of the bedrock. NRW (A)'s assumption is that impact piling would be required for the last section of piling if vibro piling should fail. NRW (A) advise that the piling methodology should be assessed using the worst-case scenario.

Additional minor comments:

- '*Disturbance and loss of potential spawning and nursery grounds*' was listed as a topic to be scoped in within the text in section 4.5.1 and the summary within section 5 but is not included in the table of receptor topics (table 4.1). NRW (A) agree with the inclusion of this topic as well as the inclusion of the impacts of INNS and suspended sediments on fish and shellfish.
- There are a number of designated fish species in the sites within the footprint of the proposed works e.g. Pembrokeshire Marine SAC is designated for Twaite Shad, Allis Shad, Sea Lamprey and River Lamprey. You have identified a number of other fish species with conservation interest in table 4-2 which NRW (A) welcome.

Marine Mammals

Further assessment required

NRW (A) do not agree with mammals being scoped out of the marine environmental appraisal based on the arguments presented. The amount and type of information provided in Preliminary Marine Environmental Appraisal Table 4.1: Summary of receptor topics scoped for further appraisal exceeds what would usually be presented at a scoping stage, and instead constitutes the type of analysis normally carried out post-scoping during the assessment.

Further evidence required to support conclusions

NRW (A) advise that in order to carry out a robust assessment for marine mammals, the cited noise assessment from 2019 should be supplied alongside justification for it being a suitable proxy to establish the impact of the works, including but not limited to the compatibility of construction methodologies.

Physical Processes

Section 3.2.3 – Construction Method (Drilling New Socket) – Clarification required

Section 3.2.3 states that "drill arisings to be disposed of within the immediate vicinity of the pile, approximately 45m³ of drill arisings". NRW (A) advise that consideration is given to

how the Drill Arisings will be disposed of. Consideration should be given as to whether the arisings would be released into the water column during the drilling action or whether they would be captured and disposed of in one area of the seabed. If the material is to be disposed of in one area, consideration of the height and area of the deposited mound and how it could affect the water levels should be provided. Additionally, consideration should be given to how long it could take for the deposited sediment to disperse. Consideration should also be given to the direct and indirect impact on sensitive receptors caused by the disposal of the drilled arisings. Please refer to NRW guidance on sediment disposal of dredged/drilled spoil:

[PS 012 Sustainable management of marine and coastal sediment](#)
[\(naturalresources.wales\)](#).

SSC Plume (Zol) – Further assessment required

NRW (A) advise that the Zol for SSC plume impact caused by the construction of the monopile on sensitive receptors downstream of the work site should be determined using the spring tide maximum tidal excursion.

Sediment Deposition – Further assessment required

The re-deposition of the sediment from the SSC plume during the drilling works and following deposition of the drilled arisings should be assessed. NRW (A) advise that the spatial size distribution of the sediments settling on the seabed and the depth of sediment smothering following the drilled arisings disposal are assessed.

Toxic Contamination - Further assessment required

No consideration has been given to the release of sediment bound contaminants during monopile construction. NRW (A) advise the investigation of the possibility of the presence of contaminants in the seabed sediments prior to drilling the seabed. The potential impacts of contaminant remobilisation in the water column should also be assessed. We note from previous correspondence that the customer has access to sediment samples taken within close proximity of the proposed works.

Use of Grout - Further assessment required

NRW (A) advise that the likelihood of grout being spilled into the marine environment is assessed. If so, consideration of the mitigation measures required to negate this potential impact should be provided.

Marine Water Quality and WFD

We note that a Water Framework Directive Assessment will be undertaken. We also advise that the Marine Environmental Appraisal should also consider impacts to Water Quality, as mentioned in the Benthic Ecology, Fish and Physical Processes chapters above.