The Planning Inspectorate
Yr Arolygiaeth Gynllunio

REPORT on the IMPLICATIONS for EUROPEAN SITES

Proposed Net Zero Teesside Project

An Examining Authority report prepared with the support of the Environmental Services Team

Planning Inspectorate Reference: EN010103

16 September 2022

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1 INTRODUCTION

1.1 Background

1.1.1 Net Zero Teesside Power Limited and Net Zero North Sea Storage Limited (the Applicants) have applied to the Secretary of State for a development consent order (DCO) under section 37 of the Planning Act 2008 (PA2008) for the proposed Net Zero Teesside Project (the Application). The Secretary of State has appointed an Examining Authority (ExA) to conduct an examination of the application, to report its findings and conclusions, and to make a recommendation to the Secretary of State as to the decision to be made on the application.

1.1.2 The relevant Secretary of State is the competent authority for the purposes of the Habitats Directive[1] and the Habitats Regulations[2] for applications submitted under the PA2008 regime. The findings and conclusions on nature conservation issues reported by the ExA will assist the Secretary of State in performing their duties under the Habitats Regulations.

1.1.3 This report compiles, documents and signposts information provided within the DCO application, and the information submitted throughout the Examination by both the Applicants and interested parties (IPs), up to Deadline 7 of the Examination (1 September 2022) in relation to potential effects to European Sites[3]. It is not a standalone document and should be read in conjunction with the examination documents referred to. Where document references are presented in square brackets [] in the text of this report, that reference can be found in the Examination library published on the National Infrastructure Planning website at the following link:

Net Zero Teesside Project Examination Library

1.1.4 It is issued to ensure that IPs including the Appropriate Nature Conservation Bodies (ANCB), Natural England (NE) and Joint Nature Conservation Committee (JNCC) (in this case represented by NE), are consulted formally on Habitats Regulations matters. This process may be relied on by the Secretary of State for the purposes of Regulation 63(3) of the Habitats Regulations. Following consultation, the responses will be considered by the ExA in making their recommendation to the Secretary of State and made available to the Secretary of State along with this report. The Report on the Implications for European Sites (RIES) will not be revised following consultation.

1.1.5 To date the Applicants have made two change requests. The initial change request was made in a letter dated 28 April 2022 [AS-047]. The ExA

[1] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (as codified) (the 'Habitats Directive').

[2] The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).

[3] The term European Sites in this context includes Sites of Community Importance (SCIs), Special Areas of Conservation (SACs) and candidate SACs, Special Protection Areas (SPAs), possible SACs, potential SPAs, Ramsar sites, proposed Ramsar sites, and any sites identified as compensatory measures for adverse effects on any of the above. For a full description of the designations to which the Habitats Regulations apply, and/ or are applied as a matter of Government policy, see PINS Advice Note 10.

accepted the changes into the Examination [PD-010]. A second request was made at Deadline 6 [REP6-105]. The ExA accepted the changes into the Examination on 6 September 2022 [PD-017]. Updated information on the effects on European sites has been provided by the Applicants for both change requests as detailed in section 1.2 of this report.

1.1.6 The Applicants' Habitats Regulations Assessment ('the HRA Report') Report identified potential effects on the River Tweed Special Area of Conservation (SAC) which is a cross-border site. On 7 June 2022, the ExA wrote to NatureScot inviting it to attend and take part in the Examination as an 'other person' owing to these potential impacts [PD-013]. NatureScot [REP3-029] confirmed that the Proposed Development is unlikely to affect Scottish protected areas and that it did not wish to be involved in the Examination.

1.1.7 The Applicants have not identified any potential impacts on European sites in other EEA States[4] [REP6-044]. Only European sites forming part of the UK National Site Network are addressed in this report.

1.2 Documents used to inform this RIES

1.2.1 The Applicants' HRA Report has been updated on several occasions in the course of the Examination:

- HRA Report Rev 1.0 provided as part of the application [APP-080];
- HRA Report Rev 2.0 provided in response to advice from the Inspectorate at acceptance [AS-018];
- HRA Report Rev 3.0 provided as part of the initial change request [AS-194 and AS-195];
- HRA Report Rev 4.0 provided at Deadline 3 [REP3-002];
- HRA Report Rev 5.0 provided at Deadline 6 [REP6-044 and REP6-045]; and
- HRA Report Rev 6.0 provided as part of the second change request at Deadline 6 [REP6-109 and REP6-110].

1.2.2 References to the HRA report in this document should be taken to be a reference to the version submitted at Deadline 6 which reflects the most recent set of change requests (REP6-109]).

1.2.3 The HRA Report draws on information contained in other DCO application documents. These documents include:

- Environmental Statement (ES):
  - Chapter 9 Surface Water, Flood Risk and Water Resources [APP-091];
  - Chapter 11 Noise and Vibration [APP-093];

[4] European Economic Area (EEA) States.

- Chapter 13 Aquatic Ecology [APP-095];
- Chapter 14 Marine Ecology and Nature Conservation [APP-096];
- Chapter 16 Traffic and Transportation [APP-098];
- Appendix 8A Air Quality – Construction Phase [APP-247];
- Appendix 8B Air Quality – Operation Phase [APP-248];
- Appendix 12H Supplementary Habitat Information Report Coatham Sands Parts 1 and 2 [APP-310] [APP-311];
- Appendix 14C Marine Mammal Baseline [APP-319];
- Appendix 15A Ornithology Baseline Report Parts 1 to 4 [APP-322] to [APP-325], amended by [AS-031]; and,
- Appendix 24C Statement of Combined Effects [APP-346], amended by [AS-032].

1.2.4 In addition to these documents, the ExA has used representations submitted to the Examination by IPs, Issue Specific Hearing (ISH) documents, Statements of Common Ground (SoCG) and other Examination documents as relevant. All documents can be found in the Examination Library[5].

1.3 Structure of this RIES

1.3.1 The remainder of this report is as follows:

- **Section 2** identifies the European sites and qualifying features screened by the Applicants for potential LSE, either alone or in-combination with other projects and plans. The section also identifies the issues that have emerged during the Examination, including where IPs have disputed the conclusions of the Applicants, up to Deadline 7 (1 September 2022).
- **Section 3** identifies the European sites and qualifying features which have been considered in terms of adverse effects on site integrity, either alone or in combination with other projects and plans. The section identifies the issues that have emerged during the Examination, including where IPs have disputed the conclusions of the Applicants, up to Deadline 7 (1 September 2022).
- **Section 4** sets out concluding remarks on the purposes and intention of the RIES.

[5] Examination Library accessible at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010103/EN010103-001182-NZT%20EL.pdf

RIES Questions

1.3.2 This RIES contains questions predominantly targeted at the Applicants and NE, which are drafted in *blue, underlined italic text*. The ExA would be grateful for responses from parties on these questions. However, it is stressed that responses to other matters discussed in the RIES are equally welcomed.

1.3.3 Comments on the RIES are timetabled for Deadline 9 (6 October 2022 at 23.59).

1.4 HRA Matters Considered During the Examination

1.4.1 The Examination to date has focussed on the following matters:

- Teesmouth and Cleveland Coast SPA and Ramsar site:
  - The need for further modelling and assessment of the potential for process water discharges to affect nutrient sensitive areas of the SPA/ Ramsar site during operation.
  - The need for assessment of the potential impacts of installing rock armour protection to the discharge outfall in Tees Bay.
  - The need for assessment of potential (direct temporary loss of habitat) impacts from a bore collapse or the release of boring fluid during Horizontal Direct Drilling (HDD) works.
  - The Applicants' approach to screening of visual disturbance to bird qualifying features.
  - The Applicants' approach to the assessment of in-combination effects.
- Southern North Sea SAC
  - The Applicants' approach to assessment of disturbance to harbour porpoise using functionally linked habitat from detonation of unexploded ordnance (UXO) during construction.

2 LIKELY SIGNIFICANT EFFECTS (LSE)

2.1 Applicants' approach to identifying European Sites

2.1.1 The Proposed Development is not connected with or necessary to the management for nature conservation of any European sites. It is therefore necessary to consider if any European sites would be subject to LSE as a result of the Proposed Development.

2.1.2 Section 3 of the HRA Report [REP6-109] describes the broad selection process undertaken by the Applicants to identify sites and features for consideration in the HRA Report. The key criteria used to identify sites potentially affected were:

- Potential for air quality effects on European sites located within 15km of the Proposed Development (based on Environment Agency guidance for assessing air emissions for large emitters of 50 megawatts (MW)).
- Potential effects on mobile species such as marine mammals and migratory fish. The HRA Report does not identify a zone of influence for the effect pathways but includes a number of European sites where these species are qualifying features.

2.2 Potential Pathways of Effects on European Sites

Effects from the Proposed Development alone

2.2.1 Section 4 of the Applicants' HRA Report [REP6-109] describes potential LSEs on the relevant European sites, based on the different phases of the Proposed Development (construction, operation and decommissioning). The Applicants consider that all construction and decommissioning impacts are likely to be similar in type, magnitude and effect and as such the HRA Report [REP6-109] considers them together in the assessment (see paragraph 2.3.8 of [REP6-109]).

2.2.2 Table 2.1 below summarises the potential impact pathways that have been screened by European site and receptor type. Not all potential impacts were considered by the Applicant for each qualifying feature, with reasoning provided in the HRA Report [REP6-109]. European sites are listed in Table 2.1 if any of the potential impacts were assessed for any of their qualifying features. The full list of qualifying features for the sites considered is provided in Annex 1 of this report. No other sites or features which could be affected by the Proposed Development have been identified by any IP.

Table 2.1: Effect pathways and European sites/ receptor types considered in the Applicants' assessment

Potential impacts	Relevant European sites assessed for LSE alone	Receptor type
Construction and decommissioning phases		
Visual and noise disturbance, including disturbance to flight-lines	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Bird qualifying features
Atmospheric pollution	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Habitats supporting bird qualifying features
Water quality	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Habitats and prey species supporting bird qualifying features
Direct temporary habitat loss	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Habitats supporting bird qualifying features
Disturbance in functionally linked habitat	Berwickshire and North Northumberland Coast SAC	Grey seal
	Humber Estuary SAC	Grey seal Sea lamprey
	River Tweed SAC	Atlantic salmon Sea lamprey
	Southern North Sea SAC	Harbour porpoise
	The Wash and North Norfolk Coast SAC	Harbour seal
	Tweed Estuary SAC	Sea lamprey
Effects on foraging resources	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Bird qualifying features

Potential impacts	Relevant European sites assessed for LSE alone	Receptor type
Operational phase		
Visual and noise disturbance	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Bird qualifying features
Air quality effects from emissions	Durham Coast SAC	Habitat qualifying features
	North York Moors SAC North York Moors SPA	Blanket bogs and heathland features, which are also a supporting habitat for bird qualifying features of the SPA
	Northumbria Coast Ramsar site Northumbria Coast SPA	Habitats supporting bird qualifying features
	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Habitats supporting bird qualifying features
Water quality	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Habitats and prey species supporting bird qualifying features
Discharge of heated cooling water	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Bird qualifying features
Coastal squeeze	Teesmouth and Cleveland Coast Ramsar site Teesmouth and Cleveland Coast SPA	Habitats supporting bird qualifying features

In-combination effects

2.2.3 Section 7 of the HRA Report [REP6-109] provides an assessment of the potential in-combination effects of the Proposed Development with other plans and projects in relation to effects on site integrity, rather than as part of the screening exercise for LSE.

2.2.4 In response to a question from the ExA (BIO.2.7 [PD-016]), the Applicants state that the Proposed Development was *"…deemed to potentially result in Likely Significant Effects (LSEs) alone, before considering potential cumulative impacts with other plans and projects have been considered in the table, not just the ones with LSEs alone and for which an AA was undertaken. For example, Table 7.1 considers impacts on SPA/Ramsar bird flight lines during construction, operation and decommissioning in-combination, an impact that was screened out for the Proposed Development alone. In summary, the table does also consider impact pathways with potential in-combination LSEs"* (BIO.2.7 [REP6-126]).

2.2.5 Table 7.1 of the HRA Report [REP6-109] lists the other plans and projects included in the in-combination assessment and provides a qualitative assessment of those effects.

2.2.6 The offshore geological storage of carbon that forms a separate component of the wider project is included within the list of other plans and projects. In addition to the in-combination effects assessment in the HRA Report [REP6-109], the Applicants have provided an assessment of the cumulative effects from the offshore scheme in ES Appendix 24C [AS-032].

Change requests

2.2.7 As noted in section 1.1 above, the Applicants have submitted two change requests, both accompanied by updated HRA Reports and ES Addendums.

2.2.8 The first change request comprised 13 changes, which are described in ES Addendum Volume I [AS-050]), and related to three main areas including:

- selection of the final gas connection route;
- changes to the means of crossing the River Tees including changes in the trajectory/direction of the HDD;
- reduction of the land area required for the carbon dioxide (CO_2) gathering network; and
- updates to the land parcels required across the Order limits.

2.2.9 The potential for the change in the HDD bore direction to lead to new or different noise disturbance effects on bird species associated with the Teesmouth and Cleveland Coast SPA/Ramsar site was reviewed [AS-194]. The Applicants concluded that the noise disturbance effects would be similar to those identified in the original HRA Report [AS-018].

2.2.10 In response to a question from the ExA (BIO.1.45 [PD-012]), NE confirmed that it was in agreement with the Applicants' conclusions in relation to the effects of the Proposed Development on European sites but also noted that

it had concerns about whether the full range of LSE had been included in the HRA Report (BIO.1.45 [REP2-065]). These concerns are discussed further in section 2.3 below.

2.2.11 The second change request comprises four further changes. The changes are described in Second ES Addendum Volume 1 [REP6-107] and primarily involve removal of optionality (and consequent reduction in the proposed Order limits) including:

- removal of option 2 (crossing of River Tees by HDD) for the CO_2 gathering network; and
- removal of option 1B for the electrical connection, as well as removal of land parcels subject to temporary possession.

2.2.12 The revised HRA Report [REP6-109] submitted as part of the change request does not identify any new or different impacts from those identified in previous versions of the HRA Report. Removal of option 2 is predicted by the Applicants to reduce the potential for disturbance of the bird species associated with the Teesmouth and Cleveland Coast SPA/Ramsar site.

2.3 Discussions on the Applicants' Conclusions on LSE during Examination

2.3.1 The Applicants' screening conclusions are presented in Sections 4 and 5 of the HRA Report [REP6-109]. Further information is presented in the Screening Matrices at Appendix B. A total of 13 European sites were assessed for potential LSE. The European sites are listed in paragraph 3.2.5 of the HRA Report, with the qualifying features being identified in Chapter 2 and Appendix B. The locations of the European sites are shown on Figures 1 and 2 of Appendix D.

2.3.2 The Applicants concluded that LSE could be excluded for the relevant qualifying features of the following European sites:

- Berwickshire and North Northumberland Coast SAC;
- Durham Coast SAC;
- Humber Estuary SAC;
- Northumbria Coast SPA;
- Northumbria Coast Ramsar site;
- River Tweed SAC;
- The Wash and North Norfolk Coast SAC; and
- Tweed Estuary SAC.

2.3.3 NE (paragraph 2.2 [REP2-065] and [RR-026]) confirmed that it agreed with the conclusions of the Applicants' HRA Report in relation to these sites and their features. No other IPs have commented on this matter to date.

2.3.4 The Applicants concluded that LSE may occur on five European sites and features. These conclusions have been discussed during the Examination as summarised in Table 2.2 below.

2.3.5 The ExA (BIO.1.43 [PD-012]) asked if avoidance of LSE from temporary habitat loss through use of HDD techniques constituted mitigation. The Applicants [REP2-016] explained that in their view HDD is an intrinsic part of the project, which can be considered at the screening stage of the HRA as consistent with advice published by NatureScot[6].

2.3.6 The Applicants' conclusions on potential LSE have not been disputed by any other IPs during the Examination, up to Deadline 7 (1 September 2022).

[66] Guidance Note – The handling of mitigation in Habitats Regulations Appraisal – the People Over Wind CJEU judgement Nature Scot (2019)

Table 2.2 Discussion of Applicants' conclusions on LSE

European site/features	Nature of LSE	Issues raised during Examination
Teesmouth and Cleveland Coast SPA/Ramsar site		
All bird species listed as qualifying features	Noise and visual disturbance to birds during construction	The ExA noted that section 6 of the HRA Report referred to mitigation for visual disturbance to bird species but only identified LSE for disturbance from construction noise (BIO.1.44 [PD-012]). The Applicants (BIO.1.44 [REP2-016]) confirmed that there was an error in paragraph 4.2.9 of the HRA Report [AS-194] and that there was potential for LSE from visual disturbance during construction, in the absence of mitigation. The Applicants referenced other sections of the HRA Report [AS-194], eg Appendices B and C, which demonstrated that this matter was considered for potential AEoI of the SPA/Ramsar site. The Applicants stated that a revised HRA Report would be submitted at Deadline 3 to ensure consistency in consideration of this impact pathway throughout the report. It should be noted that subsequent versions of the HRA Report [REP6-109] do not identify LSE from visual disturbance in section 5. *RIES.2.1 The Applicant is requested to provide a version of the HRA Report which treats this matter consistently in all sections of the report.*
	Effects on foraging resources due to placement of rock armour during construction and operation	NE raised concerns about the potential for the loss of habitat used by prey species arising from installation of rock armour around the proposed outfall [RR-026 and REP2-065]. The Applicants

		(BIO.1.42 [REP2-016]) and [REP5-027] agreed with NE's position that LSE could not be excluded and subsequently submitted an updated HRA Report [REP6-109] which identified LSE on the SPA/Ramsar site from these impacts.
	Air quality effects on supporting habitats during operation	See discussion of air quality issues in section 3.2 below.
	Water quality effects on supporting habitats during all phases of the Proposed Development	No
	Direct land take due to HDD collapse	NE raised concerns about the potential for direct habitat loss from bore collapse or release of bore drilling fluid during HDD activities [RR-026 and REP2-065]. The Applicants (BIO.1.42 [REP2-016]) and [REP5-027] agreed with NE's position that LSE could not be excluded and subsequently submitted an updated HRA Report [REP6-109] which identified LSE on the SPA/Ramsar site from these impacts.
North York Moors SAC		
• Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths	Emissions from the Proposed Development leading to increased nitrogen deposition during operation	No
North York Moors SPA		
All bird species listed as qualifying features	Emissions from the Proposed Development leading to increased nitrogen deposition during operation	No

Southern North Sea SAC		
Harbour porpoise	Disturbance of animals using functionally linked habitat during construction	No

3 ADVERSE EFFECTS ON INTEGRITY

3.1 Conservation Objectives

3.1.1 The conservation objectives for each of the 13 European sites that were screened for LSE are described in section 3 of the HRA Report [REP6-109]. NE also provided links to the conservation objectives for Teesmouth and Cleveland Coast SPA, the North York Moors SAC, the North York Moors SPA and the Southern North Sea SAC (Annex B [REP2-065]).

3.1.2 The ExA raised queries with NE about the conservation objectives used in the HRA Report. NE confirmed that:

- It is appropriate to use the conservation objectives for the Teesmouth and Cleveland Coast and Northumbria Coast SPAs in the assessment of the corresponding Ramsar sites (BIO.1.49 [REP2-065].
- The qualifying features of the Northumbria Coast SPA should include the Arctic tern, despite it being omitted from the conservation objectives. NE confirmed that the Applicants had identified the correct qualifying features in their assessment (BIO.1.48 [REP2-065]).

3.2 Adverse Effects on the Integrity (AEoI) of European Sites Alone and In Combination with Other Plans and Projects

3.2.1 The Applicants' assessment, presented in sections 6 and 7 of the HRA Report [REP6-109], concludes that there would be no AEoI of any European site, either from the Proposed Development alone or in combination with other plans or projects.

Assessment of in-combination effects

3.2.2 As noted above, the Applicants' assessment considered in-combination effects in relation to effects on European site integrity rather than at the screening stage. The results of that assessment are presented in Table 7.1 of the HRA Report [REP6-109]. The scope and conclusions of the Applicants' in-combination assessment was agreed with NE (BIO.1.41 [REP2-065]), aside from a concern raised by NE in [RR-026] about the potential for LSE (both alone and in combination with other plans and projects) from installation of rock armouring at the outfall head. No other comments on the scope or conclusions of the in-combination assessments have been submitted from any other IPs.

3.2.3 The ExA (BIO.1.33 [PD-012]) noted that the Marine Management Organisation (MMO) [RR-037] queried why Tees South Bank Quarry had not been included in the assessment of cumulative effects in ES Chapter 24 [APP-106] and whether any other developments should be considered

in the assessment of combined effects on marine ecology. The Applicants [REP5-027] confirmed that construction of Tees South Bank Quarry has commenced and is due to be completed by spring 2023, before commencement of the Proposed Development. The Applicants noted that, in addition, there would be no dredging within the Tees Estuary as part of the Proposed Development. As such, the Applicants concluded that there is no potential for in-combination effects.

Stack height and air quality effects

3.2.4 The ExA has requested an explanation on how the modelled levels of effects on air quality can be relied on, since in the absence of an agreed minimum stack height, it appears that the stack could be reduced to an unknown and uncontrolled extent following the Front End Engineering Design (FEED) project stage ([EV8-006 and AQ2.2 [PD-016]). The Applicants responded that Requirement 3(1)(c) requires the stack height to be approved by the relevant planning authority as part of the detailed design. The requirement includes the wording "*No part of the authorised development comprised in Work No. 1 may commence…until details of the following for that part have been submitted to and approved by the relevant planning authority…(c) the height of the stack which must be at a level at which the environmental effects will be no worse than those identified in chapter 8 of the environmental statement*…" (AQ.2.2 [REP6-121]).

3.2.5 In the Applicants' view, this would prevent the approval of any stack height that produced an environmental effect that was worse than that assessed in the ES or HRA Report. The final stack height would depend on the final absorber height and massing which will not be known until the technology provider has been selected. It is possible that a lower stack height than that assessed would lead to a similar or even lower level of impact than the assessment presented in the ES (AQ.2.2 [REP6-121]).

3.2.6 NE noted that Chapter 8 of the ES states that a range of stack heights were assessed at the Preliminary Environmental Information Report and the results for the lowest stack considered appropriate were reported and that if a lower stack becomes a viable option, this reduction would be subject to further modelling to ensure that predicted impacts remained within the envelope of effects assessed within the ES. NE was under the impression that the air quality modelling had been carried out based on the lowest possible stack height. If this is not the case, NE feel that the Applicants should state what the lowest possible stack height would be and provide updated modelling in the HRA Report (AQ.2.2 [REP6-137]).

3.2.7 The Environment Agency (EA) [REP6-132] advised that the impacts on European sites will be assessed as part of the determination of the Environmental Permit. The EA is not able to comment on the outcome of their assessment until the permit has been determined.

Table 3.1 AEoI from the Proposed Development which could be excluded

Qualifying features assessed	Effects assessed	Examination matters
Teesmouth and Cleveland Coast SPA/ Ramsar site		
All bird qualifying features	Noise and visual disturbance (construction and decommissioning)	The Applicants (paragraphs 6.1.1 to 6.1.20 and Appendix C, Table 13 of [REP6-109]) concluded no AEoI from the Proposed Development alone as noise levels would be below the 70dB disturbance threshold identified by NE as being significant, at relevant receptor locations. For the installation of the CO_2 gathering network and CO_2 export pipeline, mitigation measures including noise reduction techniques and visual screening would be required at some receptor locations to avoid a significant effect, eg works within 24m of the SPA/Ramsar site pools and lagoons, and Dabholm Gut. Measures are summarised at paragraph 6.1.19 of the HRA Report and in the Framework Construction Environmental Management Plan (CEMP) [REP5-013]. Requirement 16 of the dDCO [REP6-002] prevents any part of the authorised development being consented until a CEMP has been approved by the relevant planning authority. The CEMP(s) must be in accordance with the Framework CEMP. For the work on the Power, Capture and Compressor (PCC) element of the Proposed Development, if HDD is undertaken between November and March, simultaneous vantage point monitoring would be undertaken. In response to a query from the ExA (BIO.1.50 [PD-012], the Applicants advised that (BIO.1.50 [REP2-016]) monitoring would be carried out on a precautionary basis by the Ecological Clerk of Works. If disturbance was likely to arise then consideration would be

		given to changing the plant, use of additional shielding to reduce noise and visual impact or temporary cessation of the noisiest work activity. Requirement 16(e) requires the final CEMP to include a scheme for environmental monitoring and reporting during construction, including measures for taking any corrective action. In-combination effects (Table 7.1 [REP6-109]) were excluded on the basis that with mitigation in place, effects from the Proposed Development would be below the 70dB disturbance threshold and no other projects were identified which would affect the same parts of the SPA/Ramsar site. NE has confirmed that it agrees that, with the proposed mitigation in place, there would be no AEoI from noise or visual disturbance during construction [RR-026 and REP1-010]. No other IPs have commented on this matter.
All bird qualifying features	Effects on water quality during construction and decommissioning	The Applicants (paragraphs 6.1.39 to 6.1.50, Table 7.1 and Appendix C, Table 13 of [REP6-109]) concluded no AEoI from the Proposed Development alone or in combination with other plans and projects during all phases of the Proposed Development. For the construction and decommissioning phases, this is subject to mitigation measures that would be secured through a Final CEMP (including a Site Waste Management Plan and a Water Management Plan) and installation of a temporary drainage system to reduce the risk of accidental spillages and minimise surface/ groundwater flow to the pools of Coatham Sands, which are used by foraging, roosting and loafing SPA/Ramsar site birds. Mitigation measures are summarised at paragraphs 6.1.47 to 6.1.48.

		The temporary drainage system would be secured by Requirement 11 of the dDCO [REP6-002]. NE [RR-026 and REP2-065] did not dispute the Applicants' conclusions about the construction and decommissioning phases.

3.2.8 Table 3.2 identifies where there is uncertainty regarding the Applicants' conclusions as a result of concerns raised by IPs during the Examination. The table reflects the ExA's understanding at the point of writing.

Table 3.2 AEoI from the Proposed Development where uncertainty remains

Qualifying features assessed	Assessment of AEoI	Examination matters
Teesmouth and Cleveland Coast SPA/Ramsar site		
All bird qualifying features	Effects on foraging resources due to placement of rock armour during construction and operation	As noted in Table 2.2 above, the Applicants undertook to update their HRA Report to include an assessment of the effects of the placement of rock armour on the integrity of the SPA/Ramsar site. The Applicants initially stated that they concluded that no LSE would arise as although there would be a loss of approximately 100m^2 of sandflat habitat, the rock armour would provide an artificial reef habitat of approximately 250m^3 which would be colonised by flora and fauna. This would provide alternative foraging resources (BIO.1.42 [REP2-016] and paragraphs 4.2.47 to 4.2.29 [REP3-002]). NE advised that the revised HRA Report submitted at Deadline 3 did not meet their requirements (BIO.2.11 [REP6-137]). The matter was discussed at ISH 4 and in their post-hearing summary, the Applicants [REP5-027] stated that *"as agreed with Natural England they will update the HRA to take the use of rock armour past the screening stage of the HRA but as agreed with Natural England these works will not lead to likely significant effects. The updated HRA will be submitted at deadline 6*". At Deadline 6, the Applicants submitted a revised HRA Report [REP6-109], which included an assessment of effects of the rock armour on site integrity (paragraphs 6.1.21 to 6.1.24, Appendix C, Table 13 and Appendix F). The Applicants concluded no AEoI due to a combination of the

		low current presence of invasive species, the small and isolated nature of the rock armour as a colonisation source, the fact that the rock armour is a very low percentage of the overall area of habitat available for prey species and measures proposed during installation. The ExA notes that NE [RR-026] requested an assessment of the potential impacts from rock armour for the Proposed Development alone and in combination with other plans and projects but the HRA Report [REP6-109] only appears to consider the Proposed Development alone for this impact pathway. *RIES. 3.1 Could the Applicants comment on the potential for in-combination effects on the Teesmouth and Cleveland Coast SPA/Ramsar site as a result of the proposed installation of rock armour?* *RIES. 3.2 Can NE confirm whether it has any remaining concerns about the Applicants' assessment and/ or its conclusions of no adverse effects on the integrity of the Teesmouth and Cleveland SPA/Ramsar site. If so, please confirm what further information and/ or assessment it considers is required.*
Little tern Common tern Pied avocet	Effects of emissions on supporting habitats during operation	The Applicants' assessment considers effects on the supporting habitat for little tern, common tern and avocet as these were deemed to be the qualifying features most sensitive to nitrogen deposition. It concluded that (paragraphs 6.1.25 to 6.1.38 and Appendix C, Table 13 of [REP6-109]) the Proposed Development would contribute less than 1% of the critical load threshold for nitrogen deposition at the main nesting sites of these species. The Applicants' assessment of the Proposed Development with the Redcar Energy Centre and Grangetown Prairie

		schemes (see Table 7.1, paragraphs 7.1.3 to 7.1.6 and Appendix C, Table 13 of [REP6-109]) concluded no AEoI from in-combination effects on the basis that nitrogen sensitive bird species do not use the part of the SPA/Ramsar site that would be most affected by the combined effects (Coatham Dunes) and that effects would be significantly smaller at the nesting sites of the terns and pied avocets. NE (paragraph 2.2.1.1 of [RR-026]) and [REP1-010] agreed that atmospheric emissions during operation would not lead to AEoI of the SPA/Ramsar site. However, please note the summary above of the discussion relating to stack height and air quality during Examination (see paragraphs 3.2.4 – 3.2.7).
All bird qualifying features	Effects on water quality during operation	The Applicants (paragraphs 6.1.39 to 6.1.50, Table 7.1 and Appendix C, Table 13 of [REP6-109]) concluded no AEoI from the Proposed Development alone or in combination with other plans and projects during all phases of the Proposed Development. NE raised concerns about the potential for AEoI resulting from operational discharges of effluent waters into the Tees Bay, leading to an increase in nutrient loading in the estuarine system [RR-026 and REP2-065]. Particular concerns were raised about the impacts at Seal Sands (within the SPA) where algal mats are already present which are reducing the available foraging areas for qualifying bird features including knot, redshank and the waterbird assemblage. The EA has expressed similar concerns, albeit in relation to effects on the Water Framework Directive status of the Tees Coastal waterbody [RR–024, REP1-049, REP6-115]. It also identified a potential risk from aerial deposition of nitrogen from the Proposed Development to contribute to nutrient

		nitrogen levels [RR-024] but subsequently agreed with the Applicants that this is not likely to be a significant source of nutrient nitrogen [REP6-115]. NE [REP2-065] also advised that, on 16 March 2022, it issued a letter to all relevant competent authorities regarding its advice for development proposals with the potential to affect water quality resulting in adverse nutrient impacts on European sites. The generic advice provided to competent authorities is that the nutrients impacts on any new plans or projects (including new development proposals) on a European site already in unfavourable condition as a result of excessive nutrient levels require mitigation, including through a nutrient neutrality approach (Annex D [REP2-065]). Teesmouth and Cleveland Coast SPA/Ramsar site is identified by NE as a site that is in unfavourable condition due to excessive nitrogen levels and where the nutrient neutrality approach may be applied to allow development to proceed. As the Proposed Development will result in a wastewater discharge to the Tees Bay, NE [REP2-065] requested the Applicants to provide further modelling and assessment to determine if there is a significant hydrological link between the discharge and the area of the SPA/Ramsar site that is sensitive to nutrient impacts, including the following: • "*Effluent waters created by the electricity generating component with post-combustion carbon capture discharge of nutrients and pollutants into Tees Bay, in particular the degree to which these would contribute towards background coastal loading of nutrients and re-enter the estuarine system; and,*

		• *Estimates of anticipated loading (flow and concentration) of the proposed discharges (process water).”* In response to a question from the ExA (BIO.1.47 [PD-012]) the Applicants advised that an assessment of process water discharges would be undertaken with a view to submission of a discharge modelling report at Deadline 4 (BIO.1.47 [REP2-016]). The Applicants subsequently stated that the modelling report would be submitted at later Examination deadlines; the Applicants stated at Deadline 7 [REP7-009] that the modelling report will be submitted at Deadline 8. However, the Applicants have stated that the draft results were being discussed with the EA and NE [REP4-025]. A draft version has been provided to NE and discussed at a meeting on 13 July 2022 [REP5-025 and REP6-121]. The EA confirmed that it has seen the draft modelling but is awaiting further information from the Applicants before it can comment further [REP6-132]. It will defer to NE in relation to Habitats Regulations matters [REP6-115]. NE [REP4-040] provided an outline position on nutrient neutrality at Deadline 4, stating that whilst most industrial developments would not be in the scope of its advice, as the Proposed Development proposes to discharge industrial wastewater containing nitrates to Tees Bay, it is possible that a sufficient quantity of this will be washed back into the estuary and modelling is therefore required to demonstrate whether it is likely to reach Seal Sands. NE’s position is that there is no established de minimis threshold for any additional nitrogen entering the catchment of the SPA/Ramsar site because the SPA/Ramsar site is already in unfavourable condition due to excess nitrogen levels around Seal Sands.

		The Applicants advised that the draft modelling results demonstrated that dissolved inorganic nitrogen discharged to Tees Bay does not enter the Tees Estuary [REP5-028]. The Applicants' position is that the conclusions of the HRA Report submitted at Deadline 3 [REP3-002] remain valid in relation to the deposition of atmospheric nitrogen from the stacks on terrestrial waterbodies. An additional qualitative calculation for nitrogen deposition on Tees Bay was presented to the EA on 1 April 2022, which showed that deposition is greatest just offshore from Coatham Sands and decreases rapidly away from the power, capture and compression (PCC) site, with the area of the Tees Coastal Waterbody affected being relatively small. Effects would therefore be insignificant alone or cumulatively [REP5-027 and REP6-121]. At Deadline 6, the Applicants stated that the modelling of cooling water discharges has assumed that process waters would be treated at Northumbria Water Ltd.'s Bran Sands Wastewater treatment works. The discharge of treated effluent from the treatment works would affect the nutrient nitrogen levels in the Dabholm Gut and Tees Estuary. The Applicants are proposing to take an equivalent volume of treated effluent back from Bran Sands for discharge to Tees Bay via the outfall from the Proposed Development. This discharge will be included in the updated discharge modelling (WE.2.1 [REP6-121]). In response to a question from the ExA (BIO.1.47 [PD-012]), the Applicants also noted that process effluent treatment and disposal would be regulated by the EA through an environmental permit and the operator would need to demonstrate as part of the permitting application that discharged water could be appropriately treated, tested and

		managed to avoid unacceptable pollutant levels (BIO.1.47 [REP2-016]). However, NE, advised that that the DCO application should demonstrate that there will either be no LSE or no AEoI as a result of the Proposed Development, otherwise "*there is a risk that permission may be granted for a project with unresolvable elements*" (BIO1.47 [REP2-065]).
All bird qualifying features	Direct land take due to HDD collapse during construction	As noted in Table 2.2 above, NE flagged concerns at Deadline 2 about the potential for HDD bore collapse and the release of fluid and the need for this to be included in the list of LSE for the SPA/Ramsar site [REP2-065]. The Applicants submitted a revised HRA Report [REP3-002] which included an assessment at paragraph 4.2.30, concluding that robust HDD design and engagement of competent and experienced contractors would avoid collapse of the HDD bore, and that LSE arising from associated habitat loss could be excluded. Based on the soils data in the Preliminary Onshore Ground Investigation [REP2-043], the Applicants are of the view that ground conditions are suitable for current HDD technology and are confident that a successful HDD can be undertaken subject to further ground investigation and design. This matter was discussed further at ISH 4 and in their post-hearing summary, the Applicants [REP5-027] stated that agreement had been reached with NE that this impact pathway is unlikely to result in LSE but that NE had requested production of a 'clean-up plan' in the event that a collapse did occur. The Applicants stated that a series of outline methods for preventing frac-out and drilling mud release were presented to NE at a meeting on 13 July 2022; these were also included in the Framework CEMP [REP5-013] and were proposed to form part of the Final CEMP.

		NE advised that while the updated CEMP covers the measures that would be put in place to minimise the risk of frac-out occurring, a contingency plan is still required to deal with the event that it does occur. However, NE agree that it would be acceptable for this "*to be detailed in the final CEMP and discharged as part of a Requirement*". The version of the HRA Report submitted at Deadline 6 [REP6-109] included an assessment of the effects on the integrity of the SPA/Ramsar site (paragraphs 6.1.51 to 6.1.52 and Appendix C, Table 13). The Applicants concluded there would be no AEoI on the basis that risk of collapse is low and will be minimised by integral design features, and the availability of a clean-up plan that would be implemented in the unlikely event of a collapse. The Applicants submitted an example contractor drilling method statement (see Appendix GH.2.6 to [REP6-121]) in response to NE's request for a clean-up plan. *RIES.3.4 Can NE clarify what additional wording it would expect to see in the DCO to address its concerns about managing the risk of HDD bore collapse/leakage effects on the Teesmouth and Cleveland Coast SPA/Ramsar site?* *RIES.3.5 Can the Applicants explain how the pollution control measures outlined in the example contractor drilling method statement would be secured in the DCO if these are required to avoid adverse effects on the integrity of the SPA/Ramsar site?*
All bird qualifying features	In-combination effects on the SPA/Ramsar site with the York Potash Harbour Facilities and Dogger Bank	The HRA Report [AS-194] concluded that in-combination effects would not arise as mitigation proposed for the Proposed Development would fully address all effects on European sites. The ExA (BIO.1.40 [PD-012]) sought clarification from the Applicants as to the evidence that had

	Teesside A/Sofia Offshore Wind Farm	been relied upon to reach this conclusion. The Applicants provided a more detailed justification for their conclusions (BIO.1.40 [REP2-065]) including the lack of potential overlap in the timing of construction for all the projects under consideration. The ExA (BIO.2.8 [PD-016]) sought clarification from the Applicants and Anglo American as to the current timings of the construction of the Proposed Development and York Potash. The Applicants confirmed that they expect to begin construction of the Proposed Development in quarter 1 of 2024 although this excludes enabling works undertaken by other organisations and early site establishment activities (BIO2.8 [REP6-121]). Anglo American advised that construction of phase 1 of the York Potash project is underway. However, the construction of phase 2 of the project may not follow directly from the completion of phase 1 and therefore the two projects could be under construction at the same time [REP6-126].
North York Moors SAC		
Northern Atlantic wet heaths with *Erica tetralix* European dry heaths	Effects of emissions on qualifying habitat features during operation	The Applicants assessed the effects on the wet and dry heath qualifying features in section 6.2 and Table 7.1 of the HRA Report [REP6-109]. The SoCG [REP1-010] between the Applicants and NE shows that it agrees that no AEoI would arise from the Proposed Development either alone or in combination with other plans or projects. However, please note the summary above of the discussion relating to stack height and air quality (see paragraphs 3.2.4 – 3.2.7).
North York Moors SPA		

Merlin Golden plover	Effects of emissions on supporting habitats during operation	The Applicants assessed the effects on the supporting habitat for the bird qualifying features in section 6.2 and Table 7.1. The SoCG [REP1-010] between the Applicants and NE shows that it agrees that no AEoI would arise from the Proposed Development either alone or in combination with other plans or projects. However, please note the summary above of the discussion relating to stack height and air quality (see paragraphs 3.2.4 – 3.2.7).
Southern North Sea SAC		
Harbour porpoise	Disturbance of harbour porpoise in functionally linked habitat during construction	The Applicants (section 6.3, Table 7.1 and Appendix C, Table 16 of [REP6-109]) concluded no AEoI from the Proposed Development alone or in combination with other plans and projects on the basis of the relatively small extent of marine works and low number of UXO detonations. Mitigation is secured through the Deemed Marine Licence (DML) (see Schedules 10 and 11 of the dDCO [REP6-002]): • Condition 19 – the use of soft start duration if percussive piling is to be used; and • Condition 23(h) – no removal or detonation of UXO can take place until a clearance methodology has been submitted to and approved in writing by the MMO. The supporting documents must include a Marine Mammal Mitigation Protocol (MMMP). These measures are intended to prevent injuries (including auditory injuries) to marine mammals. Disturbance to harbour porpoise within the SAC has been assessed against the 26km Effective Deterrence Range identified in Joint Nature Conservation Committee guidance. As the offshore elements

		of the Proposed Development are around 102km from the SAC the Applicant has concluded that no AEoI would arise, either alone or in combination with other plans or projects. The SoCG [REP1-010] between the Applicants and NE shows that it agrees that no AEoI would arise from the Proposed Development either alone or in combination with other plans or projects. The MMO has raised concerns about the adequacy of the assessment of effects on marine mammals [REP1-045 and REP4-039]. In response to a question from the ExA, the MMO [REP6-136] stated that the HRA Report should consider this matter in greater depth, including an assessment of the worst case scenario, if detonation of UXO is to be included within the DML. However, the MMO has also advised that it defers to NE on the contents of the HRA and will work with the Applicants and NE going forward [REP7-013]. *RIES.3.6 The Applicants and MMO are requested to provide an update on this matter, including the scope of additional assessment work required, the likely timescales for completion of such work and reporting to the Examination.* *RIES.3.7 NE is requested to comment on the concerns raised by the MMO in relation to the assessment of effects on harbour porpoise in the Applicants' HRA Report. Is NE satisfied that sufficient evidence is available to the Secretary of State to allow them to assess the effects on the integrity of the Southern North Sea SAC?*

4 CONCLUDING REMARKS

4.0.1 This report is based on information submitted throughout the Examination by the Applicants and IPs, up to D7 (1 September 2022), in relation to potential effects on European sites. It should be read in conjunction with the Examination documents referred to throughout.

4.0.2 The intention and purpose of the RIES is to ensure that IPs including the ANCB are consulted formally for the purposes of Habitats Regulations matters, having regard to the legal duty upon the competent authority to do so.

4.0.3 The other aim of the RIES is to identify any gaps in the ExA's understanding of IPs' positions on the effects of the Proposed Development on European sites, in order to support a robust and thorough recommendation to the Secretary of State.

4.0.4 The responses to the questions posed within the RIES and comments received on it will be of great value to the ExA in achieving this aim, and any comments would be gratefully received. They must be submitted for D9 (6 October 2022 at 23.59).

4.0.5 Following consultation, the responses will be considered by the ExA in making its recommendation to the Secretary of State and will be made available to the Secretary of State along with this report. The RIES will not be revised following consultation.

ANNEX 1: EUROPEAN SITES AND FEATURES SCREENED FOR LIKELY SIGNIFICANT EFFECTS (LSE)

Teesmouth and Cleveland Coast SPA	
Qualifying features	**LSE?**
Avocet (*Recurvirostra avosetta*) - breeding	Y
Red knot (*Calidris canutus*) - breeding	Y
Common redshank (*Tringa totanus*) – non-breeding	Y
Common tern (*Sterna hirundo*) - breeding	Y
Little tern (*Sterna albifrons*) - breeding	Y
Sandwich tern (*Sterna sandvicensis*) – non-breeding	Y
Ruff (*Calidris pugnax*) – non-breeding	Y
Waterbird assemblage – non-breeding	Y
Teesmouth and Cleveland Coast Ramsar site	
Ramsar criterion 5 – assemblages of international importance Wintering waterfowl assemblage	Y
Ramsar criterion 6 – species occurring at levels of international importance Common redshank (*Tringa totanus*) – non-breeding	Y
Red knot (*Calidris canutus*) - breeding	Y
North York Moors SAC	
North Atlantic wet heaths with *Erica tetralix*	Y
European dry heaths	Y
Blanket bogs	N
North York Moors SPA	
Merlin (*Falco columbianus*) - breeding	Y
Golden plover (*Pluvialis apricaria*) - breeding	Y
Durham Coast SAC	
Vegetated sea cliffs of the Atlantic and Baltic coasts	N
Northumbria Coast SPA	
Arctic tern (*Sterna paradisea*)	N

Purple sandpiper (*Calidris maritima*) – non-breeding	N
Ruddy turnstone (*Arenaria interpres*) – non-breeding	N
Little tern (*Sterna albifrons*) - breeding	N
Northumbria Coast Ramsar site	
Ramsar criterion 6 – species occurring at levels of international importance Little tern (*Sterna albifrons*) - breeding	N
Purple sandpiper (*Calidris maritima*) – non-breeding	N
Ruddy turnstone (*Arenaria interpres*) – non-breeding	N
Berwickshire and North Northumberland Coast SAC	
Mudflats and sandflats not covered by seawater at low tide	No effect pathway
Large shallow inlets and bays	No effect pathway
Reefs	No effect pathway
Submerged or partially submerged sea caves	No effect pathway
Grey seal (*Halichoerus grypus*)	N
Humber Estuary SAC	
Sandbanks which are slightly covered by sea water all the time; subtidal sandbanks	No effect pathway
Estuaries	No effect pathway
Mudflats and sandflats not covered by seawater at low tide	No effect pathway
Coastal lagoons	No effect pathway
Salicornia and other annuals colonising mud and sand	No effect pathway
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	No effect pathway
Embryonic shifting dunes	No effect pathway
Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); shifting dunes with marram	No effect pathway
Fixed dunes with herbaceous vegetation ("grey dunes"); dune grassland	No effect pathway

Dunes with *Hippophae rhamnoides*	No effect pathway
Sea lamprey (*Petromyzon marinus*)	N
River lamprey (*Lampetra fluviatilis*)	N
Grey seal	N
Southern North Sea SAC	
Harbour porpoise (*Phocoena phocoena*)	Y
The Wash and North Norfolk Coast SAC	
Sandbanks which are slightly covered by sea water all the time; subtidal sandbanks	No effect pathway
Mudflats and sandflats not covered by seawater at low tide	No effect pathway
Large shallow inlets and bays	No effect pathway
Reefs	No effect pathway
Salicornia and other annuals colonising mud and sand	No effect pathway
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	No effect pathway
Mediterranean and thermos-Atlantic halophilous scrubs (*Sarcocornetea fruticose*)	No effect pathway
Coastal lagoons	No effect pathway
Harbour seal (*Phoca vitulina*)	N
Otter (*Lutra lutra*)	N
River Tweed SAC	
Watercourses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	No effect pathway
Atlantic salmon (*Salmo salar*)	N
Otter	N
Sea lamprey	N
Brook lamprey	N
River lamprey	N
Tweed Estuary SAC	
Estuaries	No effect pathway

Mudflats and sandflats not covered by seawater at low tide	No effect pathway
Sea lamprey	N
River lamprey	N