

The Planning Inspectorate
Temple Quay House Temple Quay
Bristol
Avon
BS1 6PN

Our ref: NA/2021/115632/01-L01
Your ref: Net Zero Teesside
Date: 17 December 2021

Dear Sir/Madam

THE NET ZERO TEESSIDE PROJECT SECTION 56 'NOTIFYING PERSONS OF ACCEPTED APPLICATION' OF THE PLANNING ACT 2008 & REGULATION 8 'NOTICE OF ACCEPTED APPLICATION' OF THE INFRASTRUCTURE PLANNING. PLANNING INSPECTORATE REFERENCE: EN010103 LAND IN THE VICINITY OF THE SSI STEEL WORKS SITE, REDCAR, TEESSIDE, TS10 5QW

Please find enclosed our written representations for the above Development Consent Order (DCO) on behalf of the Environment Agency (EA).

If you have any questions or require any clarification on the points below, please do not hesitate to contact me.

Yours faithfully

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The Net Zero Teesside Project

Application Planning Inspectorate Reference: EN010103

Registration identification: 20029883

Summary of Written Representations - on behalf of the Environment Agency (EA)

2.1 - Draft Development Consent Order [APP-005]

We have recommended a number of changes regarding Requirements 13 and 16, and schedule 1.

5.3 - Planning Statement [APP-170]

We have recommended that the DCO documents are updated with the latest version of the National Planning Policy Framework.

6.2.8 ES Vol 1 Chapter 8 Air Quality [APP-190]

A water quality model needs to be submitted that assesses the impacts of atmospheric deposition rates on the Water Framework Directive (WFD) water bodies and its habitats.

6.2.9 ES Vol I Chapter 9 Surface Water, Flood Risk and Water Resources [APP-191]

No assessment has been made of the impact to WFD water bodies from effluent. Therefore there is a risk of deterioration to WFD water bodies. The Coastal Modelling Report [APP-321] needs to be updated to assess effluent impacts.

6.2.24 ES Vol I Chapter 24 Cumulative and Combined Effects [APP-104]

There is potential for a slight adverse effect upon water quality in Tees Bay (temporary and localised, and related to the mobilisation of fine sediment) during the construction phase, if the existing discharge outfall to Tees Bay requires replacing. The Applicant should review and amend the Environmental Statement (ES) as appropriate with proposed ways to prevent this environmental impact.

6.4.48 ES Vol III Appendix 24C Statement of Combined Effects [APP-346]

No assessment has been made on atmospheric deposition rates in combination with the water effluent plume from effluent containing Nitrogen to the Tees bay coastal waterbody. Therefore, insufficient information has been provided to assess the risk of deterioration of the WFD status of the Tees Coastal waterbody. A water quality model should include the effluent discharge and atmospheric deposition impact in combination to the Tees coastal Waterbody.

6.2.3 ES Vol I Chapter 3 Description of the Existing Environment [APP-085]

Some of the aquifer designation for superficial deposits and underlying bedrock units appears to be incorrect. The Applicant needs to review the aquifer designation of the superficial and solid geological units.



6.2.10 ES Vol I Chapter 10 Geology and Contaminated Land [APP-092]

The Applicant needs to confirm which areas of the proposed development will be subject to ground investigation. This should include details of the scope and results of the ground investigation undertaken either within the ES or within a separate Ground Investigation Interpretative Report.

The aquifer designation of the superficial and solid geological units needs to be reviewed. Tables 10.13, 10.14 and 10.15 also need to be reviewed to identify the correct underlying geology for the various aspects of the development and why some of the superficial deposits and superficial groundwater aquifers have not been considered during operation.

6.4.12 ES Vol III Appendix 10A PSSR [APP-292]

This report requires updating with information regarding ground investigations, groundwater, controlled waters and historic landfill information.

6.4.14 ES Vol III Appendix 10C Contaminated Land Environmental Risk Assessment

It is not clear or fully justified why controlled waters are considered a risk for certain sources and not others. Additionally, controlled water receptors should be specifically named and summarised as surface water and groundwater. Furthermore, this document does not adequately address the impact to groundwater and surface water. We would welcome the inclusion of the results of the ground investigation (including previous ground investigation results) to be submitted as part of the DCO submission. The Applicant should also provide a Hydrogeological Impact Assessment and assess the cumulative impact of the development.

6.2.25 ES Vol I Chapter 25 Summary of Significant Effects [APP-107]

We disagree with the summary of significant effects with respect to geology, hydrogeology and contaminated land. Ground investigation information would be required to confirm the conclusions of the Environmental Statement.

6.2.12 ES Vol I Chapter 12 Terrestrial Ecology [APP-194]

The Applicant is proposing to survey for phytoplankton for a period of 12 months. We require surveys to cover a minimum 24 month period unless existing evidence has been used and submitted to justify a shorter period.

The water vole and otter surveys outlined within '6.2.12 ES Vol I Chapter 12 Terrestrial Ecology' [APP-094] and 6.4.24 ES Vol III Appendix 12G Water Vole and Otter Survey Report [APP-309] are outdated. The lack of updated data/ use of potentially inaccurate baseline data for otter and water vole has meant that the impacts of the proposed DCO may not be fully understood and therefore appropriate mitigation / compensation has not been considered.



6.2.14 ES Vol I Chapter 14 Marine Ecology and Nature Conservation [App-096]

Loss of intertidal habitat

There is a potential loss of habitats. The Applicant should seek to ensure that there is no net loss of any intertidal habitats. If this is not possible at the detailed design stage, mitigation measures and/or compensation must be included to compensate for this loss.

UXO Clearance

The EA wish to be consulted on the UXO Clearance methodology for any works within the Tees coastal or Tees estuary waterbody. The Applicant will need to consider fish migration when this assessment (if needed) is carried out.

Sample Plan and subsequent Sample Analysis

Depending on location and timings of dredgings, the Applicant must consider the impacts to fish migration. The EA wishes to review the Sample Plan and subsequent Sample Analysis.

Dredging

If the proposed dredging operations were to occur concurrently with other dredging operations, we strongly recommend that these dredging activities avoid peak fish migration times (1st July-1st September). We also recommend that dissolved oxygen levels are monitored prior to dredging activity and during dredging activity at regular intervals and shared with the EA.

Outfall

If the new outfall is required, there will be a permanent loss of subtidal sand and gravels, totalling up to 350m³. Although the rock armour will be new rock habitat, it will not be natural. We would welcome the inclusion of a requirement regarding the provision of ecological enhancements to compensate for the loss of intertidal habitat. We also encourage monitoring around the outfall to monitor scour (scour pit development) and success of the marine enhancement measures.

Suspended sediment concentrations

In order to assess the suspended sediment concentrations impacts, we require clarity regarding the type of habitats within the 250m zone.

Trenchless technologies

We welcome the use of trenchless technologies as this will significantly minimise the impact of the construction phase to the estuarine and coastal ecology. However, we require further details outlining what the risks of the trenchless channels are including the depths of these trenchless channels?



Fish

Due to the proposed outfall, we would welcome the inclusion of further information on sea surface temperature and any likely thermal barriers to fish migration such as Atlantic Salmon.

6.4 ES Volume III Appendix 5A CEMP [APP-246]

As the final version of the CEMP has not yet been produced, there is a risk that poor management can lead to pollution incidents and spread of Invasive Species, Invasive Non-native Species (INNS) and diseases. The EA wish to be consulted on the final/detailed version of the CEMP and request that Requirement 16 is updated to reflect this.

We also require clarity regarding the night time hours and table 5A-3 groundwater monitoring. The Applicant should ensure that the proposed development does not result in a WFD deterioration and or pollution of controlled waters and sensitive environmental receptors. We recommend that table 5A-4 is updated with information regarding the adoption of surface water / run off control measures.

6.4.11 ES Vol III Appendix 9C WFD Assessment [APP-254]

WFD Mitigation Measures

The proposal does not appear to include any measures that would enhance or restore any bodies of water.

The Tees estuary transitional waterbody is currently failing to meet statutory environmental objectives including and in respect to the WFD element of Dissolved Inorganic Nitrogen (DIN). Excess DIN is also a factor in the failure of protected sites to achieve objectives. The main source of DIN to this waterbody is from Bran Sands Wastewater and Industrial Effluent Treatment Plant and the SembCorp Wilton complex effluent discharge. Both of these effluents currently discharge to the Tees estuary via Dabholme Gut. The long term solution to this issue is not yet known or agreed. However the redirection of these effluents to the North Sea may form part of that solution. It is not apparent if and how the proposal including to 'extinguish easements, servitudes and other private rights' in the area of these effluent discharges will impact on future measures to resolve DIN failures. If this was to involve redirection of effluents then the proposal if not taking consideration of those future measures could jeopardise attainment of WFD objectives. The Applicant must demonstrate that the proposal will not jeopardise the delivery of mitigation measures aiming to attain WFD objectives, in particular DIN. The Applicant should also consider how the proposal could protect and enhance the waterbodies within development boundary. The Applicant should also ensure the WFD assessment also considers non-reportable bodies of water potentially affected by the proposal.



Groundwater

Changes to Hydrogeological regime may impact groundwater. 6.2.10 ES Vol I Chapter 10 Geology and Contaminated Land [APP-092] will need to be updated with a Hydrogeological Impact Appraisal (HIA) and the conclusions of the HIA should inform the WFD assessment. This should include a CSM (schematic picture) identifying all of the receptors.

Flood Risk Assessment 6.4.9 ES Vol III Appendix 9A Flood Risk Assessment Parts 1, 2 and 3 [APP-250, APP-251, APP252]

With respect to fluvial and tidal flooding, we are satisfied with the Flood Risk Assessment (FRA) submitted. However, we require further information regarding the risks of groundwater flooding within the FRA. The Applicant must demonstrate how they have assessed the risk of groundwater flooding and demonstrate how they have reached their conclusion that the risk of groundwater flooding is considered to be 'medium'.

Landfill Gas

The proposed development is located on or within 250m of a landfill site that is known to be producing landfill gas. We have provided advice to the Applicant regarding how to assess landfill gas.

6.2.4 ES Vol I Chapter 4 Proposed Development [APP-086]

Applicant to provide a plant schematic showing the stack location and construction details.

6.4.7 ES Vol III Appendix 8B Air Quality - Operation Phase [APP-248]

Applicant needs to provide a worst case prediction of the height, width and location of the HRSG stack.

5.7 - Carbon Capture Readiness Assessment [APP-174]

The EA considers that the Applicant has set aside enough land to accommodate the carbon capture plant however, despite applying to install a carbon capture plant at the same time as the power plant, they have **not** demonstrated that "there are no foreseeable barriers" to the technical feasibility of installing their chosen carbon plant. We require further information from the Applicant regarding the Carbon Capture Readiness process.

Environmental Permitting Regulations (EPR) - Advice to Applicant

The DCO will require the following permit from the EA:

1. Environmental Permitting Regulations permit for the Combined Cycle Gas Turbine (CCGT) with Carbon Capture, additional emissions scrubbing, cooling system, emissions stacks, auxiliary boiler, Low Pressure compressor, CO² conditioning processes and High Pressure (HP) Compressor, with two operators. This differs from that proposed by the Applicant (two EPR Permits, separating out the HP Compressor). The EA



considers this to be one installation to ensure the large quantities of useful waste heat energy from the HP Compressor is reused within the carbon capture plant, improving overall efficiency. It is noted that an EPR Permit Application has already been submitted to the EA for parallel assessment and the installation boundary will be addressed during the permit determination process.

2. Standard Rules Permit for the Non-Road Mobile Machinery (NRMM) should the equipment remain on site for longer than 6 months.
3. Naturally Occurring Radioactive Materials - Radioactive Sources (NORM RAS) waste permit from the pipeline pigging: if necessary, pigging waste may arise from the off-shore pipeline maintenance programme and has not been discussed within the Application.
4. An abstraction authorisation: dependant on the quantities of cooling water required and the abstraction location.
5. UK Emissions Trading Scheme Permit;
6. Control of Major Accident Hazards Regulations (COMAH) permit: this may be required for hydrogen, ammonia and amines storage.

Flood Risk Activity Permit - Advice to Applicant

The proposed development will require a Flood Risk Activity Permit (FRAP).

Adoption of existing abstraction licence - Advice to Applicant

If the arrangements for water supply to the development change with the result that direct abstraction from the environment is required, the Applicant should refer to our previously provided advice in respect of the existing abstraction licence for the site.

Dewatering - Advice to Applicant

Any dewatering activities on-site could have an impact upon local wells, water supplies and/or nearby watercourses and environmental interests. This activity was previously exempt from requiring an abstraction licence but, since 1 January 2018, most cases of new planned dewatering operations above 20 cubic metres a day will require an abstraction licence from the EA prior to the commencement of dewatering activities at the site.

The Net Zero Teesside Project

Application Planning Inspectorate Reference: EN010103

Registration identification: 20029883

Environment Agency Position

We have reviewed the DCO submission documents and require further information and assessment on number of the DCO documents.

2.1 - Draft Development Consent Order [APP-005]

Requirement 13 - Contaminated land and groundwater

The requirement does not accommodate for a preliminary risk assessment, verification plan (which forms part of the remediation strategy), verification report and long term monitoring. We anticipate the requirement for long term monitoring to demonstrate that the development has contributed to an improvement of groundwater quality.

Within Part 3(a) it should be clear that a remedial options appraisal and remediation strategy highlights the remedial measures to be undertaken.

Within Part 3(a) we would highlight that a Materials Management Plan in accordance with the CLAIRE Definition of Waste: Code Of Practice (DoWCoP) is required for reuse of excavated materials (site won or imported) on development sites.

We would not fully agree with the provision of Part 6. Remedial validation reports under previous planning permissions may be historic and updated risk assessments would be required. Acceptance of such information should be subject to the approval of the Local Planning Authority.

Requirement 16 - Construction environmental management plan (CEMP)

We wish to be consulted on the final/detailed version of the CEMP and request that requirement 16 is updated to reflect this.

Schedule 1

With respect to schedule 1 authorised development, we recommend inclusion of the following equipment within the following work plans:

- Work No. 1: to include water washing and/or acid washing facilities between the carbon dioxide absorption column and its associated stack. This equipment must be included within the DCO.
- Work No. 7: to include hydrogen store.

5.3 - Planning Statement [APP-170]

National Planning Policy Framework (NPPF)

Issue: Section 6.5 makes reference to the NPPF. However, it is noted that policy summary of section 15 of the NPPF does not include reference to para 174 point



F. This states that planning policies and decisions should contribute to and enhance the natural and local environment by remediating and mitigating, despoiled, degraded, derelict, contaminated and unstable land, where appropriate. Furthermore, there is no reference to paragraph 183. This states that “after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990.

Solution: Reference to paragraphs 174 Point F and 183 of the NPPF should be made. It should be noted that there are a number of other references to the NPPF within the DCO submission which require updating.

6.2.8 ES Vol 1 Chapter 8 Air Quality [APP-190]

Impacts on intertidal habitats and fish

Issue: This assessment concluded a significant (major adverse) effect to sand dune and saltmarsh habitats. Consequently, there is potential for the deposition of air pollutants to effect other intertidal habitats (e.g. mudflats) and species, as well as fish species which may depend on these for specific functions (e.g. nursery grounds).

Despite this, the hydrodynamic conditions and the open nature of the coastline mean that this area is subject to frequent tidal washing. This will facilitate the rapid dispersion of nitrogen deposits and therefore the potential for effects to intertidal habitats is considered to be negligible. However, the Applicant has failed to provide sufficient information to assess the potential risk of deterioration in Water Framework Directive (WFD) status of the Tees coastal waterbody.

Solution: A water quality model needs to assess the impact of atmospheric deposition rates on the WFD waterbodies and protected features covered under the habitats directive.

6.2.9 ES Vol I Chapter 9 Surface Water, Flood Risk and Water Resources [APP-191]

Effluent assessment

Issue: No assessment has been made of the impact to WFD waterbodies from the effluent from the proposed regulated site. Therefore, there is a potential risk of deterioration to the WFD waterbodies as no assessment has been made, and no water quality model carried out showing the impact of these discharges.

Solution: Although the Applicant has submitted a Coastal Modelling Report [APP-321] it does not assess the impact of discharges from effluent. Therefore, a water quality model needs to be carried out to assess the impact of these discharges on the WFD elements/ update the coastal modelling report. A Hazardous substance assessment should be carried out on any surface water which has the potential to be contaminated from the historic contamination found on site, and reflected into the coastal modelling report/ water quality model. Contamination of surface water



should be stopped at source through remediation or containment of clean surface water preventing contamination in the first place.

6.2.24 ES Vol I Chapter 24 Cumulative and Combined Effects [APP-104]

Water quality in Tees Bay

Issue: This report states there is potential for a slight adverse effect upon water quality in Tees Bay (temporary and localised, and related to the mobilisation of fine sediment) during the construction phase, if the existing discharge outfall to Tees Bay requires replacing.

Solution: Applicant to review and amend this section of the ES as appropriate with proposed ways to prevent this environmental impact. The use of techniques to prevent this impact should be considered, including, but not limited to the use of settlement bags/ponds to prevent the loss of fines and the smothering habitats within Tees Bay should be explored.

6.4.48 ES Vol III Appendix 24C Statement of Combined Effects [APP-346]

Atmospheric deposition rates and water effluent plume

Issue: No assessment has been made on atmospheric deposition rates in combination with the water effluent plume from effluent containing Nitrogen to the Tees bay coastal waterbody. Therefore, insufficient information has been provided to assess the risk of deterioration of the WFD status of the Tees Coastal waterbody.

Solution: A water quality model should include the effluent discharge and atmospheric deposition impact in combination to the Tees coastal Waterbody.

6.2.3 ES Vol I Chapter 3 Description of the Existing Environment [APP-085]

Aquifer designation

Issue: Paragraphs 3.4.20 – 3.4.23 provide details on the aquifer designation for superficial deposits and underlying bedrock units. However, the aquifer designation for the Mercia Mudstone, Penarth Group and Redcar Mudstone appears to be incorrect. The aquifer designation for glacial till, tidal flat deposits, blown sands and beach and tidal flat deposits also appear to be incorrect.

Solution: The Applicant to review the aquifer designation of the superficial and solid geological units.

6.2.10 ES Vol I Chapter 10 Geology and Contaminated Land [APP-092]

Ground Investigations

Issue: This chapter is based upon desk study information presented in 6.4.12 ES Vol III Appendix 10A PSSR [APP-292], 6.4.13 ES Vol III Appendix 10B [APP-293] and 6.4.14 ES Vol III Appendix 10C Contaminated Land Environmental Risk Assessment [APP-294]. The baseline conditions alongside the assessments and conclusions presented in this chapter need to be underpinned by appropriate ground investigation. The results of ground investigation would confirm the



ground and groundwater regime prevailing at the site, the extent of land contamination and impact on controlled waters.

The Applicant has not confirmed which areas of the development will be subject to ground investigation. Sections 10.1.5 and 10.4.3 states that at the time of writing no scheme of ground investigation has been undertaken and this is scheduled for Q2/Q3 2021. It is envisaged that this ground investigation has now been completed. However, the absence of ground investigation information does not allow the baseline conditions to be confirmed

Solution: The Applicant to confirm which areas of the proposed development will be subject to ground investigation. This should include details of the scope and results of the ground investigation undertaken either within the Environmental Statement or within a separate Ground Investigation Interpretative Report. It is inferred that ground investigation will or has been undertaken on the PCC Site area and CO₂ Export Corridor. Rationale as to why ground investigation has not been undertaken for other elements of the development would be required.

Aquifer designation

Issue: Sections 3.4.20 – 3.4.23 provide details on the aquifer designation for superficial deposits and underlying bedrock units. The aquifer designation for the Mercia Mudstone, Penarth Group and Redcar Mudstone appears to be incorrect. The aquifer designation for glacial till, tidal flat deposits, blown sands and beach and tidal flat deposits also appear to be incorrect. Consequently, the Applicant's assessment of the importance and sensitivity of the superficial and solid geology may not have been correctly identified.

Solution: The aquifer designation of the superficial and solid geological units needs to be reviewed

Tables 10.12 and 10.13

Issue: There are discrepancies between table 10.12 (Details of superficial geology and solid geology) and table 10.13 (Hydrogeology). In addition, the underlying geology and appropriate corresponding aquifer designation may not have been correctly identified.

Solution: Table 10.12 be reviewed to identify the correct underlying geology for the various aspects of the development and Table 10.13 be reviewed to ensure that correct underlying geology and appropriate aquifer designation is highlighted.

Monitoring of groundwater

With respect to section 10.5.3, we acknowledge the inclusion of a remedial options appraisal and remediation strategy. However, we wish to highlight that longer term monitoring of groundwater is likely to be required to provide the evidence of an improvement in groundwater quality across the site and



demonstrate environmental betterment has been achieved as part of the proposed development.

Table 10-14

Issue: There are discrepancies between table 10-14 (geology bedrock and the locations/elements of the various development) and table 10-12. There appears to be discrepancies in aquifer designation.

Solution: Applicant to review discrepancies between table 10-14 (geology bedrock and the locations) and the aquifer designations. We would welcome clarity regarding whether the interaction between groundwater within the bedrock and superficial geological units with the River Tees has been considered in assigned the various receptor values.

Operational Mitigation

With reference to section 10.8.4 (Operational Mitigation) we acknowledge the preparation and implementation of a groundwater quality and land quality monitoring plan and would welcome consultation in the scope and extent of monitoring. Both aspects would satisfy the requirements of the Industrial Emissions Directive.

Table 10.15

Issue: It is not clear why some of the superficial deposits and superficial groundwater aquifers have not been considered during operation. In the absence of site specific ground investigation, it is difficult to accurately assign magnitude of impact and an appropriate level of residual risk.

Solution: Applicant to provide clarification as to why some of the superficial deposits and superficial groundwater aquifers have not been considered during operation. Ground investigation would be required to confirm baseline conditions and the magnitude of impact and residual risk.

6.4.12 ES Vol III Appendix 10A PSSR [APP-292]

Requirement 13

This is a large report covering an extensive site which contains a substantial amount of information for the various elements or work packages of the proposed development. It is therefore difficult to read and synthesise.

Due to the extent of the PSSR report, we welcome the inclusion of Requirement 13 and that a scheme to deal with the contamination of land, including groundwater, will be submitted to and, after consultation with the EA, approved by the relevant planning authority. We envisage that once it is clearer where existing infrastructure is to be utilised, where construction activities / ground is to be broken, and the option has been decided for the various corridors, that separate Preliminary Risk Assessments could be prepared for the separate elements or work packages of the proposed development. This should allow it to be much



clearer whether proposed ground investigation fully addresses land contamination issues.

Extent of the ground investigations

Issue: Sections 10.6.6 to 10.6.92, references previous ground investigations undertaken. However, there are no visual representations of the real extent of the ground investigations in the context of the proposed development. Additionally, it is not clear what the groundwater regime is that has been encountered, nor the extent of the impact of soil and leachate contamination on controlled waters. It is clear that previous third party assessments may not have fully addressed the risks to controlled waters or considered appropriate remediation options.

Solution: Applicant to provide visual representations of the extent of previous ground investigations and clarify the groundwater regime / bodies identified. Further detail is required on the extent of the impact of soil and leachate contamination on controlled waters.

In undertaking future risk assessments, the Applicant must confirm whether they would utilise pertinent factual data (chemical / geotechnical results / engineering logs etc) collected from previous ground investigations in addition to ground investigations undertaken on behalf of the Applicant.

Future risk assessments should highlight the prevailing groundwater regime at the site, how groundwater bodies may interact and how groundwater bodies interacts with surface waters. The Applicant must ensure that remediation of controlled waters and long term monitoring to demonstrate environmental betterment is fully considered. We also request copies of the previous reports as mentioned in Table 10A are submitted as part of the DCO submission.

Groundwater conditions AEG

Issue: Sections 10.9.13 – 10.9.20 refers to and provides details of a ground investigation undertaken by AEG on behalf of PD Teesport. However, there are no visual representations of the extent of the ground investigation and therefore it is difficult to locate the boreholes referred to in the report.

Solution: Applicant to visual representations of the ground investigation and ground investigation report.

Groundwater conditions PCC site

Sections 10.9.23 – 10.9.36 provide a summary of the groundwater conditions encountered within the PCC site. However, there are no visual representations of the ground and groundwater conditions and it is not clear what the groundwater regime is prevailing at the site.



Solution: Applicant to provide clarity as to the anticipated groundwater regime prevailing at the site, and to provide visual representations of the ground and groundwater conditions and include surface water bodies.

Controlled waters

Issue: It is not clear what controlled water bodies are considered to be receptors within sections 10.10.44 – 10.10.49.

Solution: The Applicant to provide clarity on what controlled waters are considered receptors. We would expect both surface water and groundwater bodies to be considered receptors unless ground investigation information confirmed otherwise.

Historic landfill

Issue: This does not appear to include the historic landfills as potential sources of contamination.

Solution: Applicant to include historic landfills as potential sources of contamination.

Risk classification for the various contamination sources

Issue: Table 10A-28 Environmental Risk Assessment does not provide justification for the basis of the risk classification for the various contamination sources. Additionally, controlled water receptors should be specifically named and not summarised as surface water and groundwater.

Solution: Applicant to provide clarity on the environmental risk assessment and controlled waters receptors. We would expect future preliminary risk assessments as part of Requirement 13 to provide justification for the basis of the environmental risk assessment and for controlled water receptors to be specifically named. We would expect ground investigation to confirm or otherwise the conclusions of the preliminary risk assessment.

Table 10A-29 to Table 10A - 33, Site Contamination Risk

Issue: It is not clear why controlled waters receptors have been identified for some potential sources of contamination and not others. At this stage, we do not agree with the site contamination risk assessment.

Solution: Applicant to provide clarity on why controlled waters receptors have been identified for some potential sources of contamination and not others.

Table 10A-35, Geotechnical Risk Register

Issue: The pollution risk to controlled waters is highlighted for the PCC site, CO₂ export pipeline, water connection corridors, CO₂ gathering network and natural gas corridor and electrical connection corridor. We welcome the mitigation highlighted in the form of ground investigation. However, we would welcome



clarification on the scope and extent of ground investigation for the various aspects or work packages of the proposed development.

Solution: Applicant to confirm the scope and extent of ground investigation for the various aspects or work packages of the proposed development.

Risk Register S10.11.4

Issue: The likelihood and severity does not include breach of containment of highly polluting sources within Brans Sands and Teesport landfills etc. Thus there is potential for the 'Difficult construction conditions – buried derelict infrastructure – General' for each work area/ package has been potentially underscored. Furthermore, the risk associated with the borehole density (pathways and interconnectivity between superficial groundwater and bedrock ground water) is not considered

There are so many subsurface historical constraints, therefore if construction veers into the existing pipe runs, how confident is the Applicant that the outline of the landfills is accurate enough to be outside the area of proposed works?

Solution: Applicant to provide more detailed risk assessment for work packages close to highly polluting landfill, contaminated land sites. It should be noted that Brans Sand contains a source term of DIN. If this is released, then the WFD failure in the estuary is exacerbated and not improved. It should be noted that not all boreholes are vertical and thus additional boreholes may need to be included in the assessment

Preliminary Sources Study Report, Annex E

Issue: Groundwater level data for main site and CO² offshore corridors are not adequately interpreted

Solution: Applicant to provide geological cross sections with aquifer units, associated water level data and ground water level contour maps to identify groundwater flow paths. These requirements will be needed for all work areas as groundwater level, quality, dewatering and associated ground stability issues are all identified as risks/ constraints that will require further GI/ SI to validate the current evidence baseline which is all desk based to date. The Applicant must demonstrate and provide assurances that landfill containment mitigation measures will not be breached by any of the proposed works, nor new pathways created between poor quality groundwater and the surface water.

Contaminated Land – Conceptual Model, Section 10.2, Table 10B-2

Issue: This section does not identify landfill features as potential sources of contamination.

Solution: Applicant to accommodate for landfill features as potential sources of contamination or provide justification as to why they have been discounted.



Contaminated Land – Conceptual Model, Section 10B-4

Issue: This section highlights potential contaminant linkages. However, it does not provide justification for the basis of the risk classification for the various contamination sources and associated contaminants. Additionally, controlled water receptors should be specifically named and not summarised as surface water and groundwater

Solution: We appreciate that the risk assessment is preliminary and subject to site investigation. However, it would be useful to include schematic cross sections, site conceptual models of the various aspects and work packages of the proposed development. We would also support the inclusion of the results of any ground investigation undertaken by the Applicant as part of the DCO submission.

We would expect future preliminary risk assessments for the various aspects or work packages of the development as part of Requirement 13 to provide justification for the basis of the environmental risk assessment and for controlled water receptors to be specifically named. We would expect ground investigation to confirm or otherwise the conclusions of the preliminary risk assessment including the site conceptual model.

6.4.14 ES Vol III Appendix 10C Contaminated Land Environmental Risk Assessment
Controlled waters

Issue: This appendix provides an Environmental Risk Assessment. However, it is not clear or fully justified why controlled waters are considered a risk for certain sources and not others. Additionally, controlled water receptors should be specifically named and summarised as surface water and groundwater.

Solution: We appreciate that the risk assessment is preliminary and subject to site investigation. However, we would welcome the inclusion of the results of the ground investigation (including previous ground investigation results) to be submitted as part of the DCO submission.

Impact to groundwater and surface water

Issue: This document does not adequately address the impact to groundwater and surface water.

Solution: Applicant to provide a Hydrogeological Impact Assessment and to assess the cumulative impact of the development – ie all work packages. Further guidance is available at

[REDACTED]

6.2.25 ES Vol I Chapter 25 Summary of Significant Effects [APP-107]
Geology, hydrogeology and contaminated land



Issue: We are dissatisfied with the summary of significant effects with respect to geology, hydrogeology and contaminated land. Ground investigation information would be required to confirm the conclusions of the ES.

Solution: Applicant to provide ground investigation which will help demonstrate that the conclusions of the Environmental Statement are appropriate. We also require clarification on what areas of the proposed development will be subject to ground investigation.

6.2.12 ES Vol I Chapter 12 Terrestrial Ecology [APP-194] **Survey for phytoplankton**

Issue: The Applicant is proposing to survey for phytoplankton for a period of 12 months. We require surveys to cover a minimum 24 month period unless existing evidence has been used and submitted to justify a shorter period.

By surveying for just 12 months, it will be difficult to identify an accurate baseline. Without an accurate baseline, it will not be possible to accurately determine whether or not the development will have any significant impacts on phytoplankton.

Solution: Applicant to monitor for 24 months as requested **or** Applicant to review any existing data from other sources (i.e. EA data) that may be available to supplement the 12 month survey period and give data for previous year(s). In the absence of any existing data to justify the 12 month survey period, the EA position is that 24 months is necessary.

Water vole and otter surveys

Issue: The water vole and otter surveys outlined within '6.2.12 ES Vol I Chapter 12 Terrestrial Ecology' [APP-094] and 6.4.24 ES Vol III Appendix 12G Water Vole and Otter Survey Report [APP-309] are outdated. These surveys were undertaken in September 2018 and are stated within the documents that these reports are only valid for 12 months.

The survey area has only taken into account a focused area within the Redcar and Cleveland Borough Council boundary on the south bank side. There are two records of otter from 2019 present on Dabholm Beck south of the survey area. However, the redline boundary appears to run directly adjacent to this watercourse.

There are also several records of otter from across the Royal Society for the Protection of Birds (RSPB) Saltholme within the north bank area. Although the pipeline does not appear to directly impact any of the watercourses as construction is along an existing pipeline, works will be taking place very close to Belasis Beck and disturbance to otter has not been fully considered. Several records of water vole are also been recorded across RSPB Saltholme.



The lack of update data/ use of potentially inaccurate baseline data for otter and water vole has meant that the impacts of the proposed DCO may not be fully understood and therefore appropriate mitigation / compensation has not been considered. Otters are protected against disturbance and currently the status of otters along Balasis Beck is unknown. Recent records also indicate otter presence along Dabholm Beck, this has not been surveyed either despite the redline boundary running directly adjacent to the Beck.

Solution: 5.12 Landscape and Biodiversity Strategy' [APP-079], paragraph 4.2.2 states that the Applicant has committed to 'existing or potential biodiversity constraints to be re-assessed during update surveys are as follows:

- water vole: update surveys where works on the banks of watercourses cannot be avoided;
- invasive non-native species: updated survey to re-confirm the locations of species that may be disturbed during construction.

Furthermore, the Applicant has committed to updating the Landscaping and Biodiversity Strategy should any new protected or invasive species constraints are identified (paragraph 4.2.3) via discussion with relevant local planning authority and/ or the relevant statutory consultees. It also states that the implementation of these measures is proposed to be secured by a Requirement of the draft DCO.

Paragraph 4.2.4 states that any additional surveys would be instructed during the advance works, site clearance and construction phases as identified as necessary by the ecologist or landscape architect, or otherwise as identified and requested by the Applicants or their contractors when implementing the approved Final Construction Environmental Management Plan (CEMP) and other relevant approved plans and permits.

This approach seems adequate for water vole. However, otter should be included within these updated surveys given records are known near to the redline boundary on the south bank and in the wider area on the north bank. The EA would like to review the surveys before the commencement of works.

Eels and Fish

Any proposed or future riverine or estuarine abstractions associated with the scheme should comply with best practice screening guidance particular in relation to the eel regulations (The Eels (England and Wales) Regulations 2009).

Any extensive piling activities below Mean High Water Springs may be subject to controls to avoid impacts on fish migration, in particular European Eel and Atlantic Salmon.



6.2.14 ES Vol I Chapter 14 Marine Ecology and Nature Conservation [App-096]

Loss of intertidal habitat

Issue: Section 14.5.6 and 14.5.6 state that works will be carried out where practicable to minimise land-take and the subsequent loss of benthic habitats and species, as well as to reduce disturbance to other marine ecological receptors. However, there is a potential loss of habitats. We appreciate the detailed designs are not available yet, and that the Applicant will minimise land take where possible. However, if this is not possible, appropriate mitigation will be required.

Solution: The Applicant should seek to ensure that there is no net loss of any intertidal habitats. This would be consistent the objectives of the Environment Act and the Government's 25 Year Environment Plan. If this is not possible at the detailed design stage, mitigation measures and/or compensation must be included to compensate for this loss.

UXO Clearance methodology

Section 14.5.15 states that an assessment of the impact of detonation will be done at the time of discovering UXO with a requirement for a seasonal restriction where noise abatement measures cannot bring the effect down to non-significant. This assessment, and any necessary mitigation, will be secured through conditions included on the draft DCO associated with UXO disposal. We acknowledge that this will be carried out with agreement with Marine Management Organisation (MMO). However, there is a potential for this activity to impact to fish migration (depending on location and timings).

Solution: The EA wish to be consulted on the UXO Clearance methodology for any works within the Tees coastal or Tees estuary waterbody. We would welcome reference to this within '6.4.5 ES Vol III Appendix 5A - Framework CEMP [APP-246]. The Applicant will need to consider fish migration when this assessment (if needed) is carried out.

Sampling

Issue: Section 14.5.19 sets out specific mitigation measures related to the management of construction site runoff, spillage risk and the dispersion of suspended sediments: where dredging and disposal is required, pre-construction sediment contamination testing shall be carried out in consultation with the MMO to identify whether there is potential for direct effects to marine water quality. This shall be conducted in accordance with the MMO's Sample Plan and subsequent Sample Analysis ('SAM') process. We wish to highlight to the Applicant that depending on location and timings of dredgings, they must consider the impacts to fish migration. This will potentially require extra conditions to mitigate any impacts (e.g. avoid peak salmonid migration).

Solution: In order to assess the impacts to fish, the EA wishes to review the Sample Plan and subsequent Sample Analysis. We would welcome reference to



this within '6.4.5 ES Vol III Appendix 5A - Framework CEMP [APP-246].

Dredging

Issue: 14.9.17 states that should dredging works occur concurrently within the proposed development, there is potential for adverse cumulative impacts to occur. For example, indirect effects from physical disturbance associated with increased Suspended Sediment Concentrations (SSC), smothering and toxicity from the release of sediment-bound contaminants may occur on benthic ecology and fish and shellfish receptors. Furthermore, direct effects may have a cumulative impact on fish, predominantly migratory species, where the SSC plume may prohibit upstream movement. Therefore, there is a potential for impacts to migratory fish, if Net Zero dredging's occur at same time as other dredging operations within the Tees estuary, and cause barriers to migration.

Solution: If the proposed dredging operations are to occur concurrently with other dredging operations, we strongly recommend that these dredging activities avoid peak fish migration times (1st July-1st September).

We also recommend that dissolved oxygen levels are monitored prior to dredging activity and during dredging activity at regular intervals and shared with the EA. If a drop of 1mg/l of dissolved oxygen is observed, then operations causing the effect should temporarily pause for a period of 6 hours (a tidal cycle) or until the reading returns to the previously observed level.

Discharge pipe and outfall

Sections 14.6.18 to 14.6.24 state that a new outfall head and diffuser will be installed, with the positioning of rock armouring and scour protection around the outfall head. It is expected that permanent subtidal habitat loss would occur under the footprint of these.

With the inclusion of the outfall head, this has been estimated (using precautionary dimensions of 10 m x 10 m) to represent an area of 100 m², where a permanent loss of Annex I subtidal sandflat habitat would occur. The total permanent loss of habitat in the subtidal zone, if the outfall head is to be replaced, would equate to an area of 100 m². The introduction of rock armouring / scour protection (with an expected volume of 250 m³) provides artificial reef habitat that will be colonised by flora and fauna meaning that overall biodiversity net loss would be offset.

Issue: If the new outfall is required, there will be a permanent loss of subtidal sand and gravels, totally up to 350m³. Although the rock armour will be new rock habitat, it will not be natural.

Solution: In the event that the worst case scenario is the preferred option, we would welcome the inclusion of a requirement regarding the provision of ecological enhancements to compensate for the loss of intertidal habitat. Given



that rock armour is not a natural habitat substrate, we would encourage the Applicant to include marine enhancement measures around outfall. We also direct the Applicant to the work and lessons learnt from the ecological enhancements of rock armour carried out on Runswick Bay defences. This information is available at:

[REDACTED]
[REDACTED]
[REDACTED]). We also encourage monitoring around the

outfall to monitor scour (scour pit development) and success of the marine enhancement measures.

Suspended sediment concentrations

Issue: Section 14.6.32 lists the construction activities that have the potential to increase suspended sediment concentrations (SSC) and create a sediment plume within the marine environment. Section 14.6.45 states that increased SSC and turbidity as a result of the release of water based mud (WBM) would likely occur over a larger distance and that impacts would be local to 250m from outbreak site.

We acknowledge that details regarding the exact location is not yet available. However, in order to assess the impacts, clarity regarding the type of habitats within this 250m zone would be beneficial. Will this zone comprise of subtidal soft sediments, or will this go into rocky reef, or mussel bed habitat? How much WBM would be released? What is a small amount?

Solution: We would welcome clarity on the above matters.

Decommissioning Environment Management Plan (DEMP)

Issue: Section 14.6.36 assumes that any dredged material from the site shall be either placed alongside the new outfall head (where a dredge pocket will be created for the placement of the head and diffuser) or disposed of locally at a licensed marine disposal site. There is potential for dredging's to be re-suspended as a result of local hydrological/tidal forces, and thus smother other habitats such as rocky reef, and mussel bed.

Solution: As stated in section 14.4.77, the EA should be consulted on the DEMP when appropriate. We therefore recommend the inclusion of a requirement regarding this matter and/or 6.4 ES Volume III Appendix 5A CEMP [APP-246] is updated to reflect this.

Trenchless technologies

Issue: Sections 14.5.8 and 9 states that trenchless technologies will be used to install the gas connection (if required) and the pipework for the CO² Gathering Network and CO² Export Pipeline across the River Tees in order to minimise disturbance to riverine habitats and species. We welcome the use of trenchless technologies as this will significantly minimise the impact of the construction



phase to the estuarine and coastal ecology. However, we require further details outlining what the risks of the trenchless channels are including the depths of these trenchless channels? Is there a risk for future dredgings? What will happen to the bored sediment? What are the noise impacts?

Solution: the Applicant to provide clarity on the above questions.

Fish

Due to the proposed outfall, we would welcome the inclusion of further information on sea surface temperature and any likely thermal barriers to fish migration (e.g. Atlantic Salmon).

6.4 ES Volume III Appendix 5A CEMP [APP-246]

This document states that the final CEMP will be supported by a Water Management Plan (WMP) and that biosecurity measures will be put in place to reduce the spread of invasive non-native species. As the final version of the CEMP has not yet been produced, there is a risk that poor management can lead to pollution incidents and spread of Invasive Species. Invasive Non-native Species (INNS) and diseases

Solution: The EA wish to be consulted on the final/detailed version of the CEMP and request that requirement 16 is updated to reflect this.

Night Time Hours

Issue: Section 5.2.4 states “Activities that could generate a noise nuisance will not be undertaken at night”. An agreed, clearly stated definition of night-time hours is required.

Solution: Night-time hours are clearly stated within WHO guidance and should be used.

Table 5A-3 groundwater monitoring and dewatering

Issue: Fine sediment could be pollutants and pollutant loads should be assessed and monitored throughout the work. However, there are no reference to potential groundwater monitoring in terms of level or quality. There are designated sites outwith the application boundary that are dependent on groundwater.

Solution: Applicant to ensure that their proposed development does not result in a WFD deterioration and or pollution of controlled waters and sensitive environmental receptors. The Applicant must ensure that dewatering assessment consider any impacts/ risk to sites dependent on groundwater.

Table 5A-4

Issue: Reference is made to CLR 11 which has now been superseded by Land Contamination Risk Management Guidance. There is reference to Requirement 24 concerning piling and this should be Requirement 23. The adoption of surface



water / run off control measures do not appear to be mentioned. The adoption of surface water measures (particularly during earthworks) would help prevent the infiltration of run off into the working area and reduce the likelihood for leachate generation and subsequent migration.

Solution: The Applicant to amend and take on board our comments.

6.4.11 ES Vol III Appendix 9C WFD Assessment [APP-254]

WFD Mitigation Measures

Issue: The WFD assessment indicates that no significant adverse impacts to WFD relevant waterbodies will occur and therefore the proposed development is compliant with the WFD objectives. It also states that a number of mitigation features are incorporated into the design in order to avoid, minimise and reduce potential adverse impacts on water features and water resources during the operational phases.

Section 9.3.1 identifies that proposals must not prevent future attainment of good status or potential where not already achieved. The WFD measures are also listed in section 9.8 and can be summarised as protective measures to ensure no deterioration of waterbodies as a result of the proposal. However, the proposal does not appear to include any measures that would enhance or restore any bodies of water.

It should be noted that Tees estuary transitional waterbody is currently failing to meet statutory environmental objectives including and in respect to the WFD element of Dissolved Inorganic Nitrogen (DIN). Excess DIN is also a factor in the failure of protected sites to achieve objectives. The main source of DIN to this waterbody is from Bran Sands Wastewater and Industrial Effluent Treatment Plant and the SembCorp Wilton complex effluent discharge. Both of these effluents currently discharge to the Tees estuary via Dabholme Gut.

The long term solution to this issue is not yet known or agreed. However the redirection of these effluents to the North Sea may form part of that solution. It is not apparent if and how the proposal including to 'extinguish easements, servitudes and other private rights' in the area of these effluent discharges will impact on future measures to resolve DIN failures. If this was to involve redirection of effluents then the proposal if not taking consideration of those future measures could jeopardise attainment of WFD objectives.

Solution: the Applicant to demonstrate that the proposal will not jeopardise the delivery of mitigation measures aiming to attain WFD objectives, in particular DIN. The Applicant should also consider how the proposal could protect and enhance the waterbodies within development boundary. For example the proposal relies on a number of existing physical modifications of the Tees estuary to enable the proposal to be delivered, not least the large scale infilling of the estuary to produce land on which to base industry and port activity. The CO² Gathering



Network and Natural Gas Connection Corridor will cross a number of watercourses, although accepted predominantly within an existing pipeline corridor. There are opportunities to deliver measures that would enhance or restore these waterbodies. The Applicant should also ensure the WFD assessment also considers non-reportable bodies of water potentially affected by the proposal.

The Applicant should have regard to the mitigation measure opportunities identified in the Tees Estuary Edges Enhancement Study (2018) and consider whether the proposal offers the opportunity for similar measures in other areas. This report identifies the mitigation opportunities applicable to the entirety of the current estuary edge and is available at

[REDACTED]

The undated EA Stage 1 assessment relating to Saltmarsh in the Tees estuary concluded that the main factor resulting in the classification failure is the poor extent of saltmarsh when compared to historic extent and moderate extent compared to intertidal area. It also states that habitat creation schemes proposed to mitigate the Heavily Modified Water Body status of the estuary should improve the saltmarsh status over time and if successful it should reach good ecological potential. At the time of writing this report, there were few if any opportunities identified to implement such measures.

The Tees Tidelands project is currently assessing the potential of implementing such mitigation measures to restore habitats in the Holme Fleet /Belasis Beck catchment that would formerly naturally have formed part of the Tees estuary intertidal area, and restore ecological connectivity with the Tees estuary. The Applicant should confirm what measures will be implemented so as not to jeopardise attainment of WFD objectives relating to the proposed WFD mitigation project in the Holme Fleet catchment.

Further to this, this project offers a clear potential to work with the Tees Tidelands project through in kind or financial support. Belasis Beck is culverted beneath the pipeline corridor at two locations, requiring infrastructure provision and maintenance and operational risks. There may be synergies in the two projects working together to identify a mutually beneficial operational and ecological enhancement in this area. The Tees Tidelands Programme also includes an aspiration for a Tees Tidelands footpath that would need to cross this pipeline corridor in this vicinity. The proposal should consider how the wider social benefits of establishing this route could be achieved.

Groundwater

Issue: Changes to Hydrogeological regime made by the dewatering activities the developer is proposing may impact groundwater. The impact of the dewatering activities and the development in general on groundwater will be assessed via a



Quantitative Risk Assessment (QRA) and the Remediation Strategy as described in 6.2.10 ES Vol I Chapter 10 Geology and Contaminated Land [APP-092] in line with Land Contamination Risk Management Guidance. The conclusions from this assessment will need to be reflected within the WFD assessment. In the event that the QRA process falls short of all the requirements, the Applicant should undertake a gap analysis in the QRA assessment and undertake the additional requirements of an HIA. This will reduce the need for too separate reports/ assessments and to ensure that their risk assessment/ impact appraisal addresses all the groundwater issues.

Solution: 6.2.10 ES Vol I Chapter 10 Geology and Contaminated Land [APP-092] will need to be updated with aspects of a Hydrogeological Impact Appraisal (HIA) which are additional to the QRA. The conclusions of the HIA should inform the WFD assessment. This should include a CSM (schematic picture) identifying all of the receptors.

Flood Risk Assessment 6.4.9 ES Vol III Appendix 9A Flood Risk Assessment Parts 1, 2 and 3 [APP-250, APP-251, APP252]

Issue: With respect to fluvial and tidal flooding, we are satisfied with the Flood Risk Assessment (FRA) submitted. However, we require further information regarding the risks of groundwater flooding within the FRA.

Solution: Solution: Further groundwater data and hydrogeological assessment will be required to inform the groundwater component to the FRA. The Applicant must demonstrate how they have assessed the risk of groundwater flooding and demonstrate how they have reached their conclusion that the risk of groundwater flooding is considered to be 'medium'.

6.4.12 ES Vol III Appendix 10A PSSR [APP-292] identifies many site investigations that have encountered high / shallow groundwater, therefore the capacity for infiltration will/may be limited. Consequently, there will be more surface run off and potentially longer duration flood events. We would not support infiltration drainage SuDS due to the potential to alter groundwater flow paths and mobilise pollution within the ground and groundwater to surface water receptors and increasing flood risk from groundwater sources. This could result in deterioration of the WFD status of the Tees estuary and any associated ecological habitats. Any SuDS must be lined and positively drained (attenuation only)

This will need to be considered in any climate change assessment. Higher groundwater levels could also result in polluted groundwater resulting in flooding above ground level.

Landfill Gas

With respect to '6.3.31 ES Vol II Figure 10-5 Quarrying and Landfill' [APP-139], the proposed development is located on or within 250m of a landfill site that is



known to be producing landfill gas. Development on top of or within 50m of any permitted landfill site that accepted hazardous or non-hazardous waste should be considered very carefully, as even with appropriate building control measures in place, landfill gas can accumulate in confined spaces in gardens (e.g. sheds, small extensions) and can gain access to service pipes and drains where it can accumulate or migrate away from the site.

The most recent landfill gas monitoring results submitted to the EA (March 2009) indicate elevated carbon dioxide levels at boreholes D1415002; D1415003; D1415007; D1415008. More recent monitoring may be available from the permit holder (Redcar and Cleveland Borough Council).

The following publications provide further advice on the risks from landfill gas and ways of managing these:

- Waste Management Paper No 27
- Environment Agency LFTGN03 'Guidance on the Management of Landfill Gas'
- Building Research Establishment guidance – BR 414 'Protective Measures for Housing on Gas-contaminated Land' 2001
- Building Research Establishment guidance – BR 212 'Construction of new buildings on gas-contaminated land' 1991
- CIRIA Guidance – C665 'Assessing risks posed by hazardous ground gases to buildings' 2007

Waste Duty of Care

The Environmental Protection (Duty of Care) Regulations 1991 for dealing with waste materials are applicable to any off-site movements of wastes. The code of practice applies to you if you produce, carry, keep, dispose of, treat, import or have control of waste in England or Wales. The law requires anyone dealing with waste to keep it safe and make sure it's dealt with responsibly and only given to businesses authorised to take it. The code of practice can be found here:

[REDACTED]

If you need to register as a carrier of waste, please follow the instructions here:

[REDACTED]

Environmental Permitting Regulations (EPR) - Advice to Applicant

The DCO will require the following permits from the EA:

1. Environmental Permitting Regulations permit for the Combined Cycle Gas Turbine (CCGT) with Carbon Capture, additional emissions scrubbing, cooling system, emissions stacks, auxiliary boiler, Low Pressure compressor, CO² conditioning processes and High Pressure (HP) Compressor, with two operators. This differs from that proposed by the Applicant (two EPR Permits, separating out the HP



Compressor). The EA considers this to be one installation to ensure the large quantities of useful waste heat energy from the HP Compressor is reused within the carbon capture plant, improving overall efficiency. It is noted that an EPR Permit Application has already been submitted to the EA for parallel assessment and the installation boundary will be addressed during the permit determination process.

2. Standard Rules Permit for the Non-Road Mobile Machinery (NRMM) should the equipment remain on site for longer than 6 months.
3. Naturally Occurring Radioactive Materials - Radioactive Sources (NORM RAS) waste permit from the pipeline pigging: if necessary, pigging waste may arise from the off-shore pipeline maintenance programme and has not been discussed within the Application.
4. An abstraction authorisation: dependant on the quantities of cooling water required and the abstraction location.
5. UK Emissions Trading Scheme Permit;
6. Control of Major Accident Hazards Regulations (COMAH) permit: this may be required for hydrogen, ammonia and amines storage.

6.2.4 ES Vol I Chapter 4 Proposed Development [APP-086]

Maximum Design Parameters

Issue: Table 4-1 Maximum Design Parameters states that the inner diameter of the absorber stack is proposed to be 6.6m and 115m height. Without a plant schematic it is unclear whether this is a 6.6m diameter stack, situated on the ground and 115m tall, or a 6.6m diameter stack on top of the absorber column, up to a height of 115m.

Solution: The Applicant to provide a possible plant schematic showing the stack location and construction details.

6.4.7 ES Vol III Appendix 8B Air Quality - Operation Phase [APP-248]

Heat Recovery Steam Generator (HRSG) stack

Issue: Section 8.3.6 page 8-5 does not contain an approximate size or location of the HRSG stack.

Solution: Applicant to provide a worst case prediction of the height, width and location of the HRSG stack.

5.7 - Carbon Capture Readiness Assessment [APP-174]

The role of the EA is to provide advice to the consenting authority as to whether the Applicant has demonstrated they propose to retain sufficient space to accommodate the Carbon Capture Plant (CCP) and equipment, and that it is technically feasible to retrofit the carbon capture technology selected. The CCR requirements are that 'there are no foreseeable barriers' to retrofit.

Our assessment for technical feasibility is based on "Environment Agency verification of CCS Readiness New Natural Gas Combined Cycle Power Station



Using Post-Combustion Solvent Scrubbing” given in Annex C of the DECC (2009) guidance. The EA considers that the Applicant has set aside enough land to accommodate the carbon capture plant however, despite applying to install a carbon capture plant at the same time as the power plant, they have **not** demonstrated “there are no foreseeable barriers” to the technical feasibility of installing their chosen carbon plant. The EPR permit will fully assess the CCR assessment.

Appendix 1: Indicative CCR Layout

Issue: The site plan in appendix 1 is not clear and it does not show or label individual items.

Solution: Applicant to provide a clearer site plan, identifying key plant items such as absorbers, amine storage, cooling tower etc.

Space Requirements

Issue: No details of the space required for individual plant items has been given and there is no statement explaining how they have been calculated.

Solution: Applicant to provide details of the space requirements for at least the following:

1. CO² capture equipment, including any flue gas pre-treatment and CO² drying and compression;
2. Space for routing flue gas duct to the CO² capture equipment;
3. Steam turbine island additions and modifications (e.g. space in steam turbine building for routing large low pressure steam pipe to amine scrubber unit);
4. Extension and addition of balance of plant systems to cater for the additional requirements of the capture equipment;
5. Additional vehicle movement (amine transport etc); and
6. Space allocation for storage and handling of amines and handling of CO² including space for infrastructure to transport CO² to the plant boundary.

We also require an explanation of how the space allocations have been determined e.g. provision of basic calculations using the known volumes of CO² which will have to be processed to justify the size and type of processing equipment chosen.

Cooling Water

Issue: As stated in sections 5.2.14 and 15, cooling water demands have been provided, but the space allocation required has not been provided.

Solution: The Applicant to provide the size of the cooling towers footprint area. This should also be clearly labelled on the site plan.

Dewatering - Advice to Applicant

Dewatering is the removal/abstraction of water (predominantly, but not limited to, groundwater) in order to locally lower water levels near the excavation. This activity was previously exempt from requiring an abstraction licence but, since 1 January 2018, most cases of new planned dewatering operations above 20 cubic metres a day will require an abstraction licence from the EA prior to the commencement of dewatering activities at the site.

