

Date: 25 October 2022
Our ref: 15431/393333
Your ref: EN010103



The Net Zero Teesside Project Case Team
National Infrastructure Planning
The Planning Inspectorate

Customer Services
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**SUBMITTED VIA THE NATIONAL INFRASTRUCTURE PLANNING
PROJECT PORTAL**



For the attention of: The Net Zero Teesside Project Case Team


NSIP Reference Name / Code: EN010103 – The Net Zero Teesside Project
Unique Reference: NZTP-SP004

Title: Examining Authority's Third Written Questions and Requests for Information

Examining authority's submission Deadline 11 with a date of 26 October 2022.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Please find Natural England's responses to the Examining Authority's third written questions and requests for information on page 2, 3 and 4 of this letter, followed by additional information to support these answers in Appendices A and B.

For any further advice on this consultation please contact the case officer Nick Lightfoot at @naturalengland.org.uk and copy to consultations@naturalengland.org.uk.

Yours sincerely

Nick Lightfoot
Senior Adviser – Northumbria Area Team
Natural England

ExQ3	Question to:	Question:	NE Response
GH.3.4	NE	<p>The Applicants provided an update to the Construction Environmental Management Plan (CEMP) at D9 [REP9-007] to include Horizontal Directional Drilling (HDD) contingency planning. The ExA notes that in the latest SoCG [REP8-044], Natural England (NE) confirmed that it would be acceptable for control of HDD operations to be detailed in the final CEMP and discharged by R11 of the DCO.</p> <p>Is NE satisfied that the wording of the latest CEMP [REP9-007] ensures that the risks from HDD operations, including frac-out would be appropriately managed? If not, please explain why</p>	<p>Natural England is satisfied that the latest CEMP, submitted at Deadline 9, includes measures to ensure risks from HDD operations would be appropriately managed. This includes the requirements to produce and agree in consultation with Natural England, prior to the start of any construction works, the following:</p> <ul style="list-style-type: none"> • A Final CEMP and methods statement that is based on specific final design information. • Specific contingency plans for accidental pollution events that provide details of clean-up and pollution control measures, as well as details of which designated sites and features could be impacted. • The Final CEMP should state that if a frac out occurs, Natural England should be notified and the agreed contingency protocols should be followed.
WE.3.3	NE Applicants	<p>The latest SoCG between the Applicants and NE [REP8-044] states that there has been ongoing correspondence, including a meeting on 15 September 2022, between the parties regarding the approach to nutrient neutrality, including the discharge modelling. The SoCG between the EA and the Applicants [REP8-042] records that comments on the preliminary modelling were received from NE on 19 August 2022. The update to the Nutrient Nitrogen Briefing Paper submitted by the Applicants to the ExA at D9 [REP9-015] is subsequent to this.</p> <p>Please provide:</p> <ol style="list-style-type: none"> I. An update on discussions between the Applicants and NE in relation to nutrient neutrality II. An estimate of timescales to complete these discussions 	<p>Natural England has the following responses to the Examining Authority's specific requests:</p> <ol style="list-style-type: none"> I. Natural England has provided the Examining Authority with a written statement to give an update on the outcome of discussions between ourselves and the Applicants in relation to nutrient neutrality (see letter dated 17 October 2022, included at Appendix A of this letter). <p>In summary, Natural England agrees that the Nutrient Nitrogen Briefing Paper demonstrates that the proposed development can be implemented without additional nitrogen reaching Seal Sands (the area of the SPA in unfavourable condition due to nutrient enrichment). Natural England considers that the Applicant's approach to calculating the load of nitrogen that would reach Seal Sands is acceptable, i.e., by modelling the amount of nitrogen from proposed discharge that would reach Seal Sands and subtracting the nitrogen from the abstracted River Tees water that would have otherwise reached Seal Sands.</p> <p>Providing that Option A or another design that delivers an equivalent or better outcome is secured in a Requirement to the Development Consent Order, Natural England concurs with the conclusion that the proposal will not result in adverse effects on the site integrity of the</p>

		<p>III. Confirmation that the 'Water Quality Assessment' (60675797, 14 June 2022) in the appendices to the 'Nutrient Nitrogen Briefing Paper' [REP9-015] is the 'preliminary modelling' on which NE provided comments in August 2022 [REP8-042]?</p> <p>IV. NE's assessment of the most recent dispersion modelling report [REP9-015], including whether or not it is fit for purpose, whether it represents a reasonable worst case, and the estimate of error and accuracy in the model.</p> <p>V. Has NE had sight of an updated modelling report that was due, but not provided, at D7?</p> <p>VI. Please provide a copy of the comments made by NE to the Applicants regarding the preliminary modelling on 19 August 2022.</p>	<p>Teesmouth and Cleveland Coast SPA/Ramsar because of further nutrient enrichment.</p> <p>Discussions between Natural England and the Applicants have progressed as follows:</p> <ol style="list-style-type: none"> a. Natural England received preliminary water quality modelling on 29 July 2022. b. Natural England's specialists provided feedback to the Applicants on the preliminary water quality modelling on 19 August 2022. c. The Applicants responded to Natural England in a meeting, which addressed the key points raised. d. The Applicant's provided Natural England with the Nutrient Nitrogen Briefing Paper and an updated HRA on 10 October 2022. e. The most recent meetings between Natural England and the Applicants were held on 14 and 17 October 2022 to discuss the Nutrient Nitrogen Briefing Paper, a draft Requirement to secure the proposed approach, and amendments to the HRA. <p>II. The Applicants have stated that they will provide an updated HRA to Natural England, and Natural England expects to be able to sign the updated Statement of Common Ground once the Applicant provides it. At the latest this will be by Deadline 12.</p> <p>III. Natural England can confirm that the 'Water Quality Assessment' (60675797, 14 June 2022) in the appendices to the 'Nutrient Nitrogen Briefing Paper' [REP9-015] is the 'preliminary modelling' on which NE provided comments in August 2022 [REP8-042].</p> <p>IV. Natural England is satisfied that the most recent dispersion modelling report is fit for purpose, represents a reasonable worst case, and appropriately estimates the error and accuracy in the model. Nevertheless, Natural England advises that the Planning Inspectorate, as the Competent Authority, should also ensure they are satisfied that the modelling provided is robust and supports the conclusions.</p> <p>V. Natural England received the following documents, which include water quality modelling:</p>
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			<ul style="list-style-type: none">a. 'Water Quality Assessment' (60675797, dated 14 June 2022), received on 29 July 2022b. 'Nutrient Nitrogen Briefing Paper' (Document Reference: 9.36, Revision 2.0, dated October 2022) <p>VI. Natural England has included the requested comments on the preliminary modelling as an appendix to this letter. However, we would like to highlight that many of these points have been satisfactorily answered by subsequent discussions and the further documents provided by the Applicants.</p>
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Appendix A – Written advice to Examining Authority in relation to Nutrient Neutrality (17 October 2022)

Date: 17 October 2022
Our ref: 15431/393333
Your ref: EN010103



Customer Services
Hornbeam House
Crowe Business Park
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CW1 6SL

BY EMAIL ONLY

The Planning Inspectorate;

EN010103 – Application by Net Zero Teesside Power Limited and Net Zero North Sea Storage Limited for an Order Granting Development Consent for the Net Zero Teesside Project

Issue Specific Hearing into Environmental Matters

Natural England is aware that the Examining Authority requested our representation at the forthcoming Issue Specific Hearing 8 into Environmental Matters on 19 October 2022. However, Natural England is not able to attend. Nevertheless, we would like to provide an update to the Examining Authority on the outstanding issue to be agreed between the applicant and ourselves, impacts on water quality from discharges of nitrogen to the Tees Bay.

Natural England has continued to engage with the applicant to understand the likely impacts of the proposal's industrial effluent discharge to the Teesmouth and Cleveland Coast Special Protection Area (SPA) and Ramsar site. Our outstanding concern has been around the potential for nitrogen, contained within the discharge, to exacerbate or cause eutrophication within the SPA/Ramsar that would negatively affect the supporting habitats and process relied on by its qualifying features.

At Deadline 9, the applicant provided a Nutrient Nitrogen Briefing Note (Document Reference: 9.36) and an updated Habitats Regulations Assessment (HRA) (Document Reference: 5.13). Natural England has reviewed both documents.

Natural England advises that the Planning Inspectorate, as the Competent Authority, should ensure they are satisfied that the modelling provided is robust and supports the conclusions. Natural England's advice is based on this.

There is the potential for water quality impacts on two areas of the SPA/Ramsar: Seal Sands and the Tees Bay. Please see below for our advice on this matter.

Impacts on Seal Sands

Natural England agrees that the modelling presented in the Nutrient Nitrogen Briefing Note demonstrates that additional nitrogen will not reach Seal Sands, which is the area of the SPA/Ramsar in unfavourable condition due to nitrogen enrichment. As such, the development would achieve nutrient neutrality. This is dependent on the implementation of either the design termed 'Option A' in the Briefing Note or a different design that would result in an equivalent or lower amount of nitrogen reaching Seal Sands.

The applicant has presented Natural England with a draft Requirement to secure this approach, titled 'Effluent Nutrient Nitrogen safeguarding scheme'. Subject to the HRA being updated to incorporate the proposed mitigation, secured by the draft Requirement at Stage 2 (Appropriate

Assessment) of the assessment, Natural England would support a conclusion of No Adverse Effects on Site Integrity for impacts on Seal Sands.

Impacts on Tees Bay

The proposed discharge point for 'Option A' is within the Tees Bay and within the boundary of the SPA/Ramsar. However, it is not within the boundary of the area subject to Natural England's advice on nutrient neutrality, as shown on the relevant map of *European protected sites requiring nutrient neutrality strategic solution*, which was provided to all Competent Authorities on 16 March 2022. Therefore, the proposal is not required to demonstrate that it will be nutrient neutral for the Tees Bay.

Based on the evidence presented in the updated Habitats Regulations Assessment, Natural England agrees that any negative impacts are likely to be localised and inconsistent. Therefore, the discharge may, at worst, cause a temporary displacement of qualifying species within the Tees Bay but this would not constitute an Adverse Impact on the Site Integrity of the SPA/Ramsar.

Natural England notes that assessing Water Framework Directive compliance in the Tees Coastal water body is the responsibility of the Environment Agency and that a demonstration of compliance would provide further evidence that the integrity of the SPA/Ramsar is not affected by the Proposed Development.

Third Written Questions

Natural England is aware that the Examining Authority has posed specific questions to ourselves in *The Examining Authority's third written questions and requests for information* and we will respond to them in due course.

Yours sincerely

Nick Lightfoot
Senior Adviser – Northumbria Area Team
Natural England

Appendix B – Comments from Natural England to the Applicants regarding the draft Water Quality Assessment

E-mail from Natural England to Applicants, dated 19 August 2022

In response to your specific question, if the “draft modelling can be used to confirm that NE can agree that the modelling does not show DIN entering into Tees Estuary”, Natural England does not agree that the modelling shows this. See below detailed comments from our specialists on this matter.

In addition, the draft assessment would not exempt the discharges to the Tees Bay from our advice on Nutrient Neutrality. As I previously highlighted, the draft Water Quality Assessment only refers to Dissolved Inorganic Nitrogen, rather than Total Nitrogen. Can you confirm if you have also modelled for Total Nitrogen or is your intention to cover this as part of the future Nutrient Nitrogen calculation?

The modelling does show that there will be an increase of DIN levels within the Tees Bay area of the Teesmouth and Cleveland Coast SPA/Ramsar. To allow Natural England to determine whether or not the elevated levels of DIN within the Tees Bay will negatively affect the qualifying features of the SPA/Ramsar, the applicant should provide an assessment of the qualifying features that use this area and if its supporting features could be negatively affected. If there is the potential for negative effects, the applicant should assess the extent of the supporting features that will be affected and the overall impacts to the SPA/Ramsar. This should be done in combination with the existing impacts as a result of nutrient enrichment at Seal Sands.

Please find below detailed comments regarding the draft Water Quality Assessment, as well as additional questions and recommendations for the applicant.

Detailed Comments Regarding the Draft Water Quality Assessment

Our specialists have provided the following detailed questions and comments to further inform this assessment:

1. Caution should be taken when interpreting the concentration of un-ionized ammonia at low pH. As the water pH will buffer to 8 in seawater, the un-ionised fraction of ammonia will increase as a result, suggesting that the concentration of un-ionised ammonia will be higher in the receiving environment than that measured in the effluent.
2. Regrading excluding chemicals based on being discharged at lower concentrations than the receiving environment/EQS – these discharges are still increasing the load of these chemicals in the ocean and since the ocean water continually evaporates yet chemicals do not, the concentration will ultimately increase from any addition of chemical, regardless of the concentration it was introduced at. For very low concentrations, we agree that the mixing and volume of the receiving environment should minimise the impact. It will also be less relevant for nutrient compounds such as ammonium/DIN as these can exchange with the atmosphere.
3. Figures 3-3, 3-4 and 3-5 would benefit from axis titles with units.
4. Section 3.6 – states average DIN concentrations within Tees Bay of 11.6 $\mu\text{mol/l}$. DIN concentration has significant seasonal variation and so it would be inappropriate to average across the entire year. It would be better to either use Total Nitrogen, winter DIN, or those months with the highest DIN concentrations since DIN will be influenced by primary productivity (peak primary productivity may vary slightly each year).
5. EQS of DIN are based on concentrations from 1st Nov to 28th February. It is important that the ambient concentrations reported are averaged across comparable timeframes.
6. It might be worth noting that the winter DIN concentrations at sample point B exceeds the EQS at 37 $\mu\text{mol/l}$ based on data from the same period (Jul 19 – Nov 21). The Tees waterbody has also failed to meet DIN standards for the WFD, having moderate status or worse consistently from 2011-2019. The status of the waterbody should be considered instead of basing calculations around sample point A – if amended to use winter concentrations only this will be a limited amount of data and will lack statistical robustness since this is just a single sample location.

7. Open WIMS data: There is no published DIN data on sample point A (NE-45600302). It is a benthic sampling site. The applicant should clarify where their values for DIN at sample point A have been sourced.
8. Section 6.2 – The contour at which DIN meets EQS is based on the background concentrations. We are uncertain of how robust these are because of the limited samples from 2019-2021, the uncertainty whether these have been calculated as winter DIN, and the source of the data. How would this modelled contour change if ambient winter DIN concentrations were higher than those reported from point A? If ambient concentrations of DIN the waterbody exceed EQS in the winter, then there will be no scenario where EQS is reached and instead the discharge of additional DIN from the outfall will only increase the amount of Nitrogen in the receiving environment.
9. It should be noted that despite possible dilution occurring as the effluent disperses, the area of high concentration zone may overlap with *Mytilus edulis* beds which are highly sensitive to Transition elements & organo-metal contamination (e.g. Copper) and synthetic compound contamination (e.g. Diazinon) MarLIN - The Marine Life Information Network - Mytilus edulis beds on sublittoral sediment.
10. Despite possible dilution of DIN, there will be a risk to increased primary productivity around the outfall site (increased phytoplankton abundance, possible risk of harmful algal blooms, increased opportunistic macroalgae). It is important to assess the likelihood of eutrophication impacts in the immediate discharge location and how these could translate to the wider area.
11. In the summary it states that 'DIN emissions at the predicted effluent concentrations are not sufficient to cause major impacts on Tees Bay water quality'. Can the applicant clarify how a major impacts have been defined and on what evidence is this based?
12. The last sentence states: 'Restricting DIN effluent DIN concentrations to 890 $\mu\text{mol/l}$ would result in a mixing zone of acceptable size'. Can the applicant clarify how an acceptable size has been defined and on what evidence is this based?