THE YORK POTASH HARBOUR FACILITIES ORDER 201X

Applicant's Responses to Written Representations

Regulation 5(2)(q)

Document 8.3

York Potash Limited

7 September 2015

YORKPOTASH
A Sirius Minerals Project

THE YORK POTASH HARBOUR DEVELOPMENT CONSENT ORDER 201X

APPLICANT'S RESPONSE TO WRITTEN REPRESENTATIONS

National Grid
The Applicant and National Grid have agreed a side agreement in relation to the overhead lines which it is anticipated will shortly be completed. The protective provisions within the draft DCO are agreed.
Marine Management Organisation
The MMO's representations contains a number of requests for amendments to the DCO (including the DML) many of which the Applicant had previously agreed with the MMO it would incorporate into the next draft. It is believed that all appropriate amendments have been made to meet the points raised. Following submission of the written representation the Applicant sought clarity from the MMO as to what it was seeking in paragraph 1.1.1 of the representation. Upon further consideration the MMO confirmed that no further changes to the DCO/DML were required to meet this point. Please see Explanatory Memorandum (Document 4.2A) which identifies where changes have been made to the DCO in response to the MMO's relevant and written representations. With regard to paragraph 1.3.1 of Appendix 2 of the MMO's submission, the Applicant can confirm that the certificate requested has been forwarded to the MMO. With regard to the comments made in paragraphs 1.3.2 and 1.3.4 of Appendix 2 of the MMO's submission, the Applicant responds as follows. INSPIRE is a semi-empirical underwater noise propagation model developed in-house by Subacoustech Environmental. The model is based around a combination of numerical modelling and actual measured data and it is designed to calculate the propagation of noise in shallow, mixed coastal water, and primarily from piling in the coastal conditions around the UK. The model is based on over 50 sets of data from real world transect measurements obtained from a wide range of piling events; the model parameters are derived from the measured data using a sum of least squares fit. INSPIRE was included in the "Framework for assessing impacts of pile-driving noise from offshore wind farm construction on a harbour seal population" by Thompson et al (2013) where its predictions were found to "provide a relatively good fit of the measured data" from piling in the Moray Firth. It is also worth noting that the INSPIRE model fits the description proposed by NPL's good practice guide (National Physical Laboratory (2013)). It has been used successfully and accepted on over 20 similar underwater noise assessments in shallow water. A document

containing a more detailed explanation of how INSPIRE fulfils the requirements of the NPL Best Practice Guide with regards modelling is contained at Appendix 1.

With reference to Figure 4.1, this presents the actual outputs from INSPIRE and RAMSGeo along with measured data from a piling scenario in the River Thames. No fit to the data (by eye or otherwise) has been attempted. The comparison provided with RAMSGeo model is precisely to demonstrate the agreement between INSPIRE and other more widely used models to give confidence.

Unweighted peak-to-peak levels have been presented for both impact piling and dredging scenarios. From these, estimates can be made for noise criteria using unweighted levels. The data is given as tables of ranges, as level versus range graphs and, for impact piling as contour plots using increments of 10 dB.

In addition to the use of dBht for the assessment of behavioural effect, the assessment has also included unweighted criteria presented by McCauley et al (2000) (Section 5.3 of Appendix 8.2 (Document 6.5) with impact ranges presented in Tables 6.1 and 6.2. As mentioned in our earlier response to the MMO, at the time of writing the original report the guidelines from Popper et al (2014) had not been published. This recent information does not present any quantitive criteria with respect to the behaviour of fish.

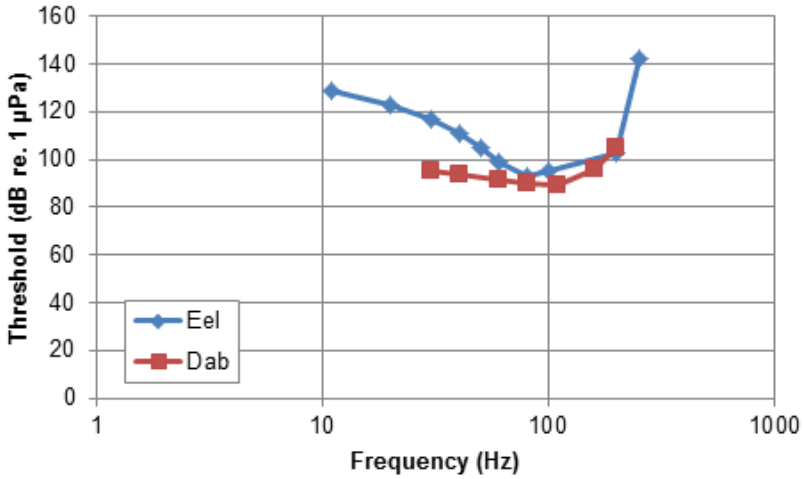
The noise levels at 1m from the backhoe dredger and suction dredger are below the levels indicated in the injury criteria presented. It is considered unlikely that physical injury as a result of noise from dredging activity will occur at any range for any of the species considered. With regard to behavioural effects, there are no unweighted criteria upon which to estimate the impact on fish or marine mammal behaviour from continuous noise and the dBht levels are presented to provide some indication in the absence of any agreed criteria. Although there are no criteria for behavioural effects, it is relevant to note that baseline noise levels of up to 140 dB were measured by Subacoustech during busy periods on the River Tees and the modelling indicates that the noise levels from backhoe dredging falls below 140 dB within 30m and from suction dredging within 475m.

In respect of impulsive noise from piling and the criteria for the behavioural effects of noise on marine mammals, work by Brandt et al (2009) and Lucke et al (2009) suggest that a minor behavioural response may be expected at 150 dB SPL_{peak} and 145 dB SPL_{peak} respectively (for impulsive noise, single pulse). Using the unweighted noise modelling for impact piling the impact ranges are predicted to extend to the river bank for every modelled transect. This criteria supports the levels predicted using the dB_{ht}(Species), in that the same area will be insonified using these criteria as that predicted using the 75 dB_{ht}(Species) criterion.

With regard to the Parvin *et al* (2007) criteria, these refer solely to physical injury to underwater fauna (e.g. tissue damage), and make no attempt to assess effects on hearing and behavioural response, which would naturally be expected to be much more variable between species.

The Applicant acknowledges and agrees with the comment to include Popper *et al* (2014) in future assessments.

With regard to the points in relation to the use of the dab audiogram, the dab audiogram (Chapman and Sand, 1974) was used in place of the eel audiogram (Jerkø *et al*, 1989). These two are provided below:



Based on these, the dab is more sensitive at all frequencies and so provides a safe surrogate and, due to its similarity, has frequently been used as an alternative to save time and space in assessment and reporting.

References cited in this response are set out in Appendix 2.

Natural England

In paragraph 6.2.3 of its representation Natural England suggested that the ExA may wish to consider whether the HRA should include a consideration of the Teesmouth and Cleveland Coast SPA Review. In this connection the ExA is referred to the Applicant's response to HRA 1.20 and HRA 1.21 of the ExA Q1.

In light of the approach taken in the HRA with respect the proposed changes to the Teesmouth and Cleveland Coast SPA designation (as set out in the Applicant's response to HRA 1.21), and the provision of revised screening and integrity matrices in response to question HRA 1.20 (which include consideration of common tern), the Applicant's view is that the HRA already addresses the point made in section 6.2.3 of Natural England's Written Representation.

It is believed that with the:

i) revised Mitigation and Monitoring Strategy (Document 6.12);
ii) amended Schedule 2 (in particular Requirement 9);
iii) production of Outline Environmental Management Plan (Document 6.11); and
iv) amendments to the DML, in particular paragraph 7,

the mitigation referred to by Natural England is appropriately secured.

PD Ports

The latest protective provisions were submitted by the Applicant to PD Ports on 24 August and a response is awaited. It is that version of the protective provisions that is incorporated in the draft DCO. There are believed to be only a few outstanding points which should be resolved quickly. The request for criminal sanctions in respect of articles 19-21, supported by Trinity House, has been acceded to and the appropriate provisions have been incorporated to the second draft DCO.

Pipeline Corridor Asset Holders

Representations have been submitted by parties who own and/or operate pipes along the pipeline corridor. These comprise:

a) identical representations submitted on behalf of SABIC, Huntsman and DEA; and

b) representations on behalf of BP Cats.

The Applicant has engaged with these parties over a significant period both pre and post submission of the application. Technical discussions with the parties have included the preparation and submission to the asset holders of "constructability notes" in respect of each of their assets. Copies of these notes are contained in Appendix 3. Also included in Appendix 3 are constructability notes provided to NWL and Tata/SSI. These notes set out the approach that will be taken to construction to ensure that the relevant asset is appropriately safeguarded. An obligation to comply with these constructability notes has been added to the protective provisions in Schedules 9 and

10. It should be noted, in respect of the issues raised regarding impacts on streets that the constructability notes address any temporary closures and, for example, acknowledge that No. 2 Tunnel at Bran Sands requires 24 hour unfettered access for emergency services.

The constructability notes include reference to protection during the operational phase with regard to maintenance activities including the protection of dropped objects. In addition the protective provisions in Schedule 9 have been expanded to respond to points made in the written representations where felt appropriate.

With regard to the representations submitted by SABIC/Huntsman/DEA it is be to be noted that, notwithstanding the length of the objections to the Order set out at the outset of the written representations, it is stated, in paragraph 3.1 that "subject to the proper protection of their undertakings the Objectors do not object in principle to the making of the Order." It is clear from that paragraph that there is no objection to the Order provided appropriate protective provisions are incorporated. It is hoped that the protective provisions incorporated within the second draft DCO achieve this. Positive discussions were held with the representatives of SABIC/Hunstman/DEA on 27th July during which it was agreed that the Applicant would be provided with the protective provisions sought by those parties during the course of the second week in August, following the release of the Dogger Bank Teesside A and B Offshore Wind Farm decision. Unfortunately, despite being pressed for them, the protective provisions are still awaited. In the absence of these the Applicant has done its best to respond to the points made in the written representations with appropriate amendments to the protective provisions.

It is also of relevance to note that the activities of the asset holders in relation to their apparatus are governed by the Sembcorp lease of the pipeline corridor which imposes a safe system of working. The restrictions and protections involved are not affected by the provisions of the Order and the Applicant's activities within the pipeline corridor will be subject to those restrictions and protections under the terms of its agreement with Sembcorp.

Reference has been made to risk to the No. 2 Tunnel and DEA sub river-bed apparatus. The original plans for the harbour (first consulted upon) included a larger dredged area which extended over the No. 2 Tunnel. As a result of concerns expressed during consultation, and a re-evaluation of the need for such extensive dredging, the area to be dredged was reduced and in the submitted application does not extend as far as the No. 2 Tunnel. A report which examines potential risks to the No. 2 Tunnel in that regard is contained at Appendix 4. The Applicant does not believe that there is any unacceptable risk and notes that there is already a permission in existence to dredge over the tunnel (The Teesport Harbour Revision Order 2008 (S.I. 2008 No. 1160).

Reference was also made in the written representations to impact of the development on shipping movements along the estuary (paragraph 6.2). As referred to in the Applicant's response to SEM 1.2 of ExA Q1 a significant amount of work has been done in relation to the impact on shipping movements. The result of that work is contained in the documentation attached at Appendix 5 which comprises the following notes: Tees Marine Risk Assessment & Traffic Simulation Addendum, Impact on Construction Activities on River Traffic & Construction Phase Safety Assessment Addendum and a Formal Safety Assessment. The conclusions in these documents have been

agreed with the Harbour Master who governs the movement of shipping within the estuary. Copies of these notes have been supplied to Bond Dickinson.

With regard to the general debate concerning the southern and northern route, as previously advised by the Applicant the southern route is preferred for operational reasons. Due to the more direct route it will have a higher reliability due to the reduction in length and number of components including a reduction in the number of transfer towers. The more transfer towers, the more product degradation that arises as result of the transfer speed. The shorter conveyor length involved in some lengths of the northern route are likely to lead to relatively more spillage because shorter conveyors are more susceptible to tracking issues than longer conveyors. Furthermore the southern route will be more efficient and economical to construct and will also involve lower power consumption due to the shorter conveyor length, reduced transfers and other power consuming components.

With regard to the BP Cats pipeline specifically, concern has been expressed regarding the headroom where the conveyors are located above the pipeline. At that point there is an average headroom of 12 metres (from ground level to the underside of the conveyors). The support legs of the conveyors would be located outside the easement of the BP Cats pipe. The headroom of 12 metres will still allow the use of cranes to undertake any lifting works that may be required. The available space between the support legs of the conveyors will allow sufficient access for vehicles, equipment and, indeed, removal of the pipeline should there be a need in the future. Accordingly the Applicant does not believe that the arrangement will result in any operational restrictions to BP Cats. Also in response to the CATS parties representations amendments have been made to the protective provisions in Schedule 9 of the draft DCO.

ICI Chemicals and Polymers Limited

Discussions are progressing with ICI to address its central concern to the effect that compulsory acquisition powers should not be available for acquisition of rights which have already been secured by agreement. A position has been agreed in principle between the Applicant and ICI and it is anticipated that it will soon be reflected in a completed agreement supplemental to the existing agreement between the parties. It is anticipated at that stage that this objection will be removed.

TATA Steel (UK) Limited (submitted on behalf of Tata Steel UK Limited (Tata), Sahaviriya Steel Industries UK Limited (SSI) and Redcar Bulk Terminal Limited (RBT))

Contrary to the impression created in the written representations on behalf of Tata and SSI the Applicant has been in discussion with those parties with regard to the scheme for a considerable period of time albeit that those parties have only in relatively recent months instructed an agent to engage in discussions on their behalf. Discussions commenced in 2010 and there has been significant engagement on technical issues during 2014 and 2015.

The Applicant is well aware of the issues surrounding the over-sailing the assets of Tata and SSI and has included the appropriate protective provisions in the draft DCO but does not have the benefit of any specific drafting of any protective provisions sought by Tata/SSI in addition to those already incorporated. A constructability note in respect of these assets is contained in Appendix 3 and the protective provisions have been amended to incorporate adherence to that constructability note as requested in the written representations.

The Applicant would also make reference to the documentation contained in Appendix 5 in response to the points made with regard to any inhibition on the shipping movements at RBT.

With regard to other specific issues raised, reference has been made to the impact of the conveyors on the ability to recover a derailed torpedo wagon. The conveyors impact upon a very short length of the rail bridge and the Applicant considers that the likelihood of a derailment on the bridge under the conveyor is very low. If a derailment occurred at that specific point then there is an option to deal with the derailment, discussed with Tata which involves "pull back onto rails" and moving the wagon along the rail to a more convenient location to address the derailment appropriately. Irrespective of the proposed conveyor the land adjacent to the Hot Metal Railway is already constrained and the Applicant's view is that the conveyors provide no greater impediment to dealing with these issues than that which currently exists.

It is not considered that the conveyors will restrict or impact on the ability to carry out any works in respect of Bridges 20 and 22.