Net Zero Teesside Project

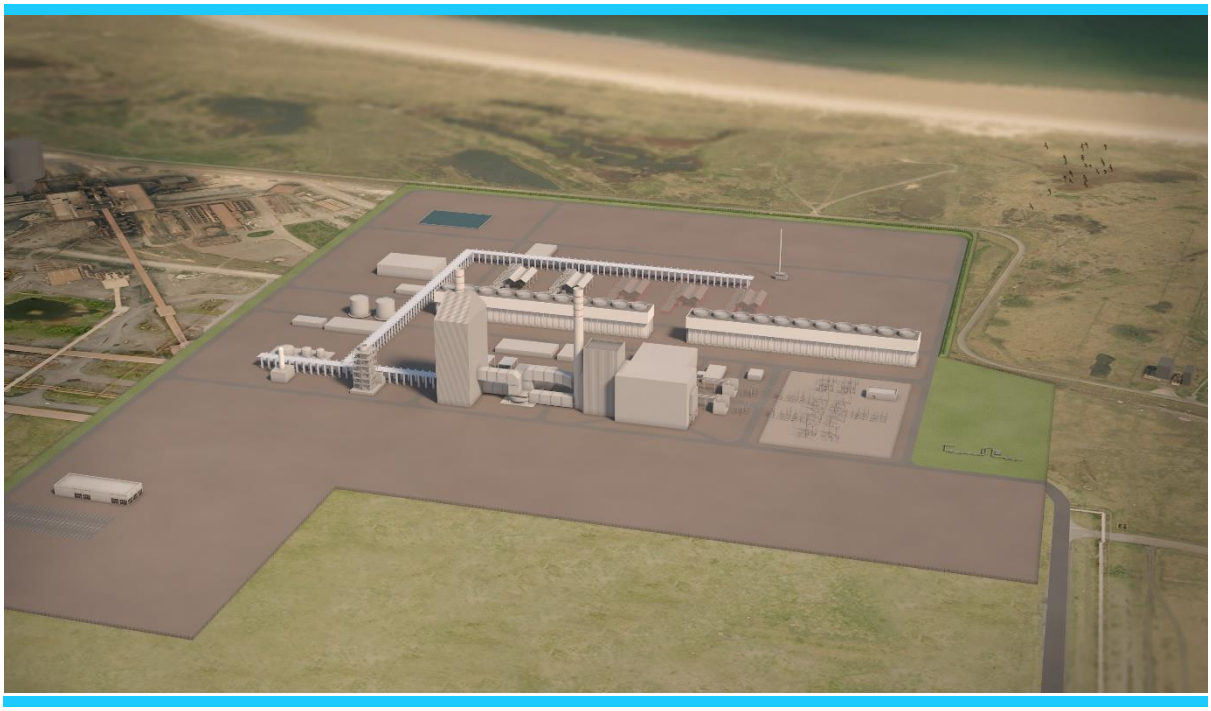
Planning Inspectorate Reference: EN010103

Land at and in the vicinity of the former Redcar Steel Works site, Redcar and in Stockton-on-Tees, Teesside

The Net Zero Teesside Order

Document Reference: 9.49 Applicants Responses to Issue Specific Hearing 6 Actions

Planning Act 2008



Applicants: Net Zero Teesside Power Limited (NZT Power Ltd) & Net Zero North Sea Storage Limited (NZNS Storage Ltd)

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GLOSSARY

Abbreviation	Description
AOD	Above ordnance datum
AS-	Additional Submissions
BAT	Best Available Techniques
BEIS	The Department for Business, Energy and Industrial Strategy
CCGT	Combined Cycle Gas Turbine
CCUS	Carbon Capture, Utilisation and Storage
CEMP	Construction and Environmental Management Plan
CTMP	Construction Traffic Management Plan
CO_2	Carbon dioxide
CPO	Compulsory Purchase Order
dB	Decibels
DCO	Development Consent Order
dDCO	Draft Development Consent Order
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement and Construction
ES	Environmental Statement
ETS	Emissions Trading Scheme
ExA	Examining Authority
FEED	Front end engineering and design
FRA	Flood Risk Assessment
Ha	Hectares
HDD	Horizontal Directional Drilling
HIA	Hydrogeological Impact Appraisal
HoT	Heads of Terms
kV	Kilovolts
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
Mt	Million tonnes

NATS	National Air Traffic Services
NSIP	Nationally Significant Infrastructure Project
NWL	Northumbria Water Lagoon
NZT	The Net Zero Teesside Project
NZT Power	Net Zero Teesside Power Limited
NZNS Storage	Net Zero North Sea Storage Limited
PA 2008	Planning Act 2008
PCC	Power Capture and Compressor Site
PDA-	Procedural Deadline A
PINS	Planning Inspectorate
RCBC	Redcar and Cleveland Borough Council
RR	Relevant Representation
SBC	Stockton Borough Council
SEL	Sound Exposure Level
SPA	Special Protection Areas
SoCG	Statement of Common Ground
SoS	Secretary of State
STDC	South Tees Development Corporation
SuDS	Sustainable urban drainage systems
UXO	Unexploded Ordnance
WFD	Water Framework Directive

CONTENTS

1.0 INTRODUCTION

1.1 Overview

1.1.1 This document, 'Applicant's Responses to Issue Specific Hearing 6 Actions (Document Ref. 9.49) has been prepared on behalf of Net Zero Teesside Power Limited and Net Zero North Sea Storage Limited (the 'Applicants'). It relates to the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy ('BEIS'), under Section 37 of 'The Planning Act 2008' (the 'PA 2008') for the Net Zero Teesside Project (the 'Proposed Development').

1.1.2 The Application was submitted to the SoS on 19 July 2021 and was accepted for Examination on 16 August 2021. A change request made by the Applicants in respect of the Application was accepted into the Examination by the Examining Authority on 6 May 2022.

1.2 Description of the Proposed Development

1.2.1 The Proposed Development will work by capturing CO_2 from a new the gas-fired power station in addition to a cluster of local industries on Teesside and transporting it via a CO_2 transport pipeline to the Endurance saline aquifer under the North Sea. The Proposed Development will initially capture and transport up to 4Mt of CO_2 per annum, although the CO_2 transport pipeline has the capacity to accommodate up to 10Mt of CO_2 per annum thereby allowing for future expansion.

1.2.2 The Proposed Development comprises the following elements:

- **Work Number ('Work No.') 1** – a Combined Cycle Gas Turbine electricity generating station with an electrical output of up to 860 megawatts and post-combustion carbon capture plant (the **'Low Carbon Electricity Generating Station'**);
- **Work No. 2** – a natural gas supply connection and Above Ground Installations ('AGIs') (the **'Gas Connection Corridor'**);
- **Work No. 3** – an electricity grid connection (the **'Electrical Connection'**);
- **Work No. 4** – water supply connections (the **'Water Supply Connection Corridor'**);
- **Work No. 5** – waste water disposal connections (the **'Water Discharge Connection Corridor'**);
- **Work No. 6** – a CO_2 gathering network (including connections under the tidal River Tees) to collect and transport the captured CO_2 from industrial emitters (the industrial emitters using the gathering network will be responsible for consenting their own carbon capture plant and connections to the gathering network) (the **'CO_2 Gathering Network Corridor'**);
- **Work No. 7** – a high-pressure CO_2 compressor station to receive and compress the captured CO_2 from the Low Carbon Electricity Generating Station and the CO_2

Gathering Network before it is transported offshore (the **'HP Compressor Station'**);

- **Work No. 8** – a dense phase CO_2 export pipeline for the onward transport of the captured and compressed CO_2 to the Endurance saline aquifer under the North Sea (the **'CO_2 Export Pipeline'**);
- **Work No. 9** – temporary construction and laydown areas, including contractor compounds, construction staff welfare and vehicle parking for use during the construction phase of the Proposed Development (the **'Laydown Areas'**); and
- **Work No. 10** – access and highway improvement works (the **'Access and Highway Works'**).

1.2.3 The electricity generating station, its post-combustion carbon capture plant and the CO_2 compressor station will be located on part of the South Tees Development Corporation (STDC) Teesworks area (on part of the former Redcar Steel Works Site). The CO_2 export pipeline will also start in this location before heading offshore. The generating station connections and the CO_2 gathering network will require corridors of land within the administrative areas of both Redcar and Cleveland and Stockton-on-Tees Borough Councils, including crossings beneath the River Tees.

1.3 The Purpose and Structure of this document

1.3.1 The purpose of this document is to summarise the Applicants' responses to the Examining Authority's actions points following Issue Specific Hearing 6 Environmental at Deadline 11 (26 October 2022) [EV11-005]. The document is structured to provide comments on the following Action Points:

- Section 2 -Action 1: Provide a note in the Written Summary of Oral Submissions describing the proposed Requirement relating to a scheme to achieve nutrient neutrality;
- Section 3 – Action 2: Provide the wording for the proposed Requirement relating to nutrient neutrality in the Deadline 12 version of the draft Development Consent Order and Statement of Common Ground with Natural England;
- Section 4 – Action 3: Provide an overview of the private agreement with NE regarding water quality monitoring at Seal Sands;
- Section 5 – Action 4: Provide an overview of the effluent safeguarding scheme;
- Section 6 – Action 5: Consider if/how a future improvement in the WFD status of the Tees Estuary or its future baseline would affect the water quality modelling;
- Section 7 – Action 6: Provide an overview of the existing nitrogen levels on and below the site and confirm that there will not be any significant levels of nitrogen in the surface water run off; and
- Section 8 – Action 7: Consider producing a final consolidated version of the Environmental Statement (ES), or a navigational guide to the ES together with all addendums.

2.0 ACTION 1: SCHEME TO ACHIEVE NUTRIENT NEUTRALITY

2.1.1 The response to Action 1 is captured as a post hearing note to Item 3 Water Environment in the Applicant's Written Summary of Oral Submission for Issue Specific Hearing 6 October 2022 [REP11-017].

3.0 ACTION 2: REQUIREMENT RELATING TO NUTRIENT NEUTRALITY

3.1.1 The wording for the proposed Requirement relating to Nutrient Neutrality is included in the draft DCO submitted at Deadline 12 (Document Ref. 2.1).

4.0 ACTION 3: OVERVIEW OF THE AGREEMENT WITH NATURAL ENGLAND REGARDING WATER QUALITY MONITORING

4.1.1 The wording for the proposed agreement with Natural England regarding water quality monitoring is set out in the final Statement of Common Ground between the Applicants and Natural England submitted at Deadline 12 (Document Ref. 8.6).

5.0 ACTION 4 OVERVIEW OF THE EFFLUENT SAFEGUARDING SCHEME

5.1.1 The response to Action 4 is captured as a post hearing note to Item 3 Water Environment in the Applicant's Written Summary of Oral Submission for Issue Specific Hearing 6 October 2022 [REP11-017].

6.0 ACTION 5: IMPROVEMENT IN WFD STATUS OF THE TEES ESTUARY

6.1.1 The impact on the results of the assessment on Tees Bay if the WFD status of Tees Bay is improved to Good is set out below.

6.1.2 The modelling presented in Appendix B to the Nutrient Nitrogen Briefing Paper [REP9-015] assumes that the discharge is to waters containing no Dissolved Inorganic Nitrogen (DIN). The background concentration of DIN is then added on top of the modelling results to calculate the final modelled concentrations in the mixing zone and to allow the percentage increase above baseline to be calculated.

6.1.3 Current background DIN concentrations are assumed to be at 0.5 mg/l, which is Poor Status. The EQS limit is 0.567 mg/l so there is a headroom for additional inputs of DIN of 0.067 mg/l before the EQS is breached and the water quality in the bay becomes Poor. At present DIN concentrations would need to increase by at least 0.005 mg/l to get a 1% increase in DIN above baseline.

6.1.4 In order to achieve Good Status, DIN concentrations in Tees Bay in winter would need to be improved to between 0.168 mg/l and 0.252 mg/l. Assuming a central value of 0.210mg/l this would mean there is a headroom of 0.042 mg/for additional inputs of DIN before the upper limit is reached. Consequently, for the same input of DIN to the bay the area where the EQS for Good Status would be breached would be larger. The difference is that the change in status would be between Good and Moderate status and not Poor to Bad Status. Similarly, we would only have to increase background DIN concentrations by up to 0.0021mg/l to get a 1% increase in DIN above baseline.

6.1.5 The result of this is that modelling the discharge using Good Status for Tees Bay would show a greater region of impact in the mapping, although the actual changes in concentration used to contour the map would be smaller.

7.0 ACTION 6: OVERVIEW OF EXISTING NITROGEN LEVELS ON SITE

7.1.1 The Ground Investigation Interpretative Report ([REP2-043]) confirms that ammoniacal nitrogen from coking works activities will be present within made ground on site. It is possible that such ammoniacal nitrogen could migrate through groundwater or surface water run-off to the Estuary or Tees Bay. However, if any such migration is occurring currently, it will be present within the current baseline water quality as measured in either the Estuary or Tees Bay.

7.1.2 Concentrations of DIN in soil and groundwater arising from former activities will improve in future as a result of land reclamation activities and subsequent redevelopment. This would include an associated increase in hardstanding and surface drainage infrastructure following development which would limit infiltration of rainfall and the potential for ammoniacal nitrogen to leach into groundwater or migrate into surface water. As such, the presence of a baseline of DIN in the Tees Estuary or Tees Bay does not affect the modelling work undertaken by the Applicants (Appendix B in [REP9-015]), given that it is based on a worst case N assumptions for baseline water quality in Tees Bay taken from water quality monitoring in the estuary.

7.1.3 For the PCC site itself once developed, there is unlikely to be any background N in surface water run-off from the site due to the site being hard-surfaced or grassed provided the site is managed sensitively, e.g. not applying nitrate fertilisers to planted areas.

8.0 ACTION 7: NAVIGATIONAL GUIDE TO THE ES

The short time between Issue Specific Hearing 6 Environment and Deadline 12, means that unfortunately the Applicants cannot provide a consolidated version of the Environmental Statement including all Addenda. The Applicants have provided a ES Navigational Guide to the ES and Addenda (Document Ref. 6.5) which has been submitted at Deadline 12.