H2Teesside Project

Planning Inspectorate Reference: EN070009

Land within the boroughs of Redcar and Cleveland and Stockton-on-Tees, Teesside and within the borough of Hartlepool, County Durham

The H2 Teesside Order

Document Reference: 8.4: Applicant's Comments on Relevant Representations and Additional Submissions

The Planning Act 2008

Applicant: H2 Teesside Ltd

Date: September 2024

DOCUMENT HISTORY

DOCUMENT REF	8.4		
REVISION	0		
AUTHOR	DWD		
SIGNED	NC	**DATE**	17.09.24
APPROVED BY	GB		
SIGNED	GB	**DATE**	17.09.24
DOCUMENT OWNER	DWD		

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1.0 INTRODUCTION

1.1 Background

1.1.1 This document, the Applicant's comments on Relevant Representations and Additional Submissions (Document Ref. 8.4) has been prepared on behalf of H2 Teesside Limited. It forms part of the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for the Department for Energy Security and Net Zero ('DESNZ'), under Section 37 of 'The Planning Act 2008' (the 'PA 2008') in respect of the H2 Teesside Project.

1.1.2 The Application was submitted to the SoS on 26 March 2024 and was accepted for Examination on 22 April 2024. The Examination commenced on 29 August 2024.

1.2 The Purpose and Structure of this Document

1.2.1 The purpose of this document is to summarise the Applicant's present position on the matters raised in the Relevant Representations ('RR') submitted in respect of the Application. The document also contains the Applicant's response to two Additional Submissions ('AS') made by BP Exploration Operating Company on behalf of Net Zero North Sea Storage Limited [AS-023] and Net Zero Teesside Power Limited [AS-024].

1.2.2 The document is split into two sections:

- Section 2.0 – provides the Applicant's comments on the RRs submitted by non-landowners where a response is required;
- Section 3.0 – provides the Applicant's comments on the RR and AS submitted by Interested Parties with an interest in land (landowners)

1.2.3 The Applicant has not commented on every point made within the RR and AS, instead the Applicant has sought to provide comments where it is helpful to the Examination to do so or where the Applicant considers that it would be appropriate for the Examining Authority ('ExA') to have the Applicant's view on the matter raised. For instance, where a RR made by a landowner included a request for a side agreement or protective provisions, the Applicant has reported on progress on those discussions and the responses in Section 3.0 have otherwise only summarised the relevant other parts of the RR where a specific point that needs a response is raised (including in respect of land take).

1.2.4 Where issues raised within a RR or AS have been dealt with previously a cross reference to that document is provided to avoid unnecessary duplication. The information provided in this document should, therefore, be read in conjunction with the material to which cross references are provided.

1.2.5 For the avoidance of doubt, where the Applicant has chosen not to comment on matters raised by an Interested Party, this is not an indication the Applicant agrees with the point or comment raised or opinion expressed.

1.2.6 Section 2.0 'Non-landowners' provides comments and responses to the following RR:

- RR-004 Royal Mail
- RR-007 Climate Emergency Planning and Policy
- RR-009 Environment Agency
- RR-021 MMO
- RR-025 National Highways
- RR-026 Natural England
- RR-033 UK Health Security Agency

1.2.7 Section 3 'Landowners' provides comments and responses to the following RR and AS:

- RR-001 Aggregate Industries UK Ltd
- RR-002 Lighthouse Green Fuels Ltd
- RR-003 South Tees Group
- RR-006 Air Products PLC
- RR-010 Anglo American
- RR-011 CF Fertilisers UK Ltd
- RR-012 INEOS Nitriles (UK) Ltd
- RR-013 Navigator Terminals Ltd
- RR-014 PD Teesport Ltd
- RR-015 Sembcorp Utilities UK Ltd
- RR-016 BOC Ltd
- RR-017 National Gas Transmission
- RR-018 Ms Shirley Peel
- RR-019 GTC Pipelines Ltd
- RR-022 Redcar Bulk Terminal Ltd
- RR-023 Natara Global Ltd
- RR-024 National Grid Electricity Transmission Plc
- RR-027 Northern Powergrid (Northeast) Plc
- RR-028 Northern Gas Processing Ltd
- RR-029 North Sea Midstream Partners Ltd
- RR-030 Teesside Gas Processing Plant Ltd

- RR-031 Teesside Gas & Liquids Processing
- RR-034 Venator Materials UK Ltd
- RR-035 SABIC UK Petrochemicals Ltd
- RR-036 H2North East Ltd
- RR-037 Kellas Midstream Limited and CATS North Sea Ltd
- AS-023 Net Zero North Sea Storage Ltd
- AS-024 Net Zero Teesside Power Ltd

2.0 NON-LANDOWNERS

2.1 RR-004 Royal Mail

2.1.1 Royal Mail's RR and the Applicant's response are set out in Table 2.1 below.

Table 2.1: Royal Mail RR and Applicant's Response

ROYAL MAIL RELEVANT REPRESENTATION ISSUE/TEXT	APPLICANT'S RESPONSE(S)
Royal Mail Group Limited (Royal Mail) supports H2 Teeside but is seeking to ensure that its road-based operations are not adversely impacted by construction traffic and any changes to local highway capacity during the scheme's construction phase. Royal Mail has five operational properties within approximately 5 km of this scheme's DCO boundary - in Redcar, Cleveland, Middlesborough, Stockton on Tees and Hartlepool. These operational facilities rely on frequent use of the local road network on a daily basis. Therefore, Royal Mail wishes to draw its operational obligations and requirements to the attention of H2 Teeside Limited. Royal Mail is registering as an Interested Party to reserve its position to make further representations at the Examination, if required. Under section 35 of the Postal Services Act 2011, Royal Mail has been designated by Ofcom as a provider of the Universal Postal Service. Royal Mail is the only such provider in the United Kingdom. The Act provides that Ofcom's primary regulatory duty is to secure the provision of the Universal Postal Service. Ofcom discharges this duty by imposing regulatory conditions on Royal Mail, requiring it to provide the Universal Postal Service. The Act includes a set of minimum standards for Universal Service Providers, which Ofcom must secure. The conditions imposed by Ofcom reflect those standards. Royal Mail's performance of the Universal Service Provider obligations is in the public interest and should not be affected detrimentally by any	Section 6.0 of the Framework Construction Traffic Management Plan (CTMP) [APP-050] outlines a process for liaison between key stakeholders during the construction phase of the Proposed Development. This includes: • establishing a channel of communication between the EPC Contractor(s) and the regulating authorities; • making all parties aware of the results of monitoring of the Final CTMP(s); • providing a route by which any complaints can be communicated and dealt with; • providing a route through which transport related issues can be identified and dealt with; and • providing prior notice of significant events e.g. delivery of abnormal loads, in accordance with standard protocols. Crucially, paragraph 6.1.2 of the Framework CTMP [APP-050] states that it is proposed that a short-written report is prepared by the EPC Contractor(s) on a six-monthly basis and circulated to all key stakeholders. Any comments generated by the report will be circulated to all key

ROYAL MAIL RELEVANT REPRESENTATION ISSUE/TEXT	APPLICANT'S RESPONSE(S)
statutorily authorised project. Accordingly, Royal Mail seeks to take all reasonable steps to protect its assets and operational interests from any potentially adverse impacts of proposed development. Royal Mail's postal sorting and delivery operations rely heavily on road communications. Royal Mail's ability to provide efficient mail collection, sorting and delivery to the public is highly sensitive to changes in the capacity of the highway network. Royal Mail is of the view that the construction phase of H2 Teeside has potential to impact on its operational interests, especially when combined with the cumulative highways impact of other major developments in the area. To protect Royal Mail's position, it is requested that wording is added to the Outline Construction Transport Management Plan (OCTMP) to secure the following mitigations, with particular regard to Royal Mail's local operational properties as referenced above: 1. the OCTMP includes specific requirements that during the construction phase Royal Mail is notified by H2 Teeside Limited or its contractors at least one month in advance on any proposed road closures / diversions / alternative access arrangements, hours of working; 2. where road closures / diversions are proposed, H2 Teeside Limited or its contractors liaise with Royal Mail at least one month in advance to identify and make available alternative highway routes for operational use, where possible; and 3. cumulative highways impact from other major developments in the local area is fully addressed during the Examination.	stakeholders and a meeting may be held if required. It goes onto confirm that parties such as Royal Mail may need to be consulted from time to time. Paragraph 6.1.3 confirms that where required (depending on the works and location) a copy of each detailed Final CTMP approved, along with information on working hours and proposals for traffic management or works on the highways network (including any road closures, diversions or alternative access arrangements) that have potential to affect these parties, will be provided at least one month before the relevant works are anticipated to commence. Paragraph 6.1.4 goes onto state that given the other projects within the local area, the EPC Contractor(s) would liaise with other contractors in the local area to co-ordinate works, and associated construction traffic movements as far as practicable. It continues by stating that a working group could be set up as required, although at this time the exact make up and timing of any meetings is unknown and will need to be reviewed and agreed as part of the Final CTMP(s) being approved prior to work commencing on site. Part of this working group's remit could include agreeing a communications plan with neighbouring businesses where construction programmes (and therefore associated HGV movements) between the projects overlap. Further to the above, the dDCO [AS-013] includes a requirement (Requirement 18) that secures the submission and approval of a CTMP by the relevant planning authority, after consultation with National Highways,

ROYAL MAIL RELEVANT REPRESENTATION ISSUE/TEXT	APPLICANT'S RESPONSE(S)
	the relevant highway authority and STDC, before work commences on the relevant part of the authorised development. Paragraph (2) of Requirement 18 sets out what must be included in the CTMP. This includes details of the routes to be used for the delivery of construction materials and the routing strategy and procedures for the notification and conveyance of abnormal indivisible load, amongst other measures. The requested updates will be incorporated in the updated Framework Construction Traffic Management Plan to be submitted at Deadline 2 during Examination, building on what was found acceptable for Net Zero Teesside (NZT). The cumulative impact of local developments has been fully assessed and is explained in full in Appendix 15A: Transport Assessment [APP-210]. No road is anticipated to have an increase in vehicle movements which would in turn affect the operation of Royal Mail (e.g. in terms of pedestrian amenity or highway safety).

2.2 RR-007 Climate Emergency Planning and Policy

2.2.1 Climate Emergency Planning Policy's RR and the Applicant's response are set out in Table 2.2 below:

Table 2.2: Climate Emergency Planning Policy RR and Applicant's Response

CEPP RELEVANT REPRESENTATION ISSUE/TEXT	APPLICANT'S RESPONSE(S)
The environmental statement for the scheme, including Chapter 19 on Climate Change [APP-072], does not identify and describe : - the full science-based impacts of the development on the global climate system - a "worst case" description of the likely significant impacts - the full impacts of the project under different natural gas supply scenarios, including the project running entirely or at least partially on imported LNG - the resulting impacts on meeting the UK's commitments under the Paris agreement - the resulting impacts on the delivery the UK Climate plan ("the Carbon Budget Delivery Plan")	This response to the CEPP submission addresses this comment and clarifies the Applicant's position that the ES Chapter 19 on Climate Change [APP-072] is a reasonable worst case description of the likely impacts. There is no statutory (or other) requirement to identify or describe the "full science-based impacts of the development on the global climate system". The IEMA guidance which underpins the ES Assessment (and is defined within Section 19.2 of [APP-072]) requires that a Greenhouse Gas (GHG) assessment identify a 'reasonable worst case' scenario, and not simply a 'worst case' as CEPP refer to in their representation. The assessment provided in the ES Chapter 19 [APP-072], using recognised government emission factors and assuming no decarbonisation in natural gas supply, complies with this requirement for a 'reasonable worst case'. The Applicant will not source LNG directly that is not compliant with the Low Carbon Hydrogen Standard ("LCHS"). If the Proposed Development cannot meet the 20g/MJ threshold set out in the LCHS due to higher upstream feedstock emissions, the facility will not receive subsidy payments under the Hydrogen Production Business Model. It is also noted that the Government has recognised the concerns that LCHS compliance could become reliant on matters outside producers' control and has stated in the Low Carbon Hydrogen Standard (appended to

CEPP RELEVANT REPRESENTATION ISSUE/TEXT	APPLICANT'S RESPONSE(S)
	this Report) that "DESNZ will investigate the potential for an evidence framework to allow linkage to specific gas sources in a future version of the Standard. This may include contractual evidence detailing the specific sources and the delivered GHG Emission Intensity." (Low Carbon Hydrogen Standard v3, Annex D) (see Appendix 1). In the case of upstream emissions from the natural gas supply chain – generally referred to as Well to Tank (WTT) emissions – the factor used was taken directly from the relevant year's UK Government Conversion Factors for greenhouse gas (GHG) reporting referenced in ES Chapter 19 [APP-072]. The factor is derived from a report (Study on Actual GHG Data for Diesel, Petrol, Kerosene and Natural Gas), produced for the European Commission by Exergia et al. The study explicitly included upstream emissions from venting, flaring and other fugitive emissions within the natural gas supply chain. Since publication of the Climate Chapter ES Chapter 19 [APP-072], there has been a release of new set of DESNZ emission factors for 2024, where there has been no change in the WTT emission factor for the UK. The annual UK Government Conversion Factors for greenhouse gas (GHG) reporting represent an industry-standard dataset of emissions factors, and their continued use across multiple businesses, sectors and projects helps to ensure that operational emissions data is produced using the same overall scope, boundaries and assumptions, and is therefore comparable between different installations and operators. This official dataset is the standard to be applied for all projects with ongoing operational emissions and accordingly its use as a source of data for the Proposed Development GHG assessment is both rational and appropriate.

CEPP RELEVANT REPRESENTATION ISSUE/TEXT	APPLICANT'S RESPONSE(S)
	In terms of impact on the Carbon Budget Delivery Plan (CBDP), a contextual analysis of emissions from the Proposed Development against appropriate residual sectoral emissions within the CBDP was provided in table 19-11 of ES Chapter 19 [APP-072] so this analysis has been provided by the Applicant, contrary to Dr Boswell's suggestions. For these reasons, it is not considered reasonable to revisit the upstream emissions factor for natural gas. The original conclusion of the Proposed Development having a beneficial impact was conducted in line with IEMA best practice, and found that the project is in alignment with UK's net zero trajectory and Paris agreement commitments. The overall conclusions finding the GHG emissions and savings to be in line with the UK's net zero goals and Paris agreement commitments remain valid, as does the evaluation of significance.

2.3 RR-009 Environment Agency

2.3.1 The Environment Agency's (EA) RR and the Applicant's response are set out in Table 2.3 below.

Table 2.3: Environment Agency's RR and Applicant's Response

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
EA1: FRA	**Issue:** Some of the areas highlighted as compounds are located within flood zone 2 and 3. **Impact:** Additional mitigation maybe required to ensure these are not at risk of flooding or increase flood risk elsewhere. **Suggested solution:** The FRA should be updated to include an assessment of the flood risks associated with the compound areas, and appropriate mitigation.	Whilst the FRA indicates that compounds are to be located in flood zone 1 where possible, where compounds can only be located in flood zones 2 and 3 for operational reasons (e.g. minimising vehicle movements, safe and efficient movement of labour and materials to work locations), mitigation measures are presented in the following documents: Flood Risk Assessment [APP-192, Section 9.A.9], ES Chapter 9 Surface Water, Flood Risk and Water Resources [APP-061, Section 9.5] and the Framework CEMP [APP-043]. The Framework CEMP [APP-043] includes a requirement for an Emergency Response Plan and a Flood Risk Management Action Plan (produced as part of the Final CEMP(s). The construction compounds are of temporary nature and management of flood risk is a common requirement of construction contractors and their supply chains, the detail of which are proposed to be controlled within Requirement 11 (see above). As such, we do not consider an update to the FRA is required.
EA2: Pipeline Design and Construction	**Issue:** There is inadequate evidence that demonstrates that all of the proposed infrastructure, in particular the pipeline corridors and critical plant equipment in flood zone 3 will remain safe in times of a flood. **Impact:** There is a risk that elements of the proposed development will not be safe for its lifetime.	As defined in Paragraph A.6.27 of the FRA [APP-192] the Proposed Development is classified as 'Essential Infrastructure' in line with NPPF Annex 3: Flood Risk Vulnerability Classification. Essential Infrastructure is defined as "Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including infrastructure for electricity supply including generation, storage and distribution systems; including electricity generating power stations,

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
	Suggested solution: Highly vulnerable infrastructure is not acceptable within flood zone 3. They must be classed as 'essential infrastructure' and should be designed and constructed to remain operational and safe in times of flood. This means that equipment necessary for its operational would need to remain dry. We would expect a 1 in 200 year, plus an allowance for climate change, including a 600mm freeboard to be used as the design flood level. The 600mm freeboard accounts for any uncertainty in modelled flood levels, as well as for the presence of any floating debris caught within flood flows, which could damage the pipelines. The applicant should identify all critical plant equipment in flood zone 3 including both new and existing above ground infrastructure, and include mitigation measures that allow them to remain safe and operational for the lifetime of the development. Evidence should be provided in the FRA demonstrating how the design of **existing pipelines** in flood zone 3 are 1) flood resilient, 2) if they can currently withstand floodwaters as stated in section 9A.9.27 of the FRA CIRIA Report C688 'Flood Resilience and Resistance for Critical Infrastructure' (CIRIA, 2010), and 3) if the existing infrastructure in flood zone 3 will be altered/refurbished to meet this standard of protection for the lifetime of the development. Confirmation is also required on whether the crossing at the River Tees is below ground, above ground or both. There is reference to both types of crossing in different documents.	grid and primary substations storage; and water treatment works that need to remain operational in times of flood". Due to the connections required and the infrastructure needing to be connected to, some pipelines and infrastructure will be required to be developed in areas identified as Flood Zone 2 or 3. However, largely this proposed infrastructure will be underground; those elements that aren't (e.g. Above Ground Installations) are typically unmanned and access is normally only required for planned maintenance which can be scheduled to avoid any flood risk events. Details regarding watercourse crossings are provided in Section 9.5 of ES Chapter 9 Surface Water, Flood Risk and Water Resources [APP-061] and confirms the crossing of the River Tees and Greatham Creek (and adjacent water features at Seal Sands) will be underground via trenchless technologies (Horizontal Direction Drilling (HDD) or Micro Bored Tunnelling (MBT)). The use of trenchless technologies avoids any direct impact to the estuary or creek bed. For the purposes of assessment the worst case depth below the bed is assumed to be 10 m. For the Tees Crossing this is expected to be in the range of 40 to 50 m depth but will be determined following the Ground Investigation at the detailed design phase. No element of the Proposed Development is classed as Highly Vulnerable infrastructure – in contrast, the nature of the proposed development has low vulnerability, being underground or designed to be exposed to the elements. Locations where further detailed design is required is proposed to be managed through the process of Protected Provisions and Requirement 11 (see response to EA 18 below). Existing above ground pipelines including those in the Linkline corridor are appropriately designed, protected and maintained in

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
		accordance with pipeline design standards and legislative requirements.
EA3: Temporary construction and enabling works (flood risk)	**Issue:** The Applicant has described several temporary construction and enabling works such as but not limited to temporary storage in the floodplain, open-trench channels and trenchless channels, directional drilling under the tees, utilising existing culverts andoverbridges. However, these have not been adequately considered within the FRA. **Impact:** Potential increase of flood risk from the temporary construction and enabling works. **Suggested solution:** Temporary works and enabling works in flood zone 3 need to be assessed and considered in the FRA. The FRA should demonstrate the use of operational controls and/or mitigation measures throughout the construction phase, and minimise flood risk in areas at high-risk of flooding. Furthermore, it is vital there are no adverse impacts to the EA's flood defence assets along Greatham Creek.	Mitigation measures are presented in the following documents: Flood Risk Assessment [APP-192, Section 9.A.9], ES Chapter 9 Surface Water, Flood Risk and Water Resources [APP-061, Section 9.5] and the Framework CEMP [APP-043]. Mitigation measures specific to maintaining the integrity of flood defences, including Greatham Creek, are provided within the aforementioned documents. Further, defining specific mitigation measures at this stage will limit opportunities for refinement and optimisation relating to temporary construction activities and enabling works, whereas the Protective Provisions and Requirement 11 permit approaches to be refined and evolve whilst protecting the environment, development and others from increased flood risk. As a result of these mitigation measures, the Applicant does not consider an update to the FRA is needed.
EA4: Figure 9B-9: Salinity Data and Tees Bay	**Issue:** The legend for figure 9B-9 is incomplete. **Impact:** It is difficult to understand the figures shown. **Suggested solution:** The figure should be updated with a completed legend.	Thank you for raising this, we have provided an amended figure for consideration by the EA.
EA5: Water Quality Modelling	**Issue:** Cormix files for modelling have not been provided. **Impact:** We are unable to undertake a full model review until the Cormix files have been provided. **Suggested solution:** Applicant to provide the Cormix files.	Cormix files have been provided to the EA on 11 September 2024 to facilitate a full model review.

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
EA6: Table 9B-10: Effective Volume Flux Calculations	**Issue:** Effective Volume Flux (EVF) values for Polyaromatic Hydrocarbons and Cadmium are given as 4.5 and 24 (Polyaromatic Hydrocarbons) and 0.002 and 0.01 (Cadmium) in the report. However, we expected the values to be 5.0 and 30.6 for Polyaromatic Hydrocarbons and 0.02 and 0.1 for Cadmium. **Impact:** Potential methodology error. **Suggested solution:** The Applicant should provide clarification on the calculations and methodology used for Polyaromatic Hydrocarbons and Cadmium.	There is a typing error in the effective volume flux calculations for cadmium - the values should be 0.02 and 0.1. This does not have any impact on the modelling or conclusions of the report in respect of this parameter. The effective volume flux calculations have been checked for polyaromatic hydrocarbons and no error has been found so we are unsure why the difference in values is arising. However, this has no impact on the modelling or conclusions of the report for this parameter.
EA7: Figure 9B-15	**Issue:** It is unclear what the green shading in Figure 9B15 represents. **Impact:** It is unclear if this indicates material entering the bay area. **Suggested solution:** Applicant to provide a description of the green shading and if material is entering the bay area.	The green shading shows the mixing patterns in Tees Bay over the entire model run. It was provided to show how dissolved substances move through the Bay, it does not relate to any specific concentration of any specific substance. It shows that water and dissolved substances can move between the Bay and the Estuary, but the following results show that any contaminants from the H2Teesside outfall will be diluted to below EQS values well before that point.
EA8: Benzo(g, h, i)-perylene, pages 56-57	**Issue:** Benzo(g,h,i)-perylene increase is above Environmental Quality Standards (EQS) for scenario 5. The report also states that this will have no significant impact on water quality. However, no explanation of how this conclusion was formed and the reasoning behind it has been provided. **Impact:** Benzo(g,h,i)-perylene is over Environmental quality Standards EQS.	Report should read scenarios 1, 2, 3 and 4. Scenarios 5 and 6 were re-named as 3 and 4 at a late stage and are occasionally referred to as scenarios 5 and 6 in error on pages 55 and 57. Concentrations of benzo(g,h,i)perylene are limited to using MAC EQS values only and this parameter has been modelled in the far field as set out in Table 9B-18 (scenario 3 = scenario 5). The MAC EQS for benzo(g,h,i)perylene is already breached within Tees Bay so an appropriate threshold above background concentrations has been used to establish the area over which water quality impacts may be seen for this parameter. The results in Plate 9B-21 shows that discharges from H2Teesside will be rapidly diluted by water in Tees

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
	Suggested solution: Further evidence should be provided regarding why benzo(g,h,i)-perylene increase is above EQS and how the conclusions were made.	Bay under scenario 3 (5) and will only increase concentrations of this substance over an extremely limited area in the immediate vicinity of the discharge point and in the deepest waters. For this reason, the impact on receiving water quality is considered to be Not Significant.
EA9: Use of Phase 1 rather than UK Habitat Classification System (UKHab)	**Issue:** The description of semi-improved neutral grassland (Phase 1) in section 1.4.24 of 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064] references floodplain grazing marsh. This is a separate habitat in UKHab that typically is assessed at a higher ecological value. Whilst this is correctly identified in-text, using UKHab would allow for the individual habitat parcels to be split out accordingly and allow for a more accurate assessment of ecological value over the development site. Due to including floodplain grazing marsh within this wider description, it is not possible to discern where the higher value habitat actually occurs and thus where the identified impacts will take place.There are also multiple references of the habitat "open mosaic habitat" occurring within the site and referenced in sections 12.4.21, 12.4.24, 12.4.28, 12.4.38 of 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064]. However, there is no mention of where the habitat is located. This is not a habitat listed within the Phase 1 methodology, but it is a distinct type within UKHab and it is also a Habitat of Principal Importance (HPI). As the habitat is not listed within Phase 1 and is not mapped in the corresponding map, any impact to the habitat cannot be properly assessed. In addition to this, the ecological value of this HPI cannot be said to be accurately assessed. For example, section 12.4.38 of 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064] states "In some locations the hardstanding contributes to open mosaic habitat on previously developed land. Hardstanding is of negligible importance." These two sentences appear to contradict themselves.	The Applicant's intention to map habitats using the Phase 1 habitat survey classification was set out in the EIA scoping report and the PEIR. Due to the size, complexity and distribution of habitats within the site, the Applicant followed standard Phase 1 survey guidance (collecting data sufficient to inform condition assessments for BNG concurrently at the appropriate scale). Figure 12-A-5 shows the locations of Habitats of Principal Importance within the Proposed Development Site, based upon the priority habitat inventory and the surveys completed on site. Where habitats had the potential to be of botanical importance (or to meet priority habitat criteria), an additional National Vegetation Classification (NVC) survey was completed during the optimum survey season by an experienced botanist. As NVC surveys are not appropriate for open mosaic habitats, open mosaic areas were assessed against priority habitat criteria. The importance levels have been assigned with reference to the CIEEM guidelines for EcIA. The Applicant has considered the condition of the habitats (including its potential to meet priority habitat criteria) when assigning importance levels. In summary, the Applicant considers the habitats identified have been accurately mapped.

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
	Impact: Mis-identification of habitats could result in the misevaluation of ecological importance and impacts. **Suggested solution:** Habitats recorded should either be resurveyed using the UK Habitat Classification System or be translated using existing botanical data. In the latter case, remapping of habitats will likely be necessary and is recommended so that extents of priority habitats can be accurately assessed.In the case of open mosaic habitat (OMH), there are clear criteria that define the habitat. This must be discussed within the ES, and the botanical data assessed against these criteria.	
EA10: Identification of habitats and/or insufficient habitat	**Issue:** Incorrect identification of habitats and/or insufficient habitat information has caused confusion regarding the types of habitat present, and subsequently it's impact assessment.The description of Running Water in 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064], sections 12.4.30 and 12.4.31 includes the presence of brackish and freshwater water bodies, specifically noting "ponds and saline lagoon". These habitats are notclassed as "running water" under the Phase 1 system. Furthermore, not all ponds are HPI. This contradicts section 12.4.32 of 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064] on standing water, which states standing waterbodies are of local importance only. Ponds and saline lagoons must be assessed as "standing water" in the Phase 1 system. **Impact:** Inaccurate evaluation and impact assessment. **Suggested Solution:** Further discussion and justification on how these ponds meet the criteria outlined in the HPI descriptions (Maddock, rev. 2011) and standing waterbodies should be provided. Both of these	The Applicant confirms that paragraph 12.4.21 (which describes ponds and saline lagoons) should be under the heading 'standing water'. We have reviewed the level of importance assigned to saline lagoons and confirm this is of up to National importance in line with the impact assessment tables within the report. Ponds have been assessed to be of up to Local importance based upon PSYM information collected during aquatic ecology surveys. The Applicant does not consider an update to Chapter 12: Ecology and Nature Conservation [APP-064] is needed.

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
	sections should be rewritten for clarity, and the habitat maps updated to reflect the assessment.	
EA11: Habitat and Statutory Site Linkages	**Issue:** Several of the habitats present within the DCO boundary are potentially functionally linked with the statutory designations (namely the Teesmouth and Cleveland Coast complex). These are water-based habitats which are discussed in the Phase 1 section of 6.2.12 ES Vol I Chapter 12: Ecology and Nature [APP-064], and may support qualifying features of these designations, including certain habitats, bird species, and other protected species. As such, they may be of international importance if functionally supporting the statutory designations. However, the relevant documents do not adequately identify and link the habitats and its statutory designations. **Impact:** Impacts to designated sites and misidentification of impact magnitude. S**uggested solution:** Habitats and their functionality with statutory sites should be reviewed. If this work is yet to take place, it is suggested that the importance be assessed as "district to international importance" until a more detailed assessment is completed. If it has been completed, a robust justification of the decision is required and the appropriate documents brought into alignment with that outcome.	The approach to identification of functionally linked land is set out in ES Appendix 13:A Ornithology Baseline and, for birds, Paragraphs 13.3.1 – 13.3.7 s of ES Chapter 13: Ornithology [APP-065] set out how the potential extent of Functionally Linked Habitat was considered when planning the gathering of baseline data and undertaking assessments. Assemblages of species that are qualifying features of the Teesmouth and Cleveland Coast SPA and Ramsar site, that occur within land that is functionally linked to the SPA, are valued separately; this is because qualifying features of designated sites, and by default land that is functionally linked to a designated site, are not necessarily of International 'importance' in their own right, but they qualify on the basis that the designated site supports internationally important numbers of that species. It should be noted that common and widespread species can be listed as qualifying features (such an example is black-headed gull, which occurred within the Survey Area and is a qualifying assemblage feature of the Teesmouth and Cleveland Coast SPA and Ramsar site). Although functionally linked land may support 1% or more of the SPA population at certain times, parcels of land will move in and out of use depending on factors such as the seasons, land use and weather. Functionally linked land may support 1% or more of the SPA population at some times, which makes the land important for preservation of the SPA populations collectively. However, to give individual parcels elevated importance would equate them with the SPA itself which is the season round focus of bird activity, and would overstate their value. For these reasons we do not consider any amendments to the assessment are required in this instance and functionally linked land has been appropriately assessed within the ES and the HRA.

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
EA12: Inconsistency between documents & weak assessment of value	**Issue:** There are inconsistencies between the habitats reported in 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation (including aquatic ecology) [APP-064] and the Outline Biodiversity Management Plan [APP-039]. This is apparent in Table 3-2 of the OLBMP which lists: • Coastal and Floodplain Grazing Marsh - not discussed as a separate habitat type or mapped as such in 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064]. However, it is a habitat of principal importance (HPI) • Coastal Saltmarsh - is a HPI, which is not mentioned in 6.2.12. ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064]. The ES Chapter assesses the habitat as being of National importance, whereas the OLBMP assesses it as District importance. Due to the high likelihood of functional linkage with the listed statutory designated sites, coastal saltmarsh may even be of international importance. Clarity is required as there are critical implications for the impact assessment • Coastal Sand Dunes - this habitat is a HPI but is not listed, described, or mapped as being on site anywhere within the 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064]. This omission must be addressed as the habitat is likely to be of greater than the District value assigned in Table 3-2 of the OLBMP due to functional linkage with statutory sites in the vicinity. It may be that the habitat may be indirectly affected, but this should be clarified within Table 3-2 if true. • Mudflats - this habitat is a HPI and is situated within an internationally designated site. The assessment of District ecological importance is not sufficiently supported by evidence. • Saline lagoons - this habitat is a HPI and likely to be functionally linked to the Special Protection Area complex. The assessment of District ecological importance is not sufficiently supported by evidence.	The OLBMP will be updated to make sure importance levels are consistent with the ES chapter, this will be submitted to The Planning Inspectorate during the course of the examination. Any change to this document will not affect the conclusions and assessments presented in the ES. As noted under comment 11, assemblages of species that are qualifying features of designated sites that occur within functionally linked land are valued separately and the level of importance is not automatically elevated to 'international' because they support qualifying bird species.

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	• Open mosaic habitat - this habitat is not discussed in sufficient detail within 6.2.12 ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064], and no discussion of ecological value is presented in that document, and thus inconsistent with the OLBMP.There are also inconsistencies between the Impact Assessment summary in Table 12-5 of ES Vol I Chapter 12: Ecology and Nature Conservation [APP-064], and the habitat descriptions of the same document: • Saline lagoons - National in table, District in text • OMH - District in table, not assessed in text • Coastal and Floodplain Grazing Marsh - National in table, District in text and not fully assessed • Mudflats - National in table, District in text • Coastal Sand Dunes - National in Table 12-5, District in OLBMP summary table, and not described or mapped. **Impact:** Incorrect assessment of value. **Suggested Solution:** The documents should be reviewed in light of the above comments and brought into alignment with robust justification of the assessments.	
EA13: 4.2.20: invasive non-native species (INNS)	**Issue:** Insufficient information has been provided that fully mitigates against INNS, including INNS animals. **Impact:** Risk of either introducing INNS to site or spreading INNS off site. **Suggested solution:** INNS animals include freshwater invertebrates and amphibians. An assessment and protocol for animals should be considered within the CEMP. A biosecurity protocol for all site traffic	OLBMP 4.2.20 states - *"Any invasive species present within the site boundary will be noted during the site walkover to be undertaken prior to any construction works being undertaken. It should be noted that invasive species may not be visible during the winter months, therefore an update walkover may be required depending upon the start date for construction and the schedule of works. Areas of invasive species will be fenced off and a specialist invasive species contractor appointed to treat and / or remove from site."* The FCEMP 2.3.2 lists a schedule of supplementary plans that will be prepared by the construction contractor including an 'Invasive Plant Species

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	and workers, and where this information can be found should be provided.	Management plan' however this is currently not referenced in the OLBMP. Both the FCEMP and OLBMP will be updated to include reference to INNS animals including freshwater invertebrates and amphibians as well as a biosecurity protocol. These would be produced prior to the start of construction alongside the Final CEMP. Revisions of the FCEMP and OLBMP will be submitted to The Planning Inspectorate during the course of the examination.
EA14: Table 7-5 Otter	**Issue:** No consideration of what will occur if otter are encountered during works outside of a rest site; or otter being trapped in excavations. Nor have measures to protect otter from harm have been identified. Impact: Potential adverse impacts to otter. Suggested solution: Identification of measures to protect otter.	If otters were identified as a key risk, specific measures would be incorporated into the Final CEMP, if required. The Framework CEMP Table 7-5 states *'A precautionary pre-construction check must be completed to confirm there are no new otter holts or couches within 200 m of the proposed works. If a new holt or couch is identified, micrositing of works will be considered to avoid effects. If this is not possible, a mitigation licence from Natural England will be required.'* The OBLMP states under Animal Welfare Requirements – Paragraph 4.6.4 *'Construction excavations have the potential to trap wildlife, such as badger and otter, and result in offences under animal welfare legislation. Implementation of measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas and preventing them from falling into and becoming trapped in excavations. Where practicable, excavations will remain open overnight, however if this is not possible, ramps or alternative means of exit will be provided to allow animals a means of escape. Areas will be checked to ensure no animals are present, prior to backfilling of any excavations.'* The Final CEMP and LBMP will be produced in line with the Framework CEMP [APP-043] and OLBMP [APP-039].

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
EA15: Table 7-5 Water Vole	**Issue:** No consideration of what will occur if water vole are encountered during works not at a burrow; or water vole being trapped in excavations Impact: Potential adverse impacts to water voles. **Suggested solution:** Outline the measures to be undertaken when water vole are encountered outside a burrow or trapped in excavations.	The Framework CEMP Table 7-5 states *'Water vole are confirmed present on watercourses within the proposed development site (refer to Appendix 12F: Water vole and Otter Survey Report (ES Volume III, EN070009/APP/6.4)), however no burrows were identified at locations where crossing points are currently proposed therefore no licence from Natural England is required at this time.'* Updated surveys will be completed to confirm the continued absence of water vole burrows from crossing point locations once the proposed pipeline crossing point locations are fixed. Updated water vole surveys will be completed between April and September with reference to the water vole mitigation guidelines (Dean et al, 2016). The temporary watercourse crossings will be designed to maintain downstream flows and to allow continued and unobstructed passage for mammals using river corridors. At watercourses where water vole are present, a mitigation licence from Natural England will be required where water vole will be affected. The licence will detail the appropriate timing and ecological watching brief of construction to permit the temporary dispersal of water vole from the working area. Habitat will be reinstated / enhanced following completion of the works. The OLBMP although it does not explicitly list water voles, states under Animal Welfare Requirements – Paragraph 4.6.4 *'Construction excavations have the potential to trap wildlife, such as badger and otter, and result in offences under animal welfare legislation. Implementation of measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas and preventing them from falling into and becoming trapped in excavations. Where practicable, excavations will remain open overnight, however if this is not possible, ramps or alternative means of exit will be provided to allow animals a means of escape. Areas will*

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		be checked to ensure no animals are present, prior to backfilling of any excavations.' The Final CEMP and LBMP will be produced in line with the Framework CEMP [APP-043] and OLBMP [APP-039].
EA16: Waste Heat and District Heating Proposals	**Issue:** Limited information has been provided regarding the use of waste heat from the district heating project. **Impact:** The proposed plant design and the physical orientation of the plant may require further consideration. **Suggested Solution:** Provide further information regarding the district heating proposals.	The process design for H2Teesside utilises licensed technology for which extensive process design has been undertaken in order to achieve optimised heat integration within the process itself. The hydrogen production facility as a whole is therefore highly optimized from an energy perspective with incorporation of heat integration and a key criterion in the licensor selection was the overall efficiency of the plant, in which the selected licensor scored better than competing technologies. Due to the nature of the production process and the scale of heat integration, there is very limited beneficial waste heat available for off-site users. Therefore no opportunity to connect to any potential district heating system has been identified,
EA17: Schedule 12 Protective Provisions	**Issue:** The supporting documents indicate that the Applicant wishes to disapply some EA consents/permits. Furthermore, it is unclear which permits/consents the Applicant seeks to disapply. **Impact:** We are unable to disapply any EA consents/ permits at present. **Suggested Solution:** Further discussions between the Applicant and the EA to be undertaken.	The consents sought to be disapplied by the draft DCO are set out in article 9 of the draft DCO and from an EA perspective, include Flood Risk Activity Permits and Water Resources Act 1991 byelaws. The Applicant recognises that the EA will need to be comfortable with the Protective Provisions regime that has been put in place in the alternative for these consents. Draft Protective Provisions have been included in the draft DCO, which are based on what the Applicant understands to be the EA's preferred form, adapted to this application.

REF. NO.	EA RELEVANT REPRESENTATION ISSUE/ TEXT	APPLICANT'S RESPONSES
EA18: Requirement 11 – flood risk	**Issue:** We note the inclusion of Requirement 11. However, it is unclear what the purpose of this Requirement is and why it has been included in the draft DCO. **Impact: Lack of clarity regarding this Requirement.** **Suggested Solution: We are unable to agree to this Requirement and would welcome further discussions with the Applicant.**	With a planned construction period in excess of 5 years and a sector that is evolving and adapting to innovative ways of working, Requirement 11 has been proposed to facilitate opportunity for the proposed works, permanent and temporary (and associated flood risk measures) to be further refined by the Contractor, in order to avoid stifling opportunities for innovation and reduced carbon in delivery as temporary works and construction methodologies evolve. Requirement 11, along with the Protective Provisions (see above) ensures retention of control of the approval process to protect the environment, development and others from increased flood risk. The Applicant is engaging in further discussion on this matter with the EA.
EA19: Opportunity to secure environmental enhancements	It is acknowledged and welcomed that the applicant has undertaken initial discussions with the EA on opportunities for habitat enhancement that contribute to achievement of Water Environment (Water Framework Directive) Regulations objectives in the Tees estuary area. In particular, we recommend that such measures include the identification and delivery of measures to mitigate the ongoing ecological impacts of recent and historical physical modifications to the Tees Estuary, Tees Coastal and other waterbodies designated as heavily physically modified. Other opportunities for environmental enhancement include: The EA's Tees Tidelands programme of projects, wider partner led projects, and the Natural England led Tees Estuary Nature Recovery Partnership are both developing and implementing works to expand and enhance natural habitats in the Tees Estuary area.There is an opportunity to restore tidal influence to approximately 1ha of agricultural land currently defended by an EA maintained flood embankment adjacent to Cowpen Bewley Woodland Park. If the locations of the applicant's proposed mitigation is the same or proximate then multiple benefits could be achieved through a	The Applicant will engage in further discussion on this matter with the EA.

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	collaborative approach. There are also further opportunities to work with land managers to facilitate their entry into the Environmental Land Management Scheme to install a buffer zone between current agricultural use and both the Cowpen Bewley Woodland Park and the Claxton Beck watercourse, providing both habitat and nutrient reduction benefits. **The applicant should contact the EA to discuss the potential to secure environmental enhancement through the incorporation of intertidal habitat restoration adjacent to Cowpen Bewley Woodland Park.**	
EA20: Eel Regulations 2009	Any abstraction from the estuary will need to be compliant with the Eel Regulations, and may require physical screening, dependent on intake volume and velocity, to avoid entrainment of eels.	Noted. No abstraction from the estuary is proposed for the scheme and therefore no Eels Regulations compliance issues have been identified.
EA21: Groundwater	We would like to refer the applicant/enquirer to our groundwater position statements in 'The Environment Agency's approach to groundwater protection', available from gov.uk. This publication sets out our position for a wide range of activities and developments, including: - Land contamination - Drainage We note SuDS are proposed within the development, and that local SuDS design guide (Tees Valley Authorities 2019) precludes the use of infiltration. Given the industrial heritage of the area, we also recommend minimising infiltration into shallow groundwater.	The Environment Agency's groundwater position statements are noted. A Detailed Drainage Scheme is a requirement of the DCO (Schedule 2 Requirement 10 - Surface and foul water drainage). This will be substantially in accordance with the mitigation measures set out in ES Vol I Chapter 9 Surface Water, Flood Risk and Water Resources [APP-061], ES Vol III Appendix 9A Flood Risk Assessment [APP-192], Indicative Surface Water Drainage Plan [APP-018], Nutrient Neutrality Assessment [APP-047] and the Water Framework Directive Assessment [APP-048]. It is proposed within these documents that surface water runoff would be discharged 1) to the River Tees Estuary via an existing or a new South Tees Development Corporation (STDC) outfall; or 2) to Dabholm Gut (with any new pipework and outfall to be consented under a subsequent planning application). As such, discharging surface water runoff to ground is not proposed. Any water ingress to ground from the operational facility will be controlled and managed through the preventative

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		measures required to meet BAT requirements as secured through the Environmental Permit.
EA22: Land Contamination	We note that South Tees Development Corporation are responsible for remediation of the main development site prior to this development proposal beginning. The documents submitted recommend that ground investigation should be undertaken followed by a Detailed Quantitative Risk Assessment (DQRA) where necessary. This should identify where remediation is required and to what standard, following best practise guidance.The applicant may not be aware that a site adjacent to a section of the proposed pipeline corridor (NGR NZ 51767 24084) is currently being investigated under Part 2A of the Environmental Protection Act 1990. The site was previously known as Seal Sands Chemicals Company (SSC). The site is heavily impacted by previous chemical manufacturing on site which disposed of waste to land which has gone on to impact shallow groundwater. The EA are investigating this site on behalf of Stockton-on Tees Borough Council. Additional information can be sought from the Local Authority. 6.3.9 ES Vol II Figure 4-4 Hydrogen Pipeline Corridor [APP-087] shows the hydrogen pipeline corridor within this area to be 'overground and underground pipelines' along the eastern edge of the site being investigated. It may therefore be appropriate to undertake ground investigation within this area, as detailed within Table 7-3: Chapter 10: Geology, Hydrogeology and Contaminated Land [APP-062]	Noted.
EA23: Disapplication of Flood Risk Activity Permit (FRAP)	Consent must be obtained from the EA if the applicant wishes to disapply the FRAP. We are unable to agree to disapply FRAP requirements if we are not satisfied that the necessary protective provisions are secured through the DCO. The applicant should ensure adequate information is provided	The Applicant recognises that the EA will need to be comfortable with the Protective Provisions regime that has been put in place in the alternative for these consents. Draft Protective Provisions have been included in the draft DCO [AS-013], which are based on what the Applicant understands to be the EA's preferred form, adapted to this application. The Applicant would welcome further discussion on this

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	to enable our determination of what is being proposed and the level of risk to the environment.	matter with the EA. The Applicant considers that sufficient information has been provided in the Application documentation for the EA to understand what is being proposed and the level of risk to the environment, which is commensurate with the level of detail accepted by the EA on many DCOs to date. The Applicant is engaging in further discussion on this matter with the EA.

2.4 RR-021 Marine Management Organisation

2.4.1 The Marine Management Organisation's (MMO) RR and the Applicant's response are set out in Table 2.4 below.

Table 2.4: MMO RR and Applicant's Response

REF. NO.	MMO RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
MMO 1	3.1.1 The MMO notes that the design work for all crossings is ongoing, and that the applicant considers the activities presented within the DCO to not require a Marine Licence, and as such, has not produced a draft DML. The River Tees crossing and the Greatham Creek crossing, at this stage, are proposed to be undertaken via trenchless techniques. These techniques include micro bored tunnel (MBT) or Horizontal Directional Drill (HDD) or a combination of the two. This is discussed within ES Volume I Chapter 4: Proposed Development, section 4.10. The applicant is proposing to rely on Article 35 'Bored Tunnels' exemption within The Marine Licensing (Exempted Activities) Order 2011. Bored tunnels *35.—(1) Article 4 applies to a deposit or works activity carried on wholly under the sea bed in connection with the construction or operation of a bored tunnel.* *(2) Paragraph (1) is subject to conditions 1 and 2.* *(3) Condition 1 is that notice of the intention to carry on the activity must be given to the licensing authority before the activity is carried on.*	These comments are noted. The Applicant will be engaging with the MMO to seek to reach an agreed position on this, either to obtain their confirmation through the Statement of Common Ground process, that an exemption can be relied upon (the outcome the Applicant expects), or alternatively to add a DML into the DCO. This will ensure that the ExA can make a clear recommendation on this point. For clarity, as outlined in Section 5.3 of Chapter 5: Construction Programme and Management of the ES [APP-057] the proposed trenchless techniques will be installed at a minimum depth of 25m below the Tees river bed and Greatham Creek at the deepest point of the crossing and a maximum depth of 60m. The launch and reception pits for the proposed trenchless crossings are above MHWS and any works will be controlled through the Construction Environmental Management Plan (CEMP) to be prepared by the contractor in accordance with the Framework CEMP [APP-043]. Through these measures, the Applicant considers that Condition 2 of the exemption will be met. The Applicant is content to fulfil Condition 1 of the exemption and commits to notifying the licensing

REF. NO.	MMO RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	(4) Condition 2 is that the activity must not significantly adversely affect any part of the environment of the UK marine area or the living resources that it supports. *(5) But article 4 does not apply to any such deposit carried on for the purpose of disposal.* 3.1.2 MMO stresses that this exemption is subject to conditions, most importantly Condition 2. The conclusion of which can only be drawn during the Examination process. 3.1.3 Should any of the conditions above not be met, then the exemption no longer applies, and a marine licence (or DML) would be required for this activity. The applicant will need to satisfy themselves that an exemption is applicable, and no marine licence is required. 3.1.4 If the exemption is relied upon, no licensable works are to be undertaken below MHWS, and no DML to be submitted into examination, then the MMO will have no further comments to make on the submitted application. If it is found during examination that condition 2 of the exemption cannot be met, and there will be an adverse effect, the MMOs preference would be for the River Tees crossing, and the Greatham Creek crossing be included in the DML, opposed to a separate marine licence. As such the MMO will remain a watching brief on this examination, and provide responses as required.	authority in advance of the works being undertaken in each case.

REF. NO.	MMO RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
MMO 2	4.1.1 It is unclear whether the entry and exit pits for the trenchless crossings are above Mean High Water Springs (MHWS) and ES Volume I Chapter 4: Proposed Development [APP-056], section 4.10 does not present a map detailing these locations. These would be welcomed to provide clarity.	A plan showing the proposed locations of entry and exit pits for the two trenchless crossings has been provided to the MMO on 9 August 2024 and this confirms that the pits are above MHWS.
MMO 3	4.2.1 ES Chapter 14: Marine Ecology [APP-067], section 4.3.32 states 'the current preferred route for the Hydrogen Pipeline Corridor at Greatham Creek is between the mouth of Greatham Creek and the A178 Seaton Carew / Tees Road, by creating a new trenchless crossing to the west of the existing bridge. The use of trenchless techniques is also proposed for the pipeline crossing under the River Tees. 'Section 14.5.11 states that a frac-out risk assessment will be undertaken. Section 14.5.16 details that a Hydraulic Fracture Risk Assessment will be developed prior to construction following further investigation of specific ground conditions at the crossing locations, and appropriate mitigation developed in line with best construction practice and that a Construction Environmental Management Plan (CEMP) will be produced. **MMO queries whether the risk of Bentonite Breakout has been assessed within the ES and would welcome an Outline Marine and Intertidal Pollution Contingency Plan and an Outline Bentonite Management Plan for review.**	The Applicant has proposed a number of mitigation measures to reduce risk of hydraulic fracture (and through this bentonite breakout), set out in Tables 7-2 and 7-5 of the Framework Construction Environmental Management Plan [APP-043]. Final versions of this plan, developed in accordance with this Framework, are required to be produced pre-construction, as secured by Requirement 15 of the draft DCO [APP-027], and construction of the Proposed Development is required by the DCO to be carried out with the full plans. These controls include the requirement for a hydraulic fracture risk assessment to be produced alongside the Final CEMP, undertaking geotechnical investigations in advance of bore profile design, drilling fluid hydrofracture analysis for each drilling operation, maintaining downhole pressures within recommended limits, using appropriate downhole pressure monitoring equipment, using an appropriate drilling fluid, monitoring drilling fluid parameters during drilling and performing regular monitoring of the ground above the bore alignment for drilling fluid leaks. If a leak of drilling fluid is suspected the

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		drilling/boring operation will be suspended, remediation action implemented, and subsequently the methodology for that crossing re-evaluated. Monitoring of water bodies during construction works will also be undertaken, pursuant to the requirements of the draft Outline Water Management Plan [APP-045], which is also required to be developed into a full plan, and construction carried out in accordance with it, by DCO Requirement 15. These measures have been accounted for in ES Chapter 9: Surface Water, Flood Risk and Water Resources [APP-061] which discusses bentonite management and the mitigation measures for minimising risk of hydraulic fracture. The assessment concluded that with these mitigation measures in place, no significant adverse impact on water quality of the Tees water body or Greatham Creek resulting from installation of the trenchless crossings is predicted and that with the controls identified above the risk of bentonite breakout is minimal.
MMO 7	5.1.1 MMO strongly recommend that the Applicant engage with the MMO throughout the process in order to ensure the assessment is as smooth as possible and agreements can be reached through a Statement of Common Ground (SoCG).	The Applicant has entered into a discretionary service agreement with the MMO and will continue to engage in order to develop and agree a SoCG between the two parties.

2.5 RR-025 National Highways

2.5.1 National Highway's RR and the Applicant's response are set out in Table 2.5 below.

Table 2.5: National Highway RR and Applicant's Response

REF. NO.	NATIONAL HIGHWAYS RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
NH1	Construction Stage Transport Assessment [TA] Paragraph 15A.5.3 proposes that there will be a maximum of 1,300 construction workers travelling to both the main site and the various connection corridors. As discussed at scoping, staff are to be split 71% / 29% between the main site and the development connection corridors. As discussed at scoping, TA Paragraph 15A.5.4 confirms that a two workers per car assumption has been employed for construction staff. JSJV acknowledge that a two person per car assumption appears relatively appropriate, however, no validating data is provided to justify where this figure has been achieved at comparable construction sites.	A figure of 2 workers per car was agreed upon at scoping stage subsequently used in the Transport Assessment [APP-210]. This figure is based on precedent from previously accepted DCOs over the course of the last decade including the Net Zero Teesside DCO which gained DCO consent in February 2024, Eggborough CCGT Power Station which gained DCO consent in September 2018 and Knottingley CCGT Power Station Transport Assessment which gained DCO consent in March 2015.
NH2	Worst Case Assessment – Phase 1 & Phase 2 Construction Irrespective of TA Paragraph 15A.5.42 highlighting that 1,300 construction staff workers have been assumed as a worst-case assessment, the TA outlines that there will be two distinct construction phases associated with the proposed development. Phase 1 • 960 two-way construction worker vehicle trips. • 222 two-way HGV trips. • A total of 1,182 two-way daily construction movements. Phase 2	For clarification, the assessment that has been conducted is based upon 1,300 workers as set out in paragraph 15A.5.3 of Appendix 15A: Transport Assessment [APP-210]. The vehicle trip generation for both Phase 1 and Phase 2 is set out in paragraphs 15A.5.42 to 15A.5.46 of the Transport Assessment [App-210], and this text was intended to only provide further details of the numbers of workers and HGV trips expected in both Phase 1 and Phase 2, and to demonstrate that by actually assuming a total of 1,300 workers we have assessed a more robust set of vehicle

REF. NO.	NATIONAL HIGHWAYS RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	• 680 two-way construction worker vehicle trips. • 124 two-way HGV trips. • 200 two-way operational worker vehicle trips (100% driving assumption). • A total of 1,004 two-way daily movements. TA Table 15A-23 details the indicative construction programme for the proposed development, which confirms that the construction of Phase 1 and Phase 2 will be undertaken independently (Phase 1 between 2025 Q4 and 2028 Q2 and Phase 2 between 2028 Q3 and 2030 Q4). Accordingly, the TA proposes that a Phase 1 only assessment is undertaken, as this provides a more robust assessment of the peak period of construction. As discussed at scoping, JSJV maintain that this assessment scenario is in conflict with the preceding assumption that 1,300 construction workers will be employed on site.	numbers than could be expected on site. The crucial point is that Phase 1 and Phase 2 (and their associated traffic movements) will not be occurring at the same time. Phase 1 two-way total is 1,182 vehicles (paragraph 15A.4.34) and the Phase 2 two-way total is 1,004 vehicles (paragraph 15A.5.45). However, with reference to Table 15A-26 we have assumed 1,300 two way worker movements and 111 HGVS per day a total of 1,411. This is therefore higher than either of the Phase 1 or 2 vehicle trips and as such a more robust assessment has been undertaken.
NH3	The total two-way construction traffic movements associated with all processes at the Main Site and those associated with the Connection Corridors, in addition to associated daily HGV flows are detailed in Table 1 below. With reference to the trip generation data presented within Table 1, JSJV note the following: • The construction trip generation data has been calculated in line with the daily / hourly figures presented for the 'Main Site' (TA Table 15A-35), the 'Construction Compound Connection Corridor' (TA Table 15A-39) and HGV flows (TA Table 15A36). Consequently, the	For clarification, the suggestion of total two way movements per day being 1,182 applies to Phase 1 only, and the assessment set out in regards to Traffic and Transport, assesses a worst case scenario of 1,300 workers travelling in 650 vehicles to the site, with 71% of these vehicles travelling the Main Site, and 29% travelling to the relevant connection corridors. This is set out in table 15A-24: Construction Worker Split - Main Site and Connection Corridors [APP-210]. Based on this, the table set out by JSJV (Table 1) is inclusive of Connection Corridor construction traffic.

REF. NO.	NATIONAL HIGHWAYS RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	total daily and hourly two-way flows calculated within JSJV Table 1 are greater than the 'worst-case' figures (1,182 two-way daily movements) separately referenced within TA Paragraph 15A.5.42, as quoted by JSJV above. • In line with the 'worst-case' flows referenced within TA Paragraph 15A.5.42, it is unclear as to whether these flows include movements associated with the various construction corridor sites, as accounted for within JSJV Table 1 above. As such, the hourly / daily construction trip generation values may require further clarification moving forwards. • Irrespective of the above, as noted by JSJV at scoping, with daily on-site construction activities expecting to commence prior to the conventional AM network peak of 08:00 – 09:00 and continuing until well after the conventional PM network peak of 17:00 – 18:00, overall construction traffic flows are relatively evenly spread throughout the day. Such a daily staggering of construction flows would therefore be expected to minimise the hourly impact of the construction phase at the SRN.	The last bullet point is accepting of the distribution of construction traffic across the day, and states that this will not result in a material impact upon the SRN in the network peak hours.
NH4	• As noted within JSJV TM001, the impact of the proposed development at the SRN over construction phase must be understood in terms of absolute two-way flows over both morning / evening network peak hours. The analysis presented within the TA indicates that the projected impact at the SRN over the network peak hours, in line with the staff profiling as proposed, may likely be immaterial, however, adherence to the shift times as proposed by the Applicant is required if an impact at the SRN is to be avoided.	Construction working hours are set out in Requirement 16 of the DCO and so must be complied with.

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NH5	Construction Traffic Management Plan A Framework Construction Traffic Management Plan (CTMP) [APP-050] has been prepared in advance of the appointment of engineering, procurement and construction contractors to be tasked with the production of the proposed development. The Framework CTMP [APP-050] confirms that the document is designed to investigate the likely generation and routing of HGV traffic associated with the construction of Phase 1 and Phase 2 of the proposed development. It is proposed that all construction HGVs associated with the main site and connection corridors to the south of the River Tees would arrive / depart via the A1085 Trunk Rd / A1053 roundabout. Accordingly, JSJV would assume that all arriving and departing HGVs would ultimately route via the SRN. In line with daily HGV movements expected to be less than 30 two-way trips, as detailed on Table 1 above, in isolation, daily HGV trips are not expected to incur a material impact at the SRN due to the nature of construction operations proposed. JSJV note that HGV trips are unlikely to arrive / depart the site in a concentrated volume and will typically be spread across the working day. Accordingly, while JSJV welcome any measures intended to control HGV routing and impact, in this instance the CTMP will not be commented on in detail by JSJV; primarily due to the limited volume daily HGV flows expected, but principally as the document does not consider in detail the broader construction impact associated with site workers,	The impact associated with site workers is covered within the Construction Workers Travel Plan [APP-049], which is set out below.

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	which will need to be appropriately managed and controlled in addition to HGV movements.	
NH6	Construction Workers Travel Plan A Framework Construction Worker Travel Plan (CWTP) [APP-049] has been prepared for future site contractors to utilise as a starting point for the submission of a final CWTP at the point of a principal contractor being appointed. The primary objectives are stated as follows: • To ensure an appropriate package of measures are employed to encourage sustainable travel behaviour; • Reduce car usage (particularly single occupancy car journeys); • Raise awareness of the sustainable transport measures serving the proposed development site; and • Minimise the impact of traffic on sensitive locations. In line with managing and mitigating the impact of development construction traffic at the SRN, the CWTP objectives are seen to be appropriate. The main target proposed to be achieved during the development construction phase is as follows: • To achieve a car occupancy of two workers per vehicle over the duration of the construction project. Up until handover of the proposed development, no more than one car or van should be parked on site for every two people registered on site per day.	The Framework CWTP [APP-049] will be updated at Deadline 2 in light of National Highways' relevant representation. The production of a Final CWTP (to be substantially in accordance with the framework) is secured by DCO Requirement – see Requirement 18(3)(h) of the dDCO [AS-012].

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	Should targets not be met, it is proposed that the final CWTP will detail additional corrective measures to be implemented. The CWTP coordinator is proposed to monitor the total number of construction workers on-site and the number of parking spaces provided to ensure that car occupancy targets are being met. Monitoring is to be undertaken on one day per month. In line with the content of the framework CWTP [APP-049], JSJV note the following: • Principally, JSJV acknowledge that the CWTP, in addition to the CTMP, remain framework documents which can only be finalised at the point of a principal contactor being appointed. • The proposed car sharing target is generally appropriate, and successful adherence to this target would take positive steps to mitigate the impact of the development construction at the SRN. JSJV note however that no specific remedial measures are identified within the CWTP with regards to what steps will be taken should targets not be met. This detail will need to be provided moving forward to ensure this secondary plan can be implemented if required. • JSJV note that the approach of monitoring worker numbers in relation to car parking spaces is acceptable, however, it is strongly recommended that monitoring frequency is increased beyond the monthly recording as proposed. Such low frequency monitoring is unlikely to accurately capture and respond to the peaks and troughs of staff numbers associated with complex construction operations,	

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	and as such, it will be difficult to accurately deduce whether CWTP targets are being consistently met over a period of time. • Critically, while JSJV acknowledge that any highway impact associated with construction activities will be temporary in nature, in line with the daily staff construction profiling (and longevity of construction period) as proposed within the development TA, National Highways will require the final CTMP / CWTP to seek to minimise the number of vehicle trips over the AM / PM network peak periods as much as possible. This is to ensure that efficient access to construction activities is maximised, whilst the impact on the ability of the SRN to operate efficiently for the benefit of the sub-region is maintained. • In line with the discussion contained within this JSJV TM, JSJV would recommend that the preparation and approval of a final detailed CTMP and CWTP is implemented as a Requirement on any planning permission granted for the proposed development. The final CTMP and CWTP should seek to secure, control and mitigate the potential construction impact of the proposed development at the SRN, principally over the morning and evening network peak hours.	
NH7	Staff A minimum operational workforce of 60 staff members will be required on site, while peak workforce numbers during operation will be a maximum of approximately 130 staff once Phases 1 and 2 of the development are progressed. Operations staffing will be on a shift basis to be spread over a 24-hour period. However, during 28-day maintenance periods, which	Production of, and compliance with, an extended planned shutdown maintenance environmental and traffic management plan is secured by Requirement 17 of the dDCO [AS-012] suggest any changes to that plan accordingly.

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	are expected to occur every four years, there could be up to 400 people on-site. In summary, TA Paragraph 15A.5.23 proposes that the overall transportation impacts associated with the development operation are not expected to be severe, therefore no further assessment is presented. In response, JSJV note the following: • It is acknowledged that typically, shift patterns associated with the site operation would ensure that staff arrivals or departures are not scheduled during the conventional AM / PM peak hour network periods, thus avoiding any potential impact at the SRN. However, no evidence of the proposed staff shift times has been provided by the Applicant. • In line with the maximum level of potential site staff quoted, JSJV acknowledge that such staffing levels could incur a material impact at the SRN, should shift changeover periods overlap with SRN peak periods. As such, National Highways will require suitable comfort and confirmation that operational staff shift times will be scheduled in such a way that mitigates any impact of staff trips at the SRN over the AM / PM network peak hours. JSJV recommend that a Requirement be attached (to any permission granted) requiring such processes to be set out. • Confirmation that a dedicated 'Plant Turnaround Travel Plan' will be prepared in relation to the 28 day maintenance period is welcomed by JSJV. JSJV would recommend that the preparation (and subsequent review) of the aforementioned document is subject to a Requirement (on any permission granted).	

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NH8	Decommissioning Stage The design life of the scheme is proposed to be at least 25 years. As such, while JSJV could not directly comment on the potential impact any future site decommissioning would incur at the SRN, moving forward, JSJV recommend that a Requirement be attached (to any permission granted) that would secure the delivery of a Decommissioning Management Report to secure and mitigate any potential impact at the SRN at the point of site decommissioning.	Requirement 28 (6) (f) of the dDCO [APP-027] provides for the production of a Decommissioning Environmental Management Plan. Sub-paragraph 6 of that Requirement sets out that such a plan should include information as to how materials will be removed from site and the travel management measures to be imposed. As such, traffic impacts will be able to considered as part of the relevant planning authority's approval of that plan.

2.6 RR-026 Natural England

2.6.1 In table 2.6 below, the Applicant notes a number of aspects that have been discussed with Natural England and/or discussions are on-going. Resolution of these matters is likely to be achieved by updates to the submitted Report to Inform Habitats Regulations Assessment (**AS-016**). The Applicant is anticipating undertaking these updates to submit the updated report alongside submission of the proposed Change Request, to enable any updates to the Report to Inform HRA information required to consider the changes within the Change Request to be included within that update. This explanation on timing of this submission is not repeated in Table 2-1.

Table 2.6: Natural England RR and Applicant's Response

REF. NO.	NATURAL ENGLAND RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
NE1: Risk of HDD Collapse/Leakage of Drilling Fluid to SPA Sites	We note that Paragraph 4.2.2 of the Report to Inform Habitats Regulations Assessment states that 'The Teesmouth and Cleveland Coast SPA and Ramsar are within the boundary of the Proposed Development Site. The Proposed Development has been designed to avoid the direct loss of habitat within the SPA and Ramsar site boundaries through use of HDD. However, direct habitat loss could occur in the event of HDD collapse. The risk of HDD collapse / leakage of drilling fluid was considered in the Secretary of State's HRA for the Net Zero Teesside (Department for Energy Security and Net Zero (DESNZ), 2024) (which is adjacent to the Proposed Development) project following concerns by Natural England raised by NE in Relevant Representation and during Examination. It has therefore also been considered here.' For the Net Zero Teesside project commitments were logged in a framework CEMP [APP-043] to address NE concern regarding direct loss to sites in the event of HDD collapse. NE advise that a similar solution should apply to H2Teesside and be considered within the HRA.	Available soils data, (refer doc NS051-CV-REP-OA1-00008 Preliminary Onshore Ground Investigation for NZT Ground Investigation Report which covers an adjacent HDD crossing ca 85m to the north, but subject to confirmation from the H2T Ground Investigation works and reporting to confirm this assumption) suggests the ground conditions are suitable for current HDD technology giving confidence a successful HDD can be undertaken subject to further GI and detailed design. Methods will be applied, such as using a conductor pipe, to reduce the risk of frac out off-shore as part of standard design. Confirmatory ground investigation is being undertaken later this year to optimise the drilling programme, design and methodology and the selection of drilling fluids to reduce the consequence and probability of a frac-out. The Applicant confirms that water based drilling fluids that are inert in the marine environment will be used during HDD operations to minimise any potential effects on the marine SPA. These will also disperse readily in the marine environment. All of these measures are inherently taken into account in designing and delivering a robust HDD irrespective of the designation status of the surface environment. Natural England, confirmed during NZT Examination their agreement that there is unlikely to be a significant

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		effect from HDD collapse for the NZT HDD work. However, they did request that a 'clean-up plan' is produced in the very unlikely event that a collapse did occur. The contractor will also undertake analysis to identify key parameters to be monitored during installation and subsequently monitor the drilling operations to ensure parameters remain within safe operating envelope. A review of the works for the NZT HDD will be undertaken to assess the effectiveness of site procedures and whether any 'lessons learned' would be beneficial to the H2T HDD. Given these integral elements of HDD design and delivery it is not considered that an adverse effect on integrity would arise due to HDD collapse and associated SPA habitat loss. The Applicant will introduce a commitment to produce a 'clean-up plan' and to learn the lessons from NZT within the Framework CEMP [APP-043]. This plan will be (or has been) discussed with Natural England and will be incorporated into an updated Framework CEMP at Deadline 2.
NE2: Impact Assessment on Birds	Natural England notes that in the Report to Inform a Habitats Regulations Assessment the Applicant has ruled out Adverse Effect On Integrity (AEOI) or SPA bird species (which are either designation features alone or part of the waterbird assemblage) based on their numbers for each sector and what percentage of the SPA population this represents. Natural England does not agree with this approach to ruling out AEOI on SPA species. Natural England advises that the impacts on individual bird species are assessed for the project site as a whole rather then on a sector-by-sector basis. This should be presented for different stages of the project (taking account of when multiple activities are likely to occur at the same time) as well as for the project as a whole. In the current reports data are presented for individual species. These data should also be combined to	Impacts upon birds have been assessed on a field by field basis due to the complexity of the project, extent of the development boundary and the expected duration of the programme of works and in acknowledgement that works are not likely to occur across all parts of the Proposed Development simultaneously. The approach chosen was considered to be the most appropriate way of identifying the peak counts of qualifying bird species in specific locations which could be impacted. The Applicant has not added up the peak counts of birds for the Proposed Development as a whole, as the Proposed Development Site covers a large area, and birds will use different locations at different times throughout the day, week, month and year and in response to changing tidal state, weather conditions and other

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	provide a 'waterbird total' in analyses (to enable better understanding of impacts on the >20K waterbird feature). See NE Issue Refs 03 to 08 for additional information that is required to assess the impact on SPA/Ramsar features .	environmental factors not under control of the Applicant. Thus, the Applicant considers that sufficient conservatism is built in to the assessment by considering the peak counts that are spatially relevant to the extent of the Proposed Development, recorded from multiple sources of data, and the frequency of occurrence of a given species at a given location. Adding up the peak counts of birds for the whole Site would inflate the number of birds considered in the assessment of disturbance of any particular activity. The Applicant will discuss this further with NE and progress will be reported within the SoCG over the course of the Examination..
NE3: Functionally Linked Land (FLL)	SPAs are classified for rare and vulnerable birds. Many of these sites are designated for mobile species that may also rely on areas outside of the site boundary (referred to as 'functionally linked land' (FLL)). 'Functional linkage' refers to the role or 'function' that land or sea beyond the boundary of a European site might fulfil in terms of ecologically supporting the populations for which the site was designated or classified. Such land is therefore 'linked' to the European site in question because it provides an important role in maintaining or restoring the population of qualifying species at favourable conservation status. These supporting habitats may be used by SPA bird populations or some individuals of the population for some or all of the time. These supporting habitats can play an essential role in maintaining SPA species populations, and proposals affecting them may therefore have the potential to affect the designated site. FLL is to be lost during the construction of the main site and connection corridor. It is unclear what losses of FLL are to be temporary or permanent, and what the specific function of the land to be lost serves to SPA birds (i.e. foraging or roosting habitat). We advise that the losses of FLL are quantified by type (permanent or temporary) and function (roosting, foraging etc) for birds. In addition, further information on the phasing of works and how much functionally linked land will be	The baseline report describes in some detail where birds were recorded roosting and/or were already known to roost, and went on to identify key locations for SPA species and the function of those locations. The limitation with any set of data is that each bird count is a point in time or snapshot of numbers and activity . However, the data presented are sufficiently robust for the Applicant to be confident about where roosting occurs and by which species. In particular, the Applicant built the recording of bird activity through coded metrics into the baseline surveys precisely for this reason. The OLBMP confirms that habitats that would be temporarily lost or damaged during construction would be reinstated on a like-for-like basis. There will be no temporary habitat losses during the operational phase. The time required for habitats to reach target condition is considered to be the same as the timescales used in the DEFRA metric. However, habitats will be available for birds to use for foraging before they reach target condition. Birds will be able to use areas of bare ground to forage once excavations are backfilled. Given that much of the temporary habitat loss will be linear (where pipelines will be installed), the original habitat type will remain available on either

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	unavailable to birds at any one time during the construction and operational phases should be provided, and how long it will be until any temporary losses will be restored and functional for bird use again. We note that some mitigation for avoidance of disturbance impacts to SPA birds during the construction of specific sectors of the connection corridor is the timing for these works to occur outside the overwintering period. Natural England generally supports this measure, however it is unclear when the land will be restored and by when it will be functional again i.e. to provide the sector-specific use to birds that it did previously. This includes sectors 18, G4, B4, B5 and B6. We advise that further information is provided on the timescales for restoration.	side of the construction area so functionality will be retained. Furthermore, RSPB indicated during consultation in November 2023 that its habitat restoration goals across Cowpen Bewley included breaking up of the soils in some areas to improve habitat for foraging birds, which supports the notion that the areas of bare ground left temporarily by pipeline installation across several areas of existing grassland would not be detrimental to the utility of these broad areas of habitat for foraging SPA birds. The Applicant will discuss this further with NE and progress will be reported within the SoCG over the course of the Examination .Any updates needed to the HRA will form part of these discussions.
NE4: Use of IECS 2013 'Waterbird disturbance mitigation toolkit'	Natural England does not support the use of IECS 2013 'Waterbird disturbance mitigation toolkit' as we do not consider the evidence to have been collected in a rigorous way, and the results have not been peer reviewed. Therefore, any assessment that relies on the toolkit may be inaccurate. Paragraph 4.2.23 of the Report to inform Habitats Regulations Assessment [APP-040] references the IECS toolkit and the thresholds for noise levels for bird disturbance. We advocate a precautionary approach to assessing disturbance to waterbirds, and advise that further work is required to inform impacts on SPA bird populations (see comments in key issue ref NE5 below).	Paragraphs 4.2.23 and 4.2.24 of the report to inform HRA [APP-040] make reference to literature where noise disturbance thresholds are discussed. The IECS waterbird mitigation toolkit states '*generic guidelines at present are precautionary for consenting requirements and employ an approach distance to 300 m and a low noise threshold figure of 55 dB (possibly based upon research by Wintermans in 1991 which recorded no effect on shooting or roosting waders where noise levels did not exceed 55 dB. E.g. a level where no effect occurred rather than a threshold where effect commenced*). *A 70 dB noise threshold has however been developed over a period of years, based upon published data as well as findings from primary observations (e.g. Cutts and Allen, 1999, Cutts, Phelps & Burdon, 2008 and Cutts and Hemmingway, 2010)*.' Paragraph 4.2.26 notes that as part of discussions involving the adjacent Net Zero Teesside Project, Natural England officers advised that a 70 dB metric was appropriate to use for impact assessment regarding the Teesmouth and Cleveland Coast

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		SPA / Ramsar and hence this approach was also applied here. Additionally, for this project, the Applicant also considered the potential change in baseline noise. A change in noise levels of 3 dB at locations where predicted noise levels will exceed 55 dB has been used to screen the potential for LSE within this HRA. 3 dB is the smallest change in noise that can be perceived as a change; it is not a damage or impact threshold but merely identifies the need for further consideration as there is a considerable difference between a sound being perceptible and it being disturbing. Therefore, the Applicant considers that potential noise impacts have been assessed robustly.
NE5: Noise Impact Assessment	Natural England notes that the noise modelling figures presented only includes average noise levels for the construction and operational phases of the development and there is little reference to the existing noise environment. In order to inform assessment of the potential impacts on SPA birds from noise disturbance it is essential to understand changes from the baseline noise environment and also the magnitude and frequency of occurrence of impulsive noise (such as that produced by percussive piling) at bird receptors. We therefore advise that change in noise levels as well as absolute noise levels are presented for all areas which SPA birds utilise (functionally linked land and SPA habitat) and that impulsive noise is also quantified. LAmax (fast) and LApeak are useful metrics to describe impulsive noise. We note that the Applicant has outlined mitigation for noise impacts in the form of noise barriers, noise abatement measures and timings of works. Natural England is generally supportive of these types of mitigation for noise impacts associated with construction, however it is unknown if such measures will be sufficient without a better understanding of changes to the noise environment and phasing of work across the whole development. We note in Paragraph 6.5.6 of the Report to Inform Habitats Regulations Assessment [APP-040] that 'It has been assumed that installation of noise barriers will result in a	A change in noise levels of 3 dB at locations where predicted noise levels will exceed 55 dB has been used to screen the potential for LSE within the HRA. Baseline sound survey data is provided in Table 4-3 within the report to inform HRA [APP-040]. As it is not possible to model baseline noise as contour plans, so the nearest noise monitoring locations representative of the area have been used when assessing the baseline. The LAeq2 values presented combine all measurements taken in each time period (day/night). The LAF Max level is the maximum sound level with 'A' frequency weighting and Fast Time weighting during the measurement period. Figures 7 to 10 within the report to inform HRA [APP-040] show predicted noise levels in the absence of mitigation and a reduction of 10 dB can be achieved with mitigation. The Main Site has been subject to disturbance for a number of years with works including the demolition of the former buildings and structures and site remediation. Habituation to noise was discussed within the NZT HRA when agreeing appropriate noise disturbance thresholds.

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	10 dB reduction in noise levels'. It is unclear if the noise modelling levels presented in the ES include the 10dB reduction associated with the mitigation or not. This needs to be clarified. We advise that figures on noise levels are presented both without and then with mitigation in order to allow for an assessment of whether the mitigation is sufficient, or if there will be residual effects. We also note that in several paragraphs of the Report to Inform Habitats Regulations Assessment [APP-040] that the Applicant states that birds on or adjacent to the development site will already be habituated to noise and visual disturbance (e.g. 6.5.25, 6.6.0, Table E-1). Natural England does not agree with this statement and advises that if noise levels are assessed to impact on SPA bird populations that avoidance or mitigation measures should be provided. Natural England also note that the location for the pipeline crossing of the Tees is a critical area for waterbirds. Natural England advise that further assessment of noise impacts to birds across the 50 week programme is undertaken to ensure that the timings of noisy works is designed to minimise impacts. For instance, the timing of the above-ground component of the works should be outlined. Mitigation opportunities such as timing noisy works during less sensitive periods within this long work programme and/or to specific sides of the river should be appraised.	Construction of the River Tees HDD crossing is estimated to take approximately 50 weeks. Acoustic barriers and visual screening are proposed to mitigate the effects of noise and visual disturbance during this time. Due to the duration of proposed works and a detailed construction programme not being available until post-consent, it is not possible to use timings to minimise disturbance and impacts have been assessed based upon on a worst case scenario, works taking place across the full 50 week programme. As per Section 6.5 of the Report to Inform HRA [APP-040], noise disturbance at the Teesmouth and Cleveland Coast SPA was scoped into Appropriate Assessment. A suite of measures designed to reduce noise have been proposed in the Framework CEMP [APP-043], these are listed at Paragraph 6.5.4. With the mitigation measures in place, a conclusion of no adverse effect on integrity at this location could be drawn. The Applicant will discuss this further with NE and progress will be reported within the SoCG over the course of the Examination
NE6: Visual Screening	Natural England notes that screening is proposed (Paragraphs 13.7.1 and 13.7.2 describe relevant locations) to mitigate visual disturbance. Impacts of visual disturbance on SPA birds may be compounded by other factors, such as noise disturbance. The interaction between different factors can be complex and depends on aspects such as the proximity of the disturbance events to the receptor, sightlines from the receptor, etc. The areas proposed for visual screening may therefore need to be modified/expanded following the further analysis of noise and other impacts requested in NE refs NE7 & NE8.	The visual and noise assessments have been undertaken on a worst case scenario based upon available information at the time of undertaking the assessment. These assessments have subsequently been used to inform the HRA [APP-040] and the need for any mitigation accounting for the interaction between different factors, e.g. the proposed location of noise barriers also accounts for visual considerations.

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		The Applicant will discuss the need for any amendments to the visual screening proposals with NE as part of its discussions on the wider issues set out in rows 7 and 8 below.
NE7: Quantification of operational visual disturbance sources	Natural England notes that visual disturbance during operation has been screened out as no Likely Significant Effect (LSE) due to habituation. Natural England do not agree with this approach because there are very few instances where habituation with no negative impacts occurs. In most cases of apparent habituation birds are still suffering negative impacts, such as elevated stress levels or reduced foraging rates from increased vigilance. Natural England also note that there is no reference to potential activities along the pipeline corridor during operation, such as inspection visits and maintenance. Natural England request that likely sources of visual disturbance during operation are better quantified and that a robust analysis of impacts is undertaken. This analysis would inform whether any mitigation is required.	The land within and surrounding the Main Site has been subject to anthropogenic disturbance historically as it was the site of the former Redcar Steel Works. There are ongoing industrial activities within Teesworks including demolition and site remediation activities and movement of materials and machinery. As such, the bird assemblage in this area is likely to be habituated (to some extent) to the industrial landscape and activity. Disturbance within the Main Site will be limited once the Proposed Development becomes operational. Typical activities will include the arrival and departure of site staff; the average daily operational traffic will comprise fewer than 15 Heavy Goods Vehicles (HGVs) and approximately 50 light vehicles during regular operations. Some external lighting would be required to ensure that the Hydrogen Production Facility can operate safely at all times. It would be at the appropriate luminance required to provide safe working conditions. Lighting would be designed, positioned and directed to prevent or minimise light disturbance to sensitive receptors (human and ecological) and low-energy fittings would be used where possible. As such, visual disturbance during operation is anticipated to be lower than that historically or currently experienced within the site. Operational requirements in the pipeline corridor will be limited, requiring arrival by LGV and walkover visual inspection. Plant or equipment would, in the main, not be required, but there may be isolated incidents where unplanned/emergency repair is required where they may be necessary. Such isolated activities would not lead to likely significant effects.

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		An additional consideration relevant to the operation of the Main Site is that habitats immediately adjacent to it are sand dunes containing dune ponds, all but one of which are choked with swamp vegetation and therefore unsuitable for SPA birds. The remaining habitats within much of the dune system are also topographically "enclosed" and therefore suboptimal for most SPA birds, which is reflected in the baseline survey and desk study data presented to support the HRA. The dune system physically separates the main site from the open habitats of Coatham Sands and Bran Sands Bay, which are more readily used by SPA birds. The Applicant will discuss this further with NE and progress will be reported within the SoCG over the course of the Examination
NE8: Sightlines from the Blast Furnace Pool	It appears that the new hydrogen production facility will reduce sightlines from the Blast Furnace Pool (sector 3a) and the area will become less 'open'. This could have a number of negative impacts on waterbirds ranging from increased vigilance when using the pool and increased predation risk to direct avoidance of the pool. These impacts have not been adequately addressed in the assessment.	There is currently little evidence that this pool or any part of the dune system in the vicinity of the Proposed Development is used in any more than an occasional way by SPA birds, although it is likely to be targeted for measures to improve SPA condition by NE in attempts to reverse this. Across all of the high and low tide surveys of this sector (which collectively number 24) 4 SPA species occurred and none of them occurred more than twice, nor did any occur in numbers significant in the context of the SPA populations. Sightlines may be reduced to the south-west by the Proposed Development, an area that has previously accommodated infrastructure and buildings albeit not of the same specification or layout. Sightlines to the north (Coatham Sands) and west (Bran Sands Bay) will not be affected.
NE9: Construction	Without mitigation there could be a potential significant/ adverse effect on the Teesmouth and Cleveland Coast SSSI/SPA/Ramsar, as a result of construction dust. The applicant indicates standard mitigation would be	The FCEMP includes mitigation measures relating to potential dust impacts within Table 7-1. The proposed good practice dust control measures selected originate from the 'high risk' site guidance

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Dust Assessment and Monitoring	sufficient to reduce this to non-significant – though assessment of the efficacy of each of the measures is not provided. Similar approaches are provided for operation (e.g. travel management) and decommissioning. For example, with reference to para 6.6.38 of the HRA, is unclear exactly which measures in the DEMP would reduce the air quality impacts at Teesmouth SPA/ Ramsar – and whether they could prevent any otherwise adverse effects on the qualifying features. A more robust assessment should be provided, with a commitment to monitoring.	published by the Institute for Air Quality Management. The control measures were selected based on decades of successful adoption at UK construction sites with the primary aim of minimising emissions at source and thereby minimising the transfer of dust beyond the site boundary. It is assumed that the same measures would be applied as part of the DEMP at decommissioning. All measures deployed to limit dust beyond the boundary of the construction area would protect the Teesmouth & Cleveland Coast SPA/SAC/SSSI as they are proven measures to protect human health and would therefore also protect ecological receptors (which are less sensitive). Table 9-1 within the Framework CEMP [APP-043] contains a commitment to monitor dust during earth moving activities. This table will be reviewed and updated in the Final CEMP once construction details have been fully defined.
NE10: Ammonia emissions from vehicle and Acid Deposition	Ammonia emissions have not been considered within the assessment of construction traffic (and traffic in the in-combination aspect for operational consideration). Ammonia is a pollutant in its own right, and also a component of nitrogen deposition (Ndep). Para 8.3.22 in the Air Quality (AQ) ES chapter indicates the traffic assessments consider NOx (and Particulate Matter - PM) and this is used to calculate Ndep. However, Ndep levels in the assessment will be lower than reality as they do not include the ammonia component. Acid deposition is also not considered for the traffic assessments (though it is for the operational assessment). Para 8.3.21 notes SO2 will be emitted from traffic but is not considered further as relevant AQ objectives are not exceeded and concentrations will be low. However, SO2 is an important component of acidifying pollution alongside NOx, and can locally be important even if its concentration does not exceed its critical level. Without this information it is not possible to conclude there would be no adverse effect on the integrity (AEOI) of the Teesmouth and Cleveland Coast SPA/Ramsar. The	It is noted that FAQ 143 confirms there is currently no agreed guidance for the assessment of road traffic ammonia emissions or statutory criteria for establishing the need for such an assessment. Defra and NE are at an early stage in developing this guidance. In discussion with NE, construction traffic air quality modelling will be updated using the CREAM emissions database to account for ammonia emissions and acid deposition from traffic as part of the updating the Report to Inform HRA. Although it is expected that the contribution will not be material, the calculations will be reported for completeness. Note that the only SPA/Ramsar interest features of concern regarding atmospheric pollutants are the nesting terns and nesting avocet. According to APIS even the nesting terns and avocet are not sensitive to NOx, acid deposition or ammonia in atmosphere. Therefore, for the SPA/Ramsar the only pollutant that needs exploring is nitrogen

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	assessment should model ammonia emissions from vehicles. Further information on this is available FAQ 143 – Assessment of Ammonia | LAQM (defra.gov.uk). Ammonia levels should be given as a concentration and compared against the relevant critical level for the qualifying features (where relevant) and should be included in the calculation of Ndep levels. Acid deposition (including any sulphur input) should also be considered in the assessment.	deposition at the avocet/tern nesting locations. Moreover, for avocet the impacts of N deposition are as likely to be positive as negative according to APIS. While ammonia will contribute to nitrogen deposition, it should be noted, as per paragraph 4.2.94 of the HRA, 'Moreover, there are no tern or avocet nesting locations within 200 m of the affected roads' [the only European site relevant to traffic emissions being Teesmouth & Cleveland Coast SPA]. The traffic routes are entirely to the east of the Main Site (via A66 and A174) whereas the nesting areas are all west of the Main Site. Based on data from INCA, the main nest areas are a minimum of 2.9km west of the Main Site (for avocet) and 2.8km west of the Main Site (for little tern). The nearest historic location (South Gare) is a little closer, 1.7km from the Main Site, but there has been no successful nesting there since before 2018. Additionally, paragraph 4.3.3 in the operational emissions section of the Report to Inform HRA [APP-040] explains why acid and ammonia are not considered for Teesmouth & Cleveland Coast SPA. The interest features are not sensitive to acid deposition according to APIS. While their habitats may be sensitive to ammonia, the nesting terns and avocet of the SPA/Ramsar will only be affected by changes in broad habitat structure rather than by relatively subtle changes in botanical composition. This rationale was also included in the HRA for the granted Net Zero Teesside DCO, and Natural England expressed no disagreement. This section on operational traffic emissions applies equally to construction emissions and can be introduced earlier for clarity.

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NE11: Construction Emissions	It is not clear that all sources of construction pollutants have been considered in the construction emission section. These include: 1) Construction emissions from non-road mobile machinery (NRMM) such as generators on the main site or in the 7 construction compounds or for access/ highway works. Para 8.3.2 in the AQ chapter indicates the study area for this source was 50 m from the Proposed Development Site (250 m from the Proposed Development Site entrances). Teesmouth and Cleveland Coast SPA and Ramsar Site are within 50m but were scoped out of the assessment (para 8.3.19). Depending on the fuel type to be used, NRMM could emit NOx, SO2 and ammonia, resulting in acid deposition and nitrogen deposition to nearby habitats including at Teeesmouth and Cleveland Coast SPA and Ramsar Site. It is not clear that 50m is a sufficient distance to disperse to negligible levels – so evidence should be provided why this distance is used – or modelling undertaken to cover a wider area. 2) Construction emissions from traffic on internal roads/ haul roads – it is not clear if emissions from the main site include these (for ecological receptors within 200m of the site boundary including Teesmouth and Cleveland Coast SPA and Ramsar Site) – See NE10. 3) Emissions associated with landscaping around Cowpen Bewley Open Space replacement have not been considered. Para 4.8.3 indicates traffic impacts are expected to be minimal and below thresholds – but this is not confirmed. 4) Emissions (dust) from demolition and site clearance which would take place before the main works. Clarification that impacts will be subject to their own assessment and mitigation of impacts is required. See NE9.	1)The assessment has taken into account the presence of designated ecological sites and distance to them from the application site boundary using the methods proposed by the Institute for Air Quality Management referenced within the assessment. It is noted that actual works and associated emissions from NRMM are transient and the location of emissions move around the site. Consequently the site boundary is the theoretical closest distance between any emission and a receptor and is a conservative approach. Moreover, these sources are mainly within the main construction site which is more than 200 m away from tern and avocet nesting areas. 2)The assessment considers the movement of road going vehicles at the site boundary and on the public highway. Trucks that only operate onsite (NRMM) are not considered separately, see 1) with respect to distances. 3)The minimal amount of works required (mainly tree planting) means that traffic flows associated with landscaping around Cowpen Bewley Open Space replacement will be significantly below assessment thresholds. 4)Demolition and clearance works prior to main works will be controlled by the measures included in the FCEMP. Works undertaken prior to main works are listed in Chapter 5 (5.3.7) as Permitted Preliminary works and will be subject to a PPW CEMP (5.3.120). The fCEMP [APP-043] includes mitigation measures relating to potential dust impacts within Table 7-1.

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	Without this information it is not possible to conclude there would be no AEOI on the Teesmouth and Cleveland Coast SPA/Ramsar.	
NE12: Sources of Operational Pollutants	It is not clear that all sources of operational pollutants, as outlined in Chapter 4 of the ES [APP-056] have been considered in the operational emission section (EN070009 – 000239). In particular, sources of ammonia appear to have been missed (as well as not having been considered in the traffic assessment and excluded from the assessment of the auxiliary boiler emissions – AQ chapter para 8.4.7) which could underestimate impacts of this pollutant alone and its contribution to Ndep. These potential sources include: 1) Various effluent treatments (for example –bio-treatment plant, effluent treatment plant). Venting (or diversion to flare?) of some gases is assumed to be necessary. The biotreatment plant in particular is considered likely to emit ammonia as it is used to treat process condensate to reduce nitrogen concentration, using nitrification and denitrification (para 4.3.10). 2) Pipework (venting, fugitive emissions from valves and flanges etc). It is assumed emissions would be largely CO2, H2, N2, O2 and methane (so not of direct relevance to the designated sites AQ assessment, although potential explosion/ fire risk, and in some cases greenhouse gases) and reactive emissions would be limited, but this should be clarified. 3) Amine emissions are usually a byproduct of carbon capture systems. It is accepted that this process may avoid these by having a novel closed system (e.g. Para 8.3.35). Further information on this is required – including clarification of treatment of (presumably amine-rich) waste materials and how any fugitive gasses would be dealt with.	Natural England's observations about the likely release points for substances such as carbon dioxide, hydrogen, oxygen, and nitrogen gases are correct; however these emissions are not directly relevant to the designated sites' air quality assessment since this is confined to assessment of NOx, ammonia, nitrogen deposition and acid deposition in line with guidance. Through the Environmental Permit application process, the Environment Agency will address the issue of total emissions on a mass balance basis, with any fugitive emissions included within those calculations. This assessment assumes that the total mass of emissions will be released to the air at the stated release locations, providing a conservative basis for evaluation. Further information will be provided to NE regarding operational traffic flows and combined impacts of ammonia emissions from road traffic and onsite operational plant and will be incorporated into updates to the Report to Inform HRA. All other potential emissions have been assessed or screened out of the impact assessment as insignificant based on release rates and locations. Amines associated with the carbon capture facility are not released to atmosphere – this is a closed loop process unlike that used for carbon capture from combustion sources such as power stations and EfW plants.

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	4) Dedicated vent stack – for venting CO2 from the carbon capture units in contingency situations (para 4.3.6) – it is not clear if this could include venting of gases arising from the amine solvent or other pollutants. 5) Chemical storage – in particular, storage of the amine-based solvent used to absorb CO2 produced by the H2 production process, and aqueous ammonia imported by tanker (para 4.3.10). Other chemicals listed in para 4.7.4 of the ES should also be considered. 6) Air Separation Unit (or alternative O2 and N2 supply lines)– assumed emissions of N2, O2 or H2, though reactions could occur resulting in emissions of NOx or NH3. 7) Indirect emissions – including emissions arising from any "waste" removed from the site, including amine-based waste from the amine based solvent used in the Carbon Capture process (eg segregated drain system?), or waste from the pre-treatment of natural gas to remove sulphur species. Emissions may occur from these off-site, even if outwith the direct control of the applicant/environmental permit. 8) Emissions from the 4-yearly major overhaul – although emissions would be temporary (over 28 days) and infrequent, there will be substantially higher operational emissions for their duration, particularly in terms of traffic. This should be accounted for in the assessment. 9) Clarification of operational traffic including 4-yearly maintenance) - these have been excluded from the assessment as they fell below the Annualised Average Daily Traffic (AADT) thresholds. The applicant should clarify that this is the case when applied in-combination with other traffic from in-combination projects/plans as well as the project alone. The	

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	implication of traffic associated with the 4-yearly maintenance should also be considered. Without this information it is not possible to conclude there would be no AEOI on the Teesmouth and Cleveland Coast SPA/Ramsar.	
NE13: Stack Height Determination	The Rochdale Envelope included a minimum stack height (para Clarification of the sensitivity testing undertaken should be provided to NE 4.6.5). It is understood that a lower stack will result in lesser dispersion so potentially higher concentrations/ deposition at affected protected sites. Clarification that testing of alternative stack heights was undertaken to ensure that greater dispersion from a taller stack (up to the maximum) would not impact additional sites further from the site should be provided.	The stack height determination has considered the likely impacts on human health and all designated ecological sites within the study area, within and at the upper and lower bounds of the Rochdale Envelope. Please refer to Section 8B.7 of Appendix 8B: Air Quality – Operational Phase of the ES [APP-191].
NE14: Cumulative and combined effects	Para 8.3.33 in the Air Quality Chapter [APP-060] indicates that potential cumulative traffic emissions from the construction of the Proposed Development as well as the contribution from traffic associated with other committed schemes in the area, is reflected in the 2026 scenario. Further information about the traffic model should be provided – for example whether it includes allocations in the Local Plan and is therefore a worst case. It is not clear what search terms were used in establishing the long list of other plans/ projects included in Chapter 23 [APP-076] (e.g. para 23.3.14) - for example, no agricultural developments appear to have been listed in Appendix 23A [APP-221] which could have a local impact on Ndep or ammonia concentrations. The approach to identifying in-combination projects relevant to the HRA is also unclear. For example, it seems the in-combination assessment for traffic includes only other vehicle emissions, and not emissions from the (point) sources outlined in Chapter 23 of the ES [APP-076]. In addition, some projects are not included in the in-combination assessment in the HRA (Table 5.1) as their individual assessments did not highlight significant impacts at European	TEMPRO has been used to include for Local Plan sites along with the combined impact from other cumulative sites as set out in Table 15A-42 of the Transport Assessment. As per the Applicant's responses to NE10 and NE12, traffic contributions for all traffic scenarios (operational traffic flows and combined impacts of ammonia emissions from road traffic and onsite operational plant) will be included for completeness within the in-combination assessment, forming part of the update to the Report to Inform HRA. Operational traffic movements are significantly lower than construction traffic movements for the Proposed Development. Therefore, it is expected that the contribution will not be material. The general contribution of agriculture to N deposition is captured through the use of background contribution to deposition rates.

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	sites. However, at screening the requirement is to assess whether several non-significant impacts could add up to a significant one.	The planning regime does not provide a useful basis for understanding how individual farm operations and associated emissions to air, might vary year to year. A standard approach to assessing cumulative and combined effects has been undertaken, considering sources with the potential to be considered cumulatively based on location, emissions profiles and where appropriate emissions estimates or data exist, considering the developments identified through the ES cumulative process. The Applicant will undertake a review of the in-combination assessment to determine if there is a need to include any projects that have been dismissed on the basis that their own HRA identified no in-combination effects. This will be included in the anticipated update to the HRA, alongside other updates to the in-combination assessment to account for the on-going work to update the ES cumulative assessment [APP-076].
NE15: Approach to HRA (Air Quality)	Relevant habitat types/qualifying features and their associated critical loads (and critical levels for NOx, SOx and ammonia) should be provided for each site/receptor. Para 8.3.63 of Chapter 8: Air Quality [APP-060] indicates that "the impact of point source emissions on ecological receptors, through deposition of nutrient nitrogen or acidity, can be evaluated using the Environment Agency and Natural England's threshold for insignificance criterion of 1% of the long-term objective." It must be noted that Natural England requires this threshold to be an in-combination one (if the project alone does not meet it). It also applies to critical levels as well as critical loads for Ndep and acidity. The screening/ LSE stage should follow the approach to assessment laid out in NE's AQ guidance NEA001. If the process contribution from a project alone exceeds 1%, there is an LSE and appropriate assessment is required. This	Relevant habitat types, qualifying features, and their associated critical loads (and critical levels for NOx, SOx, and ammonia) for each site and receptor will be clarified. The methodology applied for the Report to inform Habitats Regulations Assessment [APP-040] for H2Teesside, including the assessment of whether the critical level for NOx would be exceeded in the LSE section, aligns with the approach used for the Net Zero Teesside HRA. It also reflects the fact that according to APIS the only SPA/Ramsar interest features of concern regarding atmospheric pollutants are the nesting terns and nesting avocet which are not sensitive to NOx, acid deposition or ammonia. Therefore, for the SPA/Ramsar the only pollutant that needs exploring is nitrogen deposition at the avocet/tern nesting locations. The project air quality modelling has forecast the effects 'alone' (Table 8B-29 to 8B-32) and

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	does not depend on background or PEC. These considerations and ecological considerations about the sensitivity of qualifying features are relevant, but should be addressed in the appropriate assessment as LSE cannot be excluded. If a project generates <1% alone, an in-combination assessment is required to see if 1% is exceeded in-combination prior to being able to conclude no LSE. At present the information provided in the HRA does not give sufficient information to be able to exclude AEOI. NE disagrees with the conclusion that there is no LSE arising from construction or operational NOx or Ndep at Teesmouth and Cleveland Coast SPA/Ramsar. It would also be helpful to follow the HRA process to include a table (relating to the assessment undertaken in Chapter 8 [APP-060]) outlining modelling results for each phase (construction/ operation), designated site, and project alone/ in-combination results. At present, reference has to be made to the appendices of Chapter 8 [APP-060].	'in combination' (Tables 8B-40 to 8B-43) as presented in ES Appendix 8B (Air Quality). Updates will be made to the Report to inform Habitats Regulations Assessment [APP-040] to ensure that factors beyond whether the 1% of the critical level and load metric is exceeded alone or in combination are addressed in the appropriate assessment. However, it should be noted that for the only pollutant to which the key interest features of Teesmouth & Cleveland Coast SPA/Ramsar is designated (nitrogen deposition on the nesting terns and avocet) an LSE from operational nitrogen deposition in combination with other projects and plans has been identified at Teesmouth & Cleveland Coast SPA/Ramsar, which was taken forward to Appropriate Assessment in the Report to inform Habitats Regulations Assessment [APP-040], where other factors were discussed to inform the conclusion of no adverse effect on integrity. This will be reviewed and expanded upon in the update to the HRA. Additionally, supplementary air quality data including the in-combination traffic and operational plant emissions will be provided once available, as referred to in NE10 above.
NE16: Construction Dust Assessment and Monitoring	Without mitigation there could be a potential significant/ adverse effect on the Teesmouth and Cleveland Coast SSSI/SPA/Ramsar, as a result of construction dust. The applicant indicates standard mitigation would be sufficient to reduce this to non-significant – though assessment of the efficacy of each of the measures is not provided. Similar approaches are provided for operation (e.g. travel management) and decommissioning. For example, para 6.6.38 of the HRA is unclear exactly which measures in the DEMP would reduce the air quality impacts at Teesmouth SPA/ Ramsar – and whether it could prevent any otherwise adverse effects on	Please see responses provided under NE Ref 9

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	the qualifying features. A more robust assessment should be provided, with a commitment to monitoring.	
NE17: Nitrogen Deposition (Ndep)	Para 12.6.16 in the ES Ch12 [APP-064] indicates that historic nitrogen deposition (Ndep) levels were higher than at present, and have declined. Although trends in NOx (as shown on APIS) have declined since 2015 – levels of Ndep have varied, with an overall limited decrease since 2015 while ammonia has increased dramatically. It is therefore not possible to indicate that pollution levels are declining, and the proposed development will not reverse this trend. The proposed development in-combination with other plans and projects, could delay any recovery. Section 6.6.3 in the HRA indicates that terns are sensitive to nitrogen deposition. Natural England agree that increases in nitrogen deposition can make nesting areas unsuitable for terns by promoting vegetation growth (in general terns favour sparsely vegetated areas to nest in). One historic site (around an area called 'the Ducky') is considered to have changed so much (from natural hydrodynamic changes) that it is no longer suitable for nesting, but other former nest sites around South Gare remain viable. Natural England also advise that there are a number of actions that could be taken to improve opportunities for nesting along this stretch of the coast (e.g. management of recreational disturbance). The addition of further Ndep may undermine the suitability of nest sites along the coast and therefore attempts to improve conditions. Overall, it is considered there is insufficient information at present to be able to exclude an adverse effect on the terns or avocets.	With regard to the SSSI, paragraph 12.6.16 shows that 'in combination' nitrogen deposition is forecast to be 13.89 kgN/ha/yr, whereas N deposition in 2003 was up to 14.77 kgN/ha/yr. Therefore a net improvement in nitrogen deposition is forecast and nitrogen deposition rates are forecast to be materially lower than they were when the habitat in question established at a time when there were industrial emissions in the area that have since ceased. This same argument presented in Chapter 12 [APP-064] was also submitted to the consented Net Zero Teesside DCO and was taken into consideration in the decision to consent the project. With regard to Teesmouth & Cleveland Coast SPA (as opposed to the SSSI), the point the Applicant is making is that despite the very elevated N deposition rates the nesting locations are nonetheless extremely sparsely vegetated. That indicates that N deposition is in practice having little effect on vegetation encroachment and therefore the small increase due to this project or in combination won't affect it. This identical argument was accepted by Natural England for the NZT DCO. Nonetheless, this will be revisited as the assessment presented in the HRA was very precautionary. The submitted HRA used the boundary of the SPA as the assessment location rather than the actual location of the nesting terns and avocet, which are much further from the Main Site (c. 2.8km west). As such nitrogen deposition to these areas is much lower than was reported in the submitted HRA. At these nearest tern/avocet nest locations (used since 2018) operational 'in combination' nitrogen deposition is modelled to be below 1% of the critical load. This will be added to the HRA.

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		The reference to the historic nesting location at South Gare will be checked and confirmed but even this is 1.7km from the Main Site. Furthermore, while the historic occurrence of nesting on South Gare is well known and described in the supporting baseline report to the ES, the Cleveland Little Tern Report 2019 (Bell and Leakey, 2019) describes the availability of suitable nesting habitat on South Gare as "severely limited".
NE18: Operational Emission of amine and amine degradation products	It is noted that in the AQ ES 'There will be no emissions to air of amines and amine degradation products during normal operation, as the carbon dioxide capture process is a closed loop system.' However, further specific information is required to describe how this is so, including a clear diagram including all inputs (solid/liquid/gas), outputs (solid, liquid.gas) and byproducts (solid/Liquid/gas) of intermediary processes. Furthermore, information is required on contaminant release during planned maintenance, planned venting, flare emissions, as well as the potential for release of contaminant via unplanned venting or flare release. These contaminant substances are alluded to in the ES Proposed Development document, and include, but are not limited to: amine; phosphates; morpholine; activated MDEA (aMDEA) – an amine used in syngas production; carbohydrazide; aqueous ammonia; water treatment chemicals (including sulphuric acid, sodium hypochlorite and bromine); corrosion inhibitor; scale inhibitor; cleaning chemicals and lubricating oils. To enable ecotoxicological assessments of the impacts of these contaminants via air deposition or water all routes into the environment should be considered and whilst the technologies to be used remain still to be determined, these emissions should be estimated according to the Rochdale Principles. Clarity is required regarding how Process condensate is treated. The WQ ES, section 9.5.80 states ammonia (NH3), methanol (CH3OH), carbon dioxide (CO2), methane (CH4) and H2 need removal before discharged, yet section 9.5.81 states process water will not be	A clear diagram presenting the carbon dioxide capture process including all inputs and byproducts will be provided to Natural England – this will include information relating to contaminants (to confirm that there is expected to be no contaminant release to air). Process Condensate is expected to contain only one contaminant which is subject to an Environmental Quality Standard (EQS) in coastal waters, ammonia, which is limited through the Dissolved Inorganic Nitrogen (DIN) EQS. The Process condensate will be treated by a denitrification plant prior to being combined with other site water supply streams and used in on-site processes. The combined site process effluent will then be treated further (additional denitrification) and the final treated effluent discharged to Tees Bay will contain 15 mg/l N as DIN, with other forms of nitrogen converted to nitrogen gas for atmospheric release. This was outlined in ES Volume III Appendix 9B Water Quality Modelling Report [APP-193]. This impact of process (and surface water) discharge from H2Teesside in isolation and cumulatively with NZT has been assessed through a water quality modelling exercise (near field and far field water quality modelling) reported in that Appendix. Table 9B-4 in ES Volume III Appendix 9B Water Quality Modelling Report [APP-193] gives the estimated wastewater discharge concentrations of contaminants in the final effluent from the effluent

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	discharged but reused. Please clarify the route and final destination of the removed contaminants, ammonia (NH3), methanol (CH3OH), carbon dioxide (CO2), methane (CH4) and H2. The WQ ES section 9.5.87 treated wastewater method Case 2B table 9-20 provides indicative effluent quality following treatment at discharge with further information provided in Appendix 9B: Water Quality Modelling Report [APP-193]. The values for chromium, copper, nickel and zinc all indicate exceedance of the EQS. This discharge with toxic metals contained within a reduced volume of river water are highly likely to result in ecotoxicological impacts for wildlife within the zone of influence of the discharge point. Please provide further information and detail as to how these impacts have been assessed, and mitigated against, with regards to exceedance of EQS at point source of discharge and ecotoxicological impact.	treatment plant. Average concentrations of DIN, fluoranthene, PFOS, polyaromatic hydrocarbons, cadmium, chromium, lead, zinc, copper, iron and diazinon may be discharged at concentrations exceeding the average annual EQS in coastal waters in the absence of effluent dilution by surface water runoff. Similarly, maximum effluent concentrations of benzo(b)-fluoranthene, benzo(g.h.i)-perylene, benzo(k)-fluoranthene, lead and mercury may exceed the Maximum Allowable Concentration (MAC) in coastal waters. With the exception of DIN, the source of all substances discharged at concentrations exceeding EQS values is the River Tees raw water that we will abstract for use in the process – none of these substances are expected to be generated by the H2Teesside processes which only act to concentrate River Tees water. Table 9B-4 shows that the addition of surface water runoff would be expected to dilute final effluent pollutant concentrations such that only average concentrations of DIN, PFOS, polyaromatic hydrocarbons, chromium (VI) and lead would exceed the EQS values in the final discharged wastewater. Similarly, only maximum concentrations of benzo(g,h,i)-perylene and lead would exceed MAC EQS values. Effective volume flux calculations have been carried out in accordance with Environment Agency methods and show that only DIN and polyaromatic hydrocarbons will be discharged from the Main Site above the allowable volume flux value, although lead is also discharged above the allowable volume flux value when also taking account of NZT discharges. Effective volume flux calculations cannot be carried out for benzo(g,h,i)-perylene or PFOS because ambient concentrations of these substances already exceed EQS values due to other point source and diffuse pollution sources to Tees Bay, however as stated above, these pollutants are not generated by the Proposed

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		Development. The final list of substances taken forward for detailed water quality modelling was therefore DIN, polyaromatic hydrocarbons, lead, benzo(g,h,i)-perylene and PFOS. The near field and far field modelling show that the impact of the H2Teesside Main Site process effluent discharge is small for all polluting substances at all stages of the tidal cycle, with chemical contaminants diluted to below the EQS within a very short distance of the outfall. The cumulative impact of discharges from the Main Site and NZT sites is larger but mixing zones are still limited to the immediate vicinity of the outfall. Average and maximum pollutant concentrations outside the immediate vicinity of the outfall do not approach EQS values, taking into account the complex tidal currents in this region which can result in pollutants accumulating in shallow water. The near field and far field modelling results show that there is no significant impact on water quality in Tees Bay due to the cumulative impact of discharges from both sites. The Environment Agency will carry out an environmental assessment including operational emissions as part of the determination of the site Environmental Permit application. Natural England will be consulted and kept informed as part of this process.
NE19: Update in-combination assessment	We advise that the developments scoped in for potential impacts in-combination in Table 5-1 of the Report to Inform Habitats Regulations [APP-040] is comprehensive, in terms of inclusion of the correct types of development. We also note that Table 7-1 details the projects taken to Appropriate Assessment stage and the potential for in-combination effects with H2 Teesside. Further information is required from the Applicant for a number of thematic areas including ornithology, water quality and air quality, and we note that there is a temporal overlap between H2Teesside and a number of the neighbouring schemes which	Chapter 23 of the ES [APP-076] identifies the long and short lists of developments considered for their potential to have cumulative and combined effects with the Proposed Development. Table 5-1 summarises the plans and projects which have been considered within this HRA and whether there is potential for LSE upon the European designated sites in combination with the Proposed Development. The potential for all aspects of the Plans and Projects to have in combination effects has been considered. This includes ornithology, water quality, air quality and temporal overlaps. Where the potential

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	should be considered within the in-combination assessment. Without this information NE do not yet fully understand the impacts of H2Teesside on the designated site. We advise that the in-combination assessment is updated once this outstanding information is received, as this may impact the overall conclusion of the assessment.	for in-combination effects has been identified, those projects have been taken forward to Appropriate Assessment. Table 7-1 within the Appropriate Assessment summarises the plans and projects with the Potential for 'in-combination' Effect with the Proposed Development and any residual effects identified after mitigation is applied. The Applicant would like further clarification from Natural England on the additional information they require to inform the in-combination assessment to help inform the anticipated update to the HRA, which will include updates to the in-combination assessment to account for the on-going work to update the ES cumulative assessment.
NE20: Water quality and nutrient neutrality	(EN070009/APP/5.13) Table 4.1 Nutrient Neutrality screening under Process water states that "Off-site transport of Minimalised Liquid Discharge waste from the ETP. This would contain 710 mg/l TN or 2.8 kgTN/hr (Case 1B). Minimalised Liquid Discharge waste will be treated in a manner consistent with nutrient neutrality requirements by either a) denitrification and discharge of resultant effluent within the habitats site catchment or b) discharging outside of the habitats site catchment." NE requests further information on what level reduction would be applied for option a) to ensure that liquid discharge waste would be nutrient neutral. If nutrients are to be reduced via denitrification treatment, the reduction and subsequent load of nutrients that would be discharged into the habitats site must be understood before this can confidently be screened out of the Nutrient Neutrality assessment. The same also applies to section 3.5.3 for other wastewater streams (cooling tower blowdown and demineralisation plant rejects).	The Applicant has now determined that Case 1B - Minimalised Liquid Waste from the ETP is to be discounted, and that Case 2B (discharge of effluent to Tees Bay via the NZT outfall) will be progressed.
NE21: Water quality and EIA evidence base	Chapter 9: Surface Water, Flood Risk and Water Resources [APP-061], section 9.4.70 states that "No formal monitoring of harmful algal blooms is carried out within the lower River Tees or coastal water bodies although	The monitoring of opportunistic macroalgae in the Tees Estuary transitional waterbody (including the Seal Sands area) is noted, along with the fact that this informs the macroalgae WFD element and

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	the Tees WFD water body which covers the lower reaches of the estuary is classified as having 'Good' phytoplankton status despite Seal Sands being recognised as a sensitive eutrophic area." The Environment Agency undertakes regular monitoring of opportunistic macroalgae in the Tees Estuary transitional waterbody (including the Seal Sands area) as this is the ecological element expected to be most responsive to elevated nutrients in this waterbody. This is reported under the 'macroalgae' WFD indicator, and this data is used by NE to inform the condition assessment for nutrients in the site and 'restore' conservation objective. This monitoring data should be considered when accounting for potential adverse impacts to the Tees Estuary area of the designated sites. E.g. in accounting for surface water quality and marine ecology impacts during construction.	Natural England's condition assessment for nutrients in the site and 'restore' conservation objective. Nevertheless, the Water Framework Directive Assessment [APP-048] has considered the macroalgae WFD element in the Tees transitional water body, and the assessment demonstrates that there would be no deterioration or prevention in future improvement in this element (as well as all other WFD elements) in the Tees water body as a result of the Proposed Development. Where macroalgae was referred to in paragraph 9.4.70 of the baseline of ES Vol I Chapter 9: Surface Water, Flood Risk and Water Resources [APP-061], this was part of an overview of marine ecology that is used to support the determination of receptor importance. On the basis of the baseline information as a whole, both the River Tees (Tees transitional WFD water body) and Tees Bay (Tees Coastal WFD water body) have been given the highest receptor importance available for the water quality and resources assessment, which is 'Very high importance' (see Table 9-17). However, it should be noted that Chapter 9 does not assess impacts to marine ecological receptors which are considered in Chapter ES Vol I Chapter 14: Marine Ecology [APP-067] and also in the Water Framework Directive Assessment [APP-048], as mentioned above. To reiterate, the WFD assessment reports no deterioration from current WFD status (including macroalgae), and appropriate mitigation is included in the proposed development design to ensure that this is the case, for instance through appropriate treatment of potential effluent to ensure that no additional nutrients would enter the Tees Estuary.
NE22: Water Quality	Although the Tees Coastal waterbody is good status for nutrients, the Tees and Cleveland Coast SPA/Ramsar Site are considered 'unfavourable' for nutrients due to high DIN concentrations in the Tees Estuary, and are	The potential impacts identified during construction in Chapter 9: Surface Water, Flood Risk and Water Resources [APP-061] are considered to be temporary and short-term impacts to water quality

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Surface water run off impacts	considered at risk of eutrophication, and sensitive to nutrient loading. The area of concern is the Tees Estuary (in particular the Seal Sands area). The potential impacts identified during construction (notably mobilisation of sediment and release of contaminants affecting water quality, etc.) in Chapter 9: Surface Water, Flood Risk and Water Resources (ES Volume I, EN070009/APP/6.2) are considered to be temporary and short-term impacts to water quality. However, NE request that an estimation of the scale of these impacts, and further explanation as to why they would be considered a short-term/negligible impact would be beneficial i.e. assurance that contaminants would not be retained in sediment in the estuary or within the system due to limited mixing, thus impacting the condition of the protected sites. Negative impacts from increased scour and sedimentation to intertidal sedimentary habitats as a result of increased runoff should also be considered to ensure no adverse impacts to supporting SPA habitat.	given the mitigation that has been outlined for all various aspects of the construction phase. An overview of the construction mitigation measures for managing construction site runoff, chemical spillage risk, construction dewatering and crossings of watercourses (by HDD or open-cut approaches) are outlined in Section 9.5 of Chapter 9: Surface Water, Flood Risk and Water Resources [APP-061], as well as in the Framework Construction Environmental Management Plan [APP-043] and in further detail in the Outline Water Management Plan [APP-045]. These documents provide mitigation measures developed from good practice industry guidance, and the Outline Water Management Plan [APP-045] includes water quality monitoring requirements for water bodies during the pre-construction and construction phases. There is relatively limited requirement across the Proposed Development for direct in-channel works to watercourses which would have the greatest associated risk of sediment and/or contaminant mobilisation. The assessment indicated that direct works to watercourses (for pipeline installation) would only be required for the Hydrogen Pipeline Crossings of Holme Fleet (NZ 49241 23828) , an unnamed tributary north of Seal Sands Road (NZ 51091 23758), an unnamed ephemeral watercourse (tributary of Greatham Creek, NZ 51110 24822) and an unnamed tributary of Holme Fleet (NZ 48649 24325) and are therefore relatively minor in scale in the context of the wider development. The closest of these crossings is over 350 m from the SPA/Ramsar site and involves the crossing of a minor watercourse (ephemeral tributary of Greatham Creek). Given mitigation measures adopted during these works (including damming, overpumping or fluming to create a dry working environment and employing sediment capturing methodologies such as silt fences) then it would not be

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		expected that there would be any sediment or contaminant mobilisation significant enough to affect the downstream Teesmouth and Cleveland Coast SPA/Ramsar site. While there is a requirement for HDD crossing below The Tees and Greatham Creek, there would be no direct works to the estuary. The methodology of the HDD drilling, or other trenchless techniques, will include measures to minimise the risk to the environment, as set out in the Framework CEMP [APP-043]. For HDD methods, the risk that drilling muds can 'break out' into watercourses leading to pollution (known as 'hydraulic fracture' or 'frac-out' event) will be mitigated by adoption a site-specific Hydraulic Fracture Risk Assessment (secured within the Framework CEMP [APP-043]) that will be developed prior to construction following further investigation of specific ground conditions at the crossing locations, and appropriate mitigation developed in line with best construction practice. The entry and exit pits of the HDD crossings across the River Tees and Greatham Creek are above MHWS. Plans demonstrating this have been provided to Natural England. A slight adverse impact (not significant) on water quality in Tees Estuary was identified in Chapter 9: Surface Water, Flood Risk and Water Resources [APP-061], but this is a worst case and based on negligible impacts having been predicted. Given that this is a very high importance receptor this leads to a slight adverse effect based on the assessment methodology (outlined in Chapter 9 Surface Water, Flood Risk and Water Resources [APP-061]) but is not significant. Furthermore, there is not considered potential for increased scour and sedimentation to intertidal sedimentary habitats based on the

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		mitigation measures outlined above and the lack of direct works to these habitat areas.
NE23: Water quality discharged effluent	Water quality modelling (ES Volume III, EN070009/APP/6.4) indicates that for dissolved inorganic nitrogen (DIN) discharged effluent from the main site to the Tees Bay are diluted to below the Environmental Quality Standard (EQS) (0.252 mg/l as calculated in accordance with WFD standards for moderate status) within a short distance, and thus should not render the condition of the protected site unfavourable for nutrients. The cumulative impact of discharges from both the main site and the Net Zero Teesside (NZT) sites is larger, however pollutants are diluted to below the (EQS) value within a short distance and therefore similarly should not impact condition of water quality in the protected site. The maximum increase in concentration recorded was 0.017mg/l for DIN which is not sufficient to breach EQS values thus rendering the site unfavourable. However, this is dependent on denitrification treatment prior to discharge to reduce 15mg/l. Caveat - this reduction limit should consider the permit limits once calculated and agreed, this limit may need to be reconsidered to ensure that discharged concentrations remain suitable so as not to allow exceedance. The modelling for the proposed development indicates that for Case 2B (screened in for Nutrient Neutrality assessment) discharges from the proposed NZT outfall would not be carried into the estuary by the tides, and therefore would not contribute nutrients to the designated sites, thus no impact to condition is expected. Plate 9B-20 (from document 6.4.10) presents the average increase in DIN concentrations from H2Teesside and Net Zero Teesside combined. We note that the increase in DIN concentrations above background levels for the Net Zero Teesside project alone was presented for the Net Zero Teesside examination (see Figure 6.2 EN010103-002322-NZT DCO 9.36 - Nutrient Nitrogen Briefing Paper Clean Oct 2022 (D9).pdf (planninginspectorate.gov.uk)) using a similar plot, which suggested that	It has been demonstrated within ES Volume III Appendix 9B Water Quality Modelling Report [APP-193] and the Water Framework Directive Assessment [APP-048] that the discharge of DIN from H2Teesside and NZT (both alone and in-combination) would not breach EQS that would change WFD status in terms of DIN, particularly when considered at the WFD water body scale or the scale of the Teesmouth and Cleveland Coast SPA/Ramsar site. As such, the discharge would not cause any part of the Teesmouth and Cleveland Coast SPA/Ramsar site to become unfavourable with regard to nutrients. Within the NZT DCO Examination, NZT committed to a nutrient neutral development secured via Requirement 37 of their DCO. The primary option for achieving this is anticipated to be through onsite treatment plant (Net Zero Teesside, ES Vol III Appendix 25A Commitments Register Clean Oct 2022 (Document reference 6.4.49)). The modelling of DIN mixing carried out for the NZT DCO did not take account of this onsite treatment and therefore the plots previously provided for NZT are no longer representative of the proposals for that site. Revised modelling of the NZT site, in isolation and reflecting the updated design progress for the project, is understood to be currently ongoing. The cumulative modelling in ES Volume III Appendix 9B Water Quality Modelling Report [APP-193] for H2Teesside therefore illustrates an example of the type of concentrations that could be expected from NZT following on-site treatment. As outlined above, the cumulative discharge would not breach the EQS or change WFD status in terms of DIN. The modelling for the H2Teesside site will be updated to reflect the final design parameters for both the NZT site and the H2Teesside

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	discharges may be carried into the estuary via tides. To facilitate a clear understanding of the possible increases in DIN concentrations resulting from the H2Teesside and Net Zero Teesside outfall, NE advise that the model outputs showing the total maximum increase in DIN is presented (using similar plume plotting) for H2Teesside and Net Zero Teesside alone and in combination. It is important that all increases in DIN are presented, even small increases (Plate 9B-20 does not map increases <0.004 mg/l).	site at the appropriate stage and for the application for a discharge permit to Tees Bay.
NE24: Impact of acid deposition	Acid deposition exceeds 1% of the acid critical load at North York Moors in-combination so should be considered in the appropriate assessment. (Table 8B-43). These issues could be resolved in a final version of the shadow HRA document. Further discussion with NE may confirm requirements.	However, paragraph 4.3.8 of the submitted HRA makes it clear that the contribution of H2Teesside to the in combination impact is effectively zero for nitrogen and the same is true for acid. Review of ES Appendix 8B [APP-191] Tables 8B-31 and 8B-32 shows that the contribution of H2Teesside is less than 0.01kgN/ha/yr for nitrogen (i.e. too small to show in the model) and less than 0.000 for acid).
NE25: Impact of Nitrogen deposition on qualifying species	It is not clear why a critical load of 10kgN/ha/yr is used for Durham Coast, when APIS indicates the most sensitive habitat type (Coastal dune grasslands (grey dunes) - acid type) has a lower critical load of 5kgN/ha/yr. Therefore, it would seem precautionary to include this site in the appropriate assessment and justify why use of the calcareous grassland critical load is considered appropriate. In addition, these levels do not include any contribution from ammonia. Therefore it is unclear at present whether the applicant is correct to conclude no LSE at these sites for Ndep in-combination. The justification around location of nesting terms may be relevant (HRA para 4.3.9) but it should be made in the appropriate assessment rather than at the screening stage. These issues could be resolved in a final version of the shadow HRA document. Further discussion with NE may confirm requirements.	Durham Coast SAC doesn't have any dune grasslands as it is a cliff site. This is why the 5 kgN/ha/yr critical load would not be appropriate for this SAC. The cliffs are magnesian limestone and flushed with calcareous water (Durham Coast - Special Areas of Conservation (jncc.gov.uk)), and therefore the cliff vegetation is calcareous.

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NE26: Noise disturbance - Seals	Report to inform HRA [APP-040] - Section 6.5.20 The report notes that Permanent Threshold Shifts (PTS) and Temporary Threshold Shifts (TTS) are 34 and 154 dB in air. NE confirms that TTS for seals is 134 dB and PTS is 154. Furthermore, NE advise that these are injury thresholds and that disturbance can occur at levels lower than these. Table 6-7At model locations 1 and 2 (south-east and south-west corners of seal sands intertidal area) SEL totals are expected to be 127 dB and 125 dB respectively. These levels are close to the TTS threshold. NE require the cumulative noise level from ambient noise plus main site construction and compound plus pipeline construction at model location 1. NE advise that even if the TTS threshold is not reached, there may still be a disturbance effect from the noise. 6.5.23 The document states that HDD works at Greatham Creek may affect seal movement NE advise that further mitigation is required to further reduce the disturbance effect and impacts on seal movements. 6.5.24 The document states that during the 10 weeks of HDD works at Greathem Creek, seals disturbed from Greatham Creek are expected to haul-out on Seal Sands. NE queries the justification for this on two counts: • Will there be enough space on Seal Sands – that area is used by other individuals? • Will the seals from upstream of Greatham Creek be able to get to Seal Sands? NE is concerned that the noise from the HDD works will present a barrier to seals moving down the creek and out to sea and the Seal Sands haul-out.	Please refer to Appendix 2: Technical Note in response to Natural England's Relevant Representation (NE26). The information provided concludes that considering the very limited potential for disturbance to seals during the works, the noise from the pipeline construction is not considered to result in a barrier to seal movement between Greatham Creek and Seal Sands. Therefore, a pre-construction monitoring plan is not considered appropriate. The mitigation recommended is considered sufficient to reducing any noise produced during construction to below ambient (as per the updated noise modelling), even without considering the avoidance of the most sensitive period for seals at Seal Sands.

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	The applicant needs to consider any barrier effect as that would seriously impact any individual that are "trapped" upstream of the HDD works. NE advise that further mitigation is required to ensure there is no barrier effect from the noise of HDD at Greatham Creek. 6.5.27 The document recognises that disturbance may occur at Greatham Creek during the important moulting and breeding season. 6.5.28 The applicant has committed to using noise abatement barriers at Greatham Creek. NE welcome this commitment but require further confidence that these will be a suitable and sufficient mitigation. NE advise that pre-construction monitoring is carried out to assess the behaviour of seals in the area under "normal" conditions. Further monitoring should be carried out during construction to assess the efficacy of mitigation measures. If behaviour indicating disturbance is noted, further mitigation must be put in place. This may include more effective sound barriers, further muffling of machinery. If monitoring shows that disturbance is not occurring, further mitigation is unlikely to be necessary.	
NE27: River Tweed SAC and Tweed Estuary SAC Impact on Atlantic salmon and sea lamprey (C and O)	NE have been unable to fully consider this potential impact pathway. NE will include commentary and advice on this impact pathway within our submission at the next deadline.	This is noted thank you. However, the River Tweed SAC and Tweed Estuary SAC are over 130 km away from the project. Given that there are no underwater sound effects in the marine environment which could extend outside of the River Tees, there is considered to be no potential to effect River and Sea Lamprey designated as part of the River Tweed, even if they were passing this location when migrating to the river. These species have been identified as being present within the River Tees, however, there is considered to be no significant effect to these species from the proposed works.

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NE28: Consideration of ammonia and acid deposition in the traffic assessment	As considered for International sites For our advice see NE Ref 10	Response will be included under NE Ref 10. Do note in particular, however, that Teesmouth & Cleveland Coast SPA/Ramsar and SSSI should be considered separately due to their different vulnerabilities. The SSSI is designated for its dune habitat which is located north of the Main Site and is sensitive to nitrogen, acidity, ammonia, NOx. In contrast, the only SPA/Ramsar interest features of concern regarding air quality (aside from dust) are the nesting terns and nesting avocet (source: APIS). According to APIS even the nesting terns and avocet are not sensitive to NOx, acid deposition or ammonia in atmosphere and nitrogen deposition is as likely to be positive for the avocets as negative. Inclusion of ammonia in the traffic assessment would increase nitrogen deposition at the SSSI, but only temporarily to a small extent during construction. Operational traffic movements will not materially be within 200m of the SSSI.
NE29: Scope of Pollutants considered in the construction and operational assessments	As considered for International sites For our advice see NE Refs 11 &12	Response will be included under NE Ref 11 & 12.
NE31: Impact of pollutants at SSSIs including SSSIs underlying European designations	The same issues as raised for international sites would apply. Please see NE Refs 11 &12. In addition, acid deposition exceeded 1% of the acid critical load at Hart Bog SSSI so should be considered. (Table 8B-43).	ES Appendix 8B shows that In combination acid deposition at Hart Bog SSSI is 0.005 keq which is over 1% of the critical load, and PEC is exceeded. However, the contribution of H2Teesside is 0.000 i.e. effectively zero at the distance at which Hart Bog is situated. With regard to the Teesmouth and Cleveland Coast SSSI, paragraph 12.6.16 shows that 'in combination' nitrogen deposition is forecast to

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	Furthermore, Natural England do not agree with the statement in section 12.6.16 about Teesmouth and Cleveland Coast SSSI that 'The calcareous dune habitat has thus developed and persisted in close proximity to an operational steel works and other industrial facilities when nitrogen deposition rates were considerably higher than the lower critical load of 10 kgN/ha/yr.' This statement suggests that the dune system is of recent origin, which is not the case. It also fails to recognise that damage is likely to be occurring under the current levels of nitrogen deposition (that exceed the critical load for calcareous dune habitat). Although the SSSI was notified at a time when nitrogen deposition levels exceeded the critical load for sand dune habitat, this does not mean that damage was not and is not still occurring. Natural England do not therefore consider that assessment demonstrates no damage to Teesmouth and Cleveland Coast SSSI.	be 13.89 kgN/ha/yr, whereas N deposition in 2003 was up to 14.77 kgN/ha/yr. Therefore, a net improvement in nitrogen deposition is forecast and nitrogen deposition rates are forecast to be materially lower than they were when the habitat in question established. While the dune system is not 'new' , the habitat structure has extensively changed due to slag deposition and movement from at least the 1940s to the early 2000s. In these decades N deposition will have been higher than it is now due to much higher NOx emissions (and was certainly higher in 2003 than it is now according to APIS). For example, UK N deposition reduced from 465 kt N in 1990 to 278 kt N in 2017 (Tomlinson *et al*, 2021)[1]. This identical argument was submitted into the Examination for the consented Net Zero Teesside DCO to enable no likely significant effects to be reported for this site. Given it was accepted by the Examining Authority/Secretary of State for that DCO it would be inconsistent to take a different approach for this DCO.
NE32: Bat Survey Effort	Following review of the information within the document 'H2_Teeside_NSIP_BatSurvey_BaselineH2Teesside Project Environmental Statement Volume III – Appendices Appendix 12C: Bat Survey Report [APP-203] Natural England has concerns with respect to survey constraints during Preliminary Roost Assessment activities on trees within the Cowpen Bewley Woodland Park area. Based on the possible constraints due to limited access and viewing from ground level (as stated in the Preliminary Roost Assessment section 12C.4.5-12C.4.6), and considering that section 12C.4.19 states at least seven species (common pipistrelle, soprano pipistrelle, Myotis sp., noctule bat, Nathusius' pipistrelle, Leisler's bat and brown long-eared bat) that are all frequently associated with	Three trees within Cowpen Bewley Woodland Park were assessed as having 'low' suitability for roosting bats based upon their size and age. Limitations were noted during the ground level assessment (which was completed from within the Country Park), namely limited access and visibility due to dense vegetation and scrub. The trees are located on the boundary of the Northern Gas Network (NGN) substation which could not be accessed at the time of survey. The trees were assessed as low suitability (with reference to the Bat Conservation Trust's good practice guidelines in place at the time of survey (Colins, 2016).

[1] Tomlinson, S. J., Carnell, E. J., Dore, A. J., Dragosits, U. (2021). *Nitrogen deposition in the UK at 1 km resolution from 1990 to 2017.* Earth System Science Data, 13(10), 4677 – 4692.

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	roosting in trees, Natural England would likely require further consideration of these constraints as they relate to survey effort. Ideally, given that the trees discussed were indicated to have a degree of bat roosting suitability/potential as assessed from ground level, and given that view to these trees was restricted, these trees would need to be climbed to allow inspection for roosting bats or potential roost features (PRFs) if they are to be removed during works. If this is not possible due to access issues or any other appropriate reason, further justification and evidence could perhaps be gained through emergence surveys to support the wider impact assessment, and to provide greater confidence that said trees are unlikely to support roosting bats.	Access was granted to undertake a ground level bat roost assessment from within the NGN substation on the 13th August 2024. The ground level assessment was undertaken by a Natural England Level 2 bat survey licence holder qualified in tree climbing and aerial rescue. Trees were inspected using binoculars from within the NGN substation and then from within the country park. The previous assessment of 'low' suitability is considered correct. With reference to the current BCT guidelines, the trees were assessed as PRF-I. It is not safe to climb and inspect these trees due to the presence of dense scrub and proximity to the NGN substation. To complete emergence surveys effectively, surveyors would need to be positioned within the country park and the NGN substation. Electronic equipment, camaras and mobile phones are not permitted within the NGN substation for safety reasons. Therefore, emergence surveys cannot be completed. If the trees are identified for removal at detailed design stage, it is recommended that precautionary soft felling methods are followed (this mitigation measure will be incorporated into the updated Framework CEMP to be submitted at Deadline 2). This approach is considered proportionate for a low suitability or PRF-I tree.
NE33: Water Vole Survey Effort	In certain circumstances one survey visit may be sufficient to assess the impacts of the proposed development to water voles. These circumstances typically apply when: 1) The presence of water voles is confirmed during the first survey visit and a precautionary approach to mitigation can be applied; and, 2) When the habitat is of very low suitability to water voles that there is a ow likelihood of water voles being present in the surrounding area (up 2km).	A desk study and field surveys have been conducted to inform the Proposed Development. During the 2023 field surveys, limitations were encountered due to the presence of nesting birds in areas to the north of Greatham Creek, Holme Fleet, and Belasis Beck. These areas were subsequently surveyed later in the season to avoid disturbing the nesting birds. The Proposed Development has been designed to minimise potential impacts on watercourses and water voles wherever possible. This includes implementing buffer zones to protect suitable habitats. Water

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	In both scenarios it is advisable to do a second survey visit prior to the development works proceeding. It should be noted that absence of water voles cannot be determined from a field survey visit outside of the optimal window for surveying water voles (April-September). Any surveys conducted outside of the optimal window and where 'absence' has been recorded should be repeated during the optimal window prior to the development works proceeding. To inform a licence application Natural England would expect sufficient surveys to have been conducted to allow for a robust assessment of the impacts to water voles and their habitat. Two surveys (conducted at either end of the season) are considered industry best practice and should be routinely used to inform licence applications. Natural England were not able to review the survey results fully as the figures within Appendix 12F [APP-206] appear to have been redacted.	bodies to the north of Greatham Creek will be avoided through the use of Horizontal Directional Drilling (HDD). Impacts on ditches within the Brinefields (Sabic) will be mitigated by using existing access tracks and applying buffer zones around the ditches. Belasis Beck was surveyed in 2022 for the NZT development, with evidence of water voles, such as latrines and feeding remains, being recorded. Although the 2023 survey of Belasis Beck was limited due to nesting birds, feeding remains were still recorded, indicating the presence of water voles. Similarly, feeding remains at Holme Fleet suggest the presence of water voles in this watercourse. As works will not commence on site until Q4 2025 , updated water vole surveys are proposed to inform the final mitigation requirements, including the need for a development licence. This is secured via the Framework CEMP [APP-043]. Following these updated surveys, a water vole impact avoidance strategy will be prepared if required. This document will outline all measures and supervision required to ensure legislative compliance during the construction of the Proposed Development. The Applicant has provided the figures contained within Appendix 12F [APP-206] to Natural England.
NE34: BNG Update	The Environment Act 2021 includes NSIPs in the requirement for BNG. The biodiversity gain objective for NSIPs is defined as at least a 10% increase in the pre-development biodiversity value of the on-site habitat. It's the intention that BNG should apply to all terrestrial NSIPs accepted for examination from November 2025. This includes the intertidal zone but excludes the subtidal zone. Although BNG is not yet a mandatory requirement for NSIPs, we strongly recommend that net gain provision is secured through this development. This will reflect the important role	The Applicant has not submitted a BNG report/assessment with its development consent application due to reasons outlined in paragraphs 6.2.115 (complexities of infrastructure projects and their interaction with the BNG metric), 6.2.116 (complex temporary land requirements for the connection corridor), and 6.2.117 (active remediation following the demolition of the former Redcar Steelworks, which forms the future baseline of the main site) of the Planning Statement (EN070009/APP/5.2). Despite this, and in

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	NSIPs must play in delivering the government's environmental targets. Early engagement with Natural England on BNG proposals will help maximise outcomes and reduce risks. The biodiversity baseline should include all land contained within the site's red line boundary and proposals can be iteratively refined over time and throughout detailed design. We encourage developers to develop their BNG proposals in adherence with well-established BNG principles. To encourage best practice, we can also direct developers to the following: • BS 8683:2021 Process for designing and implementing Biodiversity Net Gain • CIEEM/IEMA/CIRI - A good practice principles (2016) and guidance (2019). We recommend that developers use the latest version of the Defra biodiversity metric to calculate BNG (currently version 4.0) and adhere to the rules and principles set out within the metric guidance. Biodiversity gains should be secured for a minimum of 30 years and be subject to adaptive management and monitoring. BNG plans should be secured by a suitably worded requirement in the DCO.	recognition of the policy imperatives of EN-1, the Applicant is committed to fully mitigating the ecological impacts of the Proposed Development and, where possible within the constraints of the proposed Order Limits and the Main Site, delivering enhancements. Provisions related to the Planning Act 2008 for Development Consent Orders (DCOs) are not expected to come into force until at least November 2025 and discussions are still on-going between industry, DEFRA and NE to the appropriate approach to BNG calculations for DCO projects – it should not be assumed that the TCPA approach is required to be followed. Nonetheless, the Applicant is committed to ensuring no net loss as a minimum.
NE35: Soils and best and most versatile agricultural land	Whilst NE accepts that there is no mitigation for the permanent loss of agricultural land due to permanent development, appropriate mitigation to prevent the potential loss of BMV land, including the restoration of disturbed land to the baseline ALC Grade, should be set out in the assessment. This would require a detailed ALC survey of the pipeline routes to inform appropriate restoration. For all areas of agricultural land subject to temporary and permanent loss, in which Post-1988 ALC survey information is not available, an ALC survey should be undertaken. The	BMV land across the Proposed Development boundary is limited, with the majority of the Main Site and Connection Corridors classified as Urban and Non-Agricultural. A small portion of the Hydrogen Pipeline Corridor north of the River Tees has land classified as Grade 3, 4 and 5. As a worst case scenario Grade 3 land, at the Cowpen Bewley Replacement Land, is assumed to be Grade 3a, making it BMV land for the

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	colours used in the mapping so far are not the standard ALC colours. These should be updated to reflect the appropriate colours for each ALC grade. It is recognised that a large proportion of the agricultural land affected by the development will experience temporary land loss or disturbance and will be restored to the baseline ALC grade (largely as a result of the pipeline and cable trenching). In order to both retain the long term potential of this land and to safeguard all soil resources as part of the overall sustainability of the whole development, it is important that the soil is able to retain as many of its many important functions and services (ecosystem services) as possible. This can be achieved through careful soil management and appropriate, beneficial soil re-use, with consideration of how adverse impacts on soils and their functions can be avoided or minimised. Para 10.5.19. Natural England welcome the consideration of soil handling however this should be expanded in an Soils Management Plan (SMP), and based on the site-specific soil properties. The soil information presented (Figure 10-1 [APP-110]), should include the mapped soil associations. The information will provide an indication of the soils' resilience to handling and therefore inform appropriate soil handling and storage. The SMP should include the restoration criteria for all land to be returned to agricultural use, including the ALC grade and soil properties. A soil balance should be prepared to identify the surplus of different soil types across the Site and identify opportunities for the sustainable re-use of this resource on site. H2Teesside should use an appropriately experienced soil specialist to advise on, and supervise, soil handling, including identifying when soils are dry enough to be handled and how to make the best use of the different soils on site. All soils should only be handled in a dry and friable condition, and it is expected that soil handling will be confined to the drier summer period to minimise risk of soil damage.	purposes of the assessment presented in Chapter 10: Geology, Hydrogeology and Contaminated Land [APP-062]. Taking into account the above, the Applicant does not propose to undertake supplementary ALC surveys of the Proposed Development Site at this time. However, the Applicant recognises the need for careful soil management and handling. The Framework CEMP [APP-043]. will be amended to include the production of a Soils Management Plan (SMP), included as part of the Final CEMP, produced prior to construction. Figure 10-1 [APP-110] is for artificial geology/made ground only. Figure 10-19 [APP-137] will be updated to include the correct colours for each ALC grade at Deadline 2.

REF. NO.	NATURAL ENGLAND RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
NE36: Other valuable and sensitive habitats and species, landscapes and access routes	NE notes that the proposed scheme does not involve direct impacts upon the England Coast Path (ECP) but that due to the main site's proximity it has been concluded that mitigation of impacts on walkers' experience of the route is not possible. We draw the Examining Authority's attention to two very recent projects in the area providing relevant context and scope for dialogue to identify how mitigation measures might be chosen and delivered. These comprise the 'Regreening the King Chares III England Coast Path' project and the 'Reframing the Tees' Landscape Architecture project. Both provide a range of recommendations that will support suitable dialogue. We attach a copy of each report for reference.	A likely significant effect was recorded in Chapter 13: Landscape and Visual Impact of the ES [APP-069], and therefore the scope for further mitigation measures, such as screen planting, was considered for Viewpoint 7 (England Coast Path). However, it was concluded that due to the combination of operational constraints, development proximity, and scale of the Proposed Development there is no opportunity to deliver additional mitigation to reduce the significant visual effects for Viewpoint 7, at the time the ES was submitted. However, the Applicant welcomes the further information provided by Natural England and will take this into consideration.

2.7 RR-033 UK Health Security Agency

2.7.1 The UK Health Security Agency's (UK HSA) RR and the Applicant's response are set out in Table 2.7 below.

Table 2.7: UK HSA RR and Applicant's Response

UK HSA RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
<u>Physical activity and active travel / access to open space</u> The report identifies significant potential impact through the loss or change in formal Public Rights of Way (PRoW). Physical activity forms an important part in helping to promote healthy weight environments and as such it is important that any changes have a positive long-term impact where possible. The report indicates the impact on PRoW due to the closure of two long distance paths for a period of 6 months. One PRoW (England Coast Path) will also be temporarily closed at two different points during construction. Each closure will be for six months. In addition, another PRoW (Teesdale Way LDR) will also be closed for a period of six months. The ES reports these closures will not be significant, but without justification. There is no description of any mitigation, e.g. temporary diversions or description of how the assessment of significance has been concluded, including usage levels. There is no PRoW Management Plan submitted within the ES. <u>Recommendations</u> PRoW usage results should be used to review the existing	The dDCO [AS-013] includes a requirement (Requirement 5) that secures the submission and approval by the relevant planning authority of a Public Rights of Way ('PRoW') Management Plan prior to the relevant section of PRoW being temporarily diverted or closed. Paragraph (2) of Requirement 5 confirms that the PRoW Management Plan must include details of: Measures to minimise the length of any sections of public rights of way to be temporarily closed; and advance publicity and signage in respect of any sections of public rights of way to be temporarily closed or diverted. It is appropriate (and well precedented) that this is determined post-consent when the detailed construction methodology and impacts will be known and the appropriate measures are able to be put in place in liaison with local authorities. For socio-economics, there is no accepted definition of what constitutes a Significant (or Not Significant) socio-economic effect. It is recognised that 'significance' reflects the relationship between the scale of impact (magnitude) and the sensitivity (or value) of the affected resource or receptor. As such, the significance criteria for socio-economic effects has been assessed using the expert judgment of the authors with professional experience in socio-economics, and relies on the following considerations:

UK HSA RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
allocation of sensitivity and final assessment of significance to each of the affected PRoW or long-distance path. There should be continued local consultation in order to identify any additional effective mitigation measures that could ensure continued use of the affected paths, e.g. diversions or managed crossings. The ES should include details of the PRoW management plan that identifies specific mitigation and enhancements proposed during the construction and operational phase of the scheme	The sensitivity of a given receptor: the assessment takes account of the qualitative (rather than quantitative) 'sensitivity' of each receptor, particularly their ability to respond to change based on the given impacts of the Proposed Development; and the magnitude of the impact: this entails consideration of the size of the impact on people, businesses, users of PRoWs, private properties, employees and development land in the context of the area in which impacts will be experienced. Full details of the methodology used to conduct the socio-economics assessment are provided in Section 18.3 of Chapter 18: Socio-Economics [APP-071]. The PRoWs identified in the EIA were assigned a 'Medium' sensitivity, meaning there are limited comparable and accessible alternatives (meaning their ability to respond to the change is limited) and the magnitude of impact was assessed as 'Low' (see Tables 18-1 and 18-2 for full definitions). The Proposed Development's effect on users of PRoW is considered to be Not Significant. This is due to the short term nature of the effect (6 months) and a commitment that the affected PRoWs will not be closed concurrently to allow for a route of access for users within the Park throughout the construction period. Taking the above into account, the Applicant is not considering further mitigation with regards to PRoWs at this stage. No ProW mitigation measures are required during the operation phase.
We would welcome the opportunity to formalise any ongoing dialogue with the applicant or Planning Inspectorate in relation	The Applicant proposes to update the UKHSA on amines following discussions with Natural England and the Environment Agency. This will be agreed through a SoCG with the UKHSA.

UK HSA RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
to a) emissions and b) ProW management via a Registration of Interest.	

3.0 LANDOWNERS

3.1 RR-001 Aggregate Industries UK Ltd

3.1.1 Aggregate Industries RR and the Applicant's response are set out in Table 3.1 below.

Table 3.1: Aggregate Industries RR and Applicant's Response

AGGREGATE INDUSTRIES RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Aggregate Industries UK Limited occupy land at Redcar Bulk Terminal for the importation, processing and distribution of aggregates which may be affected by the H2 Teesside project.	The DCO Application as submitted in March 2024, includes land within the Order Limits with Redcar Bulk Terminals ('RBT') for use as a Temporary Construction Laydown Area (Work No. 9) connected with the construction of the Proposed Development. The areas within RBT are shown on the Works Plans, Key Plan Sheet 1 of 11, Sheet 31 of 44 [APP-010]. The RBT Temporary Construction Laydown Area shown on the Works Plans was intended to be used as a working space for unloading pre-constructed modules from ships docking at RBT to transfer them to the Main Site for the Proposed Development. The area is no longer required for the Proposed Development and the Applicant is proposing to remove it from the DCO Application. The Applicant has submitted a Change Notification to the Examining Authority (ExA) [PDA-019]setting out a number of proposed changes to the DCO Application, including the removal of the RBT Temporary Construction Laydown Area from the Order Limits. It is anticipated that the Change Application will be submitted to the ExA at Deadline 3 (21 October 2024). The Applicant does not therefore envisage any impact on Aggregate Industries UK Limited's operations at RBT. Any use of RBT for the construction phase of the Proposed Development would be in accordance

AGGREGATE INDUSTRIES RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	with the port operator's existing management and operational requirements.

3.2 RR-002 Lighthouse Green Fuels Ltd

3.2.1 Lighthouse Green Fuels Ltd's (LGF) RR and the Applicant's response are set out in Table 3.2 below.

Table 3.2: LGF RR and Applicant's Response

RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
We write on behalf of Lighthouse Green Fuels Limited (LGF), who are in the process of seeking to promote sustainable energy, via the production of sustainable aviation fuel, through its Lighthouse Green Fuels project (the LGF Project) which is intended to also be located within Teesside. As part of the LGF Project, LGF is keen to utilise low carbon hydrogen at the facility where possible. In that context, LGF strongly welcomes that the H2Teesside project (the H2Teesside Project) is being brought forward at Teesside, as the H2Teesside Project has the potential to support LGF's decarbonisation project, knowing that a low carbon hydrogen supply may be obtained. LGF has been, and continues to be, in commercial discussions with H2 Teesside Limited (the Applicant) to enable the usage of the low carbon hydrogen produced by the H2Teesside Project at our proposed facility and it therefore strongly supports the principle of the H2Teesside Project, and in particular, that the H2Teesside Project proposals include the necessary	The Applicant welcomes Lighthouse Green Fuels Ltd's (LGF) strong support and, equally, supports the LGF's proposed Sustainable Aviation Fuel development in Teesside. The Applicant and LGF have been having productive and meaningful discussions with regards to supply of low carbon hydrogen.

RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
infrastructure and associated powers to distribute low carbon hydrogen.	
Those discussions to date have been encouraging. However, there will be a need for further discussions between LGF and the Applicant to agree interface requirements and any potential hydrogen AGI location to supply the LGF Project. LGF expect to work collaboratively with the Applicant to ensure the two projects can construct and operate harmoniously. In particular, LGF are keen to continue discussions with the Applicant, in relation to the proposed route of the low carbon hydrogen pipeline into the LGF site since, as mentioned above, it supports decarbonisation of the LGF Project. However, LGF do not consider the current proposed connection location and pipeline spur into the LGF site represents the best solution and we seek an alternative connection closer to the Linkline corridor that reduces the connection length and number of affected land interests. The Applicant has provided some additional detail as to the possible AGI location. LGF will consider this and confirm to the Applicant directly our position.	The Applicant and LGF are in discussion with regards to the placement of the AGI required to supply LGF with low carbon hydrogen. The Applicant is confident that the parties will be able to reach an agreement on a way forward and supplement this with Protective Provisions as required.
LGF also require confirmation that pipelines which are currently or may in the future be owned or used by us, including those owned or controlled by Air Products plc,	The Applicant is engaging with LGF on potential interactions between H2Teesside and LGF pipelines.

RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
will not be impacted by the proposals. If the Applicant is unable to provide this, then LGF require adequate protection in the form of an asset protection agreement or protective provisions. LGF also notes that the proposed order limits for the H2Teesside Project interact with the proposed order limits of the LGF Project. It is anticipated that pipelines connected to both the H2Teesside Project and LGF Project will be located along existing pipeline routes in and around the existing TV1 and TV2 sites occupied by LGF, on land at Port Clarence, near Stockton-on-Tees. The H2Teesside order limits include the access roads at Riverside Road and Huntsman Drive connecting to the A178 (Seaton Carew Road), which are also included in the draft order limits for the LGF Project.	The Applicant is committed to negotiating and agreeing protective provisions if continuing discussions with LGF deem bespoke protective provisions to be required. The Applicant expects that these Protective Provisions would more appropriately be included in LGF's DCO when submitted and the full detail of interactions between the projects can be analysed. It is noted that the Land Rights Tracker confirms that the Applicant is separately engaging with Air Products on appropriate protective provisions.
LGF further requests the Applicant engage with the LGF Project in relation to the production of the H2Teesside's Construction Traffic Management Plan and Construction Environmental Management Plan to ensure the two projects manage construction and traffic effects of the two projects collaboratively.	The Applicant has, in its Framework CEMP [APP-043] and Framework CTMP [APP-050] committed to setting up a group with other developers to manage the construction and traffic effects of projects in this area. LGF will be invited to be part of this group, which will provide a forum to consider the matters to be included in the respective projects' management plans, with supplementary discussions as required.
LGF would also seek to collaborate on assumptions and parameters for our respective cumulative environmental effects assessments and any potential opportunities for natural and social capital or net gain.	The Cumulative Assessment is currently being updated by the Applicant and will be submitted into the Examination at Deadline 5. The Scoping Report submitted by LGF is included in this Cumulative Assessment (as Development ID: 8). However, it is acknowledged that Statutory Consultation was undertaken by LGF between 16 May 2024 and 20 June 2024, after submission of the H2Teesside DCO

RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	application. Therefore, the PEIR published as part of that consultation will be taken into account by the Applicant in its update to its cumulative assessment proposed for Deadline 5. It should be noted that the methodology for the Cumulative Assessment is primarily based upon guidance contained within the Planning Inspectorate's Advice Note 17: Cumulative Effects Assessment. The information collected to inform the Cumulative Assessment is restricted to information publicly available to ensure a transparent and accurate assessment. The Applicant is exploring opportunities for biodiversity enhancements in the wider Teesside area off-site from the proposed Order Limits and is working with stakeholders to develop proposals in this regard. The Applicant will provide an update on this in due course.

3.3 RR-003 South Tees Group

3.3.1 South Tees Group's RR and the Applicant's response are set out in Table 3.3 below.

Table 3.3: South Tees Group RR and Applicant's Response

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Whilst the South Tees Group has been liaising with the Applicant to reach commercial agreements for H2T's use of land in which it has an interest, the extent of land contained in the application for each work is not defined clearly, lacking both precision and sufficient detail. For instance, it is not clear from the available plans where, within broad areas, the utilities corridors will be located, or whether the existing corridors will be shared with H2T or other projects in the same area.	The Applicant is going to submit a paper at Deadline 2 that explains the interactions between H2Teesside and NZT and HyGreen and how this relates to the land rights sought in the DCO.
There are also concerns with the potential impact of the proposed works on the highway network and on means of access to the Teesworks site.	Chapter 15 [APP-068] identifies no significant effects on any of the links assessed at the peak of construction and therefore, no significant effects during the construction phase outside of the peak of construction, operation or decommissioning phases. The assessment has been undertaken in accordance with best practice guidance, as set out in Paragraph 15.1.1 of Chapter 15 [APP-068]. The best practice guidance is set out in the Institute of Environmental Management and Assessment Guidelines: Environmental Assessment of Traffic and Movement. It is also relevant to note paragraph 6.1.4 of the Framework CTMP [APP-050] which states that given the other projects within the local area, the EPC Contractor(s) would liaise with other contractors in the local area to co-ordinate works, and associated construction traffic movements as far as practicable. A working group could be set up as required, although at this time the exact make up and timing of any meetings is unknown and will

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	need to be reviewed and agreed as part of the Final CTMP(s) and Final CEMP(s) being approved prior to work commencing on site Part of this working group's remit could include agreeing a communications plan with neighbouring businesses where construction programmes (and therefore associated HGV movements) between the projects overlap. Further to the above, the dDCO [AS-013] includes a requirement (Requirement 18) that secures the submission and approval of a CTMP by the relevant planning authority, after consultation with National Highways, the relevant highway authority and STDC, before work commences on the relevant part of the authorised development. Paragraph (2) of Requirement 18 sets out what must be included in the CTMP. This includes details of the routes to be used for the delivery of construction materials and the routing strategy and procedures for the notification and conveyance of abnormal indivisible load, amongst other measures.
The Applicant does not appear to have explained if, and how, it has coordinated its requirements with the details of the recently consented Net Zero Teesside (NZT) project, nor has it necessarily liaised sufficiently with the South Tees Group to ensure their respective proposals in the Teesworks site do not conflict. Because the Applicant has maximised its own design flexibility at the expense of precision, and has as yet not shared detailed information about the justification for the details of its H2T Project, the South Tees Group cannot determine the true impact of the Applicant's proposals on its own interests.	The Applicant is going to submit a paper at Deadline 2 that explains the interactions between H2Teesside and NZT and HyGreen and how this relates to the land rights sought in the DCO.

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
The H2T proposals risk sterilising the Teesworks site and negatively impacting the South Tees Group's pre-existing and ongoing development plans, but the Applicant has not offered bespoke Protective Provisions, in contrast with the consented NZT DCO. The South Tees Group strongly believes that these protections are required for this project as well, and **it intends to submit its own preferred form of protective provisions for consideration by the Applicant** and the Examining Authority	The Applicant has confirmed to South Tees Group that the principle of including bespoke protective provisions in the dDCO for South Tees Group is agreed. It has been agreed between the parties that the solicitors acting for South Tees Group will produce a first draft of such protective provisions for review by the Applicant and its external advisors. The Applicant looks forward to receiving these in due course and is committed to engaging with South Tees Group to agree bespoke protective provisions.
To inform STDC's development strategy and to help ensure the comprehensive and efficient use of its land, it developed a master plan which informed the preparation of supplementary planning policy for the Teesworks site. When STDC was established, it was agreed between Tees Valley Combined Authority (which was established by STDC pursuant to its powers under the Localism Act 2011) (TVCA) and Redcar & Cleveland Borough Council (RCBC) that RCBC would retain planning powers and continue to act as the local planning authority for the Teesworks site in respect of planning policy and development management, and in the processing of planning applications. All planning applications for development proposals within the Teesworks site must therefore be determined in accordance with the adopted Redcar and Cleveland Local Plan unless material considerations indicate otherwise. The **Local Plan** should therefore constitute an "important and relevant consideration" for the purposes of examining and deciding the H2T DCO application under section 104 of the 2008 Act	Section 4.0 (paragraph 4.2.5) of the Applicant's Planning Statement [APP-031] confirms that the policy framework for examining and determining applications for development consent, such as that for the Proposed Development, is provided by National Policy Statements ('NPSs') and that these are the primary policy used by the Secretary of State to examine and determine such applications. Section 4.7 (paragraph 4.7.3) acknowledges that other matters that the Secretary of State may consider important and relevant in determining applications for development consent can include local development plan policy. Local development plan policy, including relevant policies of the Redcar and Cleveland Local Plan (adopted May 2018) and the development principles of the South Tees Supplementary Planning Document (adopted May 2018), and the Proposed Development's compliance with those policies and development principles, is considered in detail within Table 6.5 of the Policy Assessment Tables [APP-032]. The Applicant has therefore had regard to relevant local development plan policy notwithstanding that the NPSs, notably EN-1, are the primary policy against which to assess the Proposed Development.

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Chapter 4 of the Environmental Statement [APP-056] is clear that the area is covered by some works is larger than required and that the Applicant is making use of the "Rochdale Envelope" principle, whereby it requires additional flexibility for its Project to be carried forward into the post-consent implementation phase. The South Tees Group draws the Examining Authority's attention to the Planning Act 2008, Guidance on the pre-application process (DLUHC, April 2024)3 (the Pre-Application Guidance) which notes that use of the Rochdale Envelope is by now well-established but also states that taking this approach "will therefore increase the amount of evidence required to be submitted in support of the application." The Applicant has **not provided sufficient justification for its excessive land requirements for the Project, most notably around utilities corridors**.	The Applicant has used the Rochdale envelope approach to determine the Order Limits as design development is currently ongoing and no ground investigation has taken place in the connection corridors. These Order Limits have recently been refined as part of the Change Notification [PDA-019] which is currently under consultation.
Additionally, the South Tees Group understands that **the H2T Order Limits includes land falling outside the scope of the option agreement being negotiated for the H2T works** (discussed further below), and which is understood to be proposed for HyGreen4, NZT and future projects. If the Applicant is not negotiating to acquire that additional land (which covers a significant part of the Teesworks site) for the H2T project, it should not be included within the scope of compulsory acquisition powers contained in the H2T draft DCO.	The Applicant is going to submit a paper at Deadline 2 that explains the interactions between H2Teesside and NZT and HyGreen and how this relates to the land rights sought in the DCO.
Additionally, it appears that **land in and around plots 14/10, 14/11, 14/12, 14/16, 14/17 and 14/24 as shown on sheet 14A of the Land Plans (AS-003), is already subject to permanent acquisition of rights under the NZT DCO**. It also appears that many plots along the highways to the southeast of the main Teesworks site in which the South Tees Group has interests are already	The Applicant and NZT project will have a number of import and export connections between them. These plots are required to facilitate those connections. The Applicant and NZT are in discussion with regards to appropriate Protective Provisions for these connections.

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
subject to the acquisition of rights or temporary possession under the NZT DCO. In each case, the overlap between projects is unclear and it is unclear from the Applicant's documentation how this impact on land has been minimised, and how the overlapping works will be managed to minimise disruption and sterilisation.	
The South Tees Group's view is that the Applicant is seeking permanent rights over utility corridors which are wider than reasonably required, may not align with NZT or existing on-site corridors in the same area (see Table 1 below), and are not justifiable having regard in particular to the Guidance cited above. The Applicant should only be seeking compulsory acquisition powers over the minimum amount of land required for the Project, whereas the proposed utilities corridors as shown in the current Works Plans (AS-005) often cover large swathes that the Applicant justifies with the Rochdale Envelope principle. **For instance, two water connection options are included within the Order Limits, and the Applicant acknowledges in paragraphs 4.3.30 and 4.3.37 of the Environmental Statement [APP-056] that they are currently shown as one "broad corridor" rather than more realistic ones, "to account for all options"**.	The Applicant has used the Rochdale envelope approach to determine the Order Limits. These Order Limits have recently been refined as part of the Change Notification [PDA-019] which is currently being consulted on.
Land is also proposed to be acquired for **multiple energy supply connection alternatives (paragraph 4.3.25 of the Environmental Statement), pipelines for potential gas supplier connections as potential replacements for specific onsite Project features (paragraph 4.3.10) and potential alternatives for hydrogen transmission routeing and connections (paragraph 4.3.23). The entire main Teesworks site is shown on the Works Plans (AS-005) as being required for many of the utilities corridors**, which does not correspond with what is reasonably required – nor with the narrower corridors in the NZT DCO	The Applicant has been engaging with STG's technical teams to discuss and agree suitable corridors for H2Teesside connections. These are now reflected in the Change Notification (PDA-019) that is currently under consultation. Plot 15/243 (and nearby plots) are required for raw water import connections.

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
The lack of detail on the precise location of final utility corridors within the DCO application and the broad acquisition and use of land in which the South Tees Group has interests hinders the South Tees Group's understanding of the Project. It may harm future development plans and it potentially prevents the full benefits of the freeport designation from being realised. The use of any utilities corridor permitted by the draft DCO must be conditional upon the potential for the service corridors to change as a result of other developments and permissions on the Teesworks site. It is therefore imperative that the Applicant rationalises the proposed utilities corridors to that which is actually required, and that it seeks to share these corridors with other end users wherever possible.	
The South Tees Group retain significant concerns about the extent of its land included within the Project's Order limits for utilities. It is also not clear from the application documents why plot 15/243 (and nearby plots) are included, or why they are so extensive, given South Tees Group's understanding of the Applicant's water pipeline requirements.	The Applicant has been engaging with STG's technical teams to discuss and agree suitable corridors for H2Teesside connections. These are now reflected in the Change Notification (PDA-019) that is currently under consultation. Plot 15/243 (and nearby plots) are required for raw water import connections.
consent mechanism for H2T to be able to exercise any works or land powers subject to their consent.	As noted above the Applicant is committed to negotiating appropriate protective provisions with STG.
The sensitive receptors referenced in ES Chapter 3 relate to residential properties and ecological designations. However, the existing industrial uses within the Teesworks Masterplan area have not been included, such as the Northumbrian Water Bran Sands Regional Effluent Treatment Works, whereby workers could be sensitive to air-borne pollutants or the buildings / equipment / plant could be sensitive to vibration. We request that all sensitive receptors within the Teesworks' Masterplan area be considered in the ES.	Following Statutory Consultation, the Northumbrian Water Bran Sands offices were included as a receptor within the noise assessment, presented in 6.2.11 ES Vol 1, Chapter 11: Noise and Vibration [APP-063]. Northumbrian Water Bran Sands offices are included as NSR H7. Table 11-34 identified no likely significant effects for this NSR during construction, operation or decommissioning.

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	Industrial use receptors are covered by Health and Safety regulations and would not normally be included in an EIA for air quality.
It is therefore concerning that planning permission for B2/B8 uses (ref R/2020/0820/ESM) at Lackenby is excluded from consideration as a cumulative scheme within the Transport Assessment (TA) on the basis that the development is expected to commence in 2028 and complete in 2031. The South Tees Group therefore asserts that the construction and operational phases of this project have the potential to overlap with that of the H2Teesside scheme and therefore should have been included within the assessment. It has been assumed that all construction compounds to the south of the River Tees will be accessed via the A1085 Trunk Road / Teesworks Steel House Gate roundabout. Chapter 15 of the ES goes on to assess the effects of the project with other developments in the area. : The South Tees Group requests that thorough consultation between H2Teesside and the South Tees Group is undertaken to better understand the potential effects of all projects and what mitigation is necessary in order to reduce impacts on the local highway network, including upon the following highway links: link 2 – A1085 Trunk Road, 1.34 km south of West Coatham Lane; link 4 – A1085 Trunk Road, 500 m north of A1053 Tees Dock Road; and link 11 – A1053 Greystone Road, 600m north of the A174/ A1053 Greystones roundabout	The referenced planning consent (ref R/2020/0820/ESM) will be constructed between 2028 and 2031, with operation commencing in 2031. The planning consent does not provide construction traffic numbers generated by the site, as the operation phase is anticipated to generate significantly more traffic, and the effects during construction are assessed to be not significant. The Proposed Development application is anticipated to see construction between 2025 and 2030, with low levels of operational traffic after 2030. The operational traffic has not been assessed in terms of cumulative impact, due to low numbers. Therefore, there is therefore no crossover of the significant traffic impacts of the two planning consents. Consultation should remain ongoing, with relevant mitigation implemented where necessary during construction and operation. The network peak hours can be taken as being 0800 to 0900 and 1600 to 1700, and with reference to Table 15A-40 and 15A-41 of 6.2.15 ES Vol 1 Chapter 15 Traffic and Transport [APP-068], in the weekday AM peak the construction phase will add 31 vehicles to Links 2 and 4 and 4 vehicles to link 11. This is not then considered to result in a severe highway impact based on the criteria set out in that chapter. In the weekday PM peak, there will be a total of 80 trips to links 2 and 4 and 9 vehicle trips to link 11. The impact on links 2 and 4 have then been considered further with a capacity assessment of the A1085 Trunk Road / Teesworks Steel House Gate roundabout being included within Section 15A.7 of the Transport Assessment [APP-210] which concluded that it would continue to operate

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	within capacity at the year of peak construction, 2026, which is before the 2028-2031 construction period assumed for R/2020/0820/ESM. The Applicant has submitted a Framework Construction Workers Travel Plan [APP-049] and Framework Construction Traffic Management Plan [APP-050] with the ES, both of which will be form the basis of a Final Construction Workers Travel Plan and Final Construction Traffic Management Plan to support in mitigating any Traffic and Transport effects. It is assumed that all construction compounds to the south of the River Tees will be accessed via the A1085 Trunk Road / Teesworks Steel House Gate roundabout.
Review of the cumulative schemes listed in the TA and Chapter 23 Cumulative and Combined Effects Appendix 23A identifies planning permission reference R/2023/0793/ESM relating to the construction of an Electric Arc Furnace on behalf of British Steel has been omitted from the long list of cumulative schemes. This is particularly pertinent because the application documentation submitted with the British Steel planning application indicates that its construction programme is likely to overlap with that of H2Teesside. The South Tees Group requests that a detailed and up to date review of likely cumulative schemes be undertaken and that any omissions in the current long list of schemes are addressed. The South Tees Group would be pleased to assist H2Teesside to ensure that the assessment is comprehensive and accounts for all relevant projects including those planned across the Teesworks site that are the subject of planning applications or planning permissions.	The cut-off date for the Cumulative Assessment was 01/11/2023 (paragraph 23.3.19 in Chapter 23 Cumulative and Combined Effects [APP-076]). The planning application for R/2023/0793/ESM was submitted on 24/11/2023, after the cut-off date in the Cumulative Assessment. The Cumulative Assessment [APP-076] will be updated during Examination and submitted at Deadline 5, the comments from South Tees Group, and ongoing engagement with them, will be taken into consideration.

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Chapter 11 Noise and Vibration suggests a range of mitigation or enhancement measures may be required, including placing limits on noise emissions from plant and equipment at source secured via Requirements of the draft DCO. Review of the draft Requirements indicates that the control of noise during operation is omitted from the list of draft Requirements.	No operational noise Requirement is needed as the ES has concluded that no likely significant effects are expected to arise during the Operational phase, with embedded measures that will be secured through the Environmental Permit considered. As such, no additional mitigation needs to be secured via the DCO.
We note that a Construction Environmental Management Plan (CEMP) will be prepared prior to construction and a Framework CEMP [APP-043] has been prepared as part of the Environmental Statement. The South Tees Group supports this approach and considers it important that it is centrally involved in the preparation of any CEMP and have the opportunity to input into it prior to its finalisation.	There is a Requirement securing the preparation and approval of a CEMP contained in the Draft DCO [AS-013].
The ES states that an Effluent Treatment Plant will be constructed, which will consist of an oily water separator, neutralisation sump, storm water sump and any other suitable treatment to meet agreed discharge standards. All oily water effluents produced by the Hydrogen Production Facility will be sent to the oily water separator. For post separation, there are currently two options considered where the liquid effluent will be sent. The first option is to send liquid effluent to Minimum Liquid Discharge Plant on the main site, that may consist of ultrafiltration and Closed-Circuit Reverse Osmosis . This plant will produce a stream of clean water that will be reused in the hydrogen production plant and a brine stream that will be tankered from site to a suitable third-party disposal site. The second option is to treat this effluent to an appropriate level associated with the use of Best Available Technique and disposed of via the NZT outfall that is to be built as part of the NZT DCO development. Any solids will be sent for disposal offsite.	Case 1B (Minimalised Liquid Waste from the ETP) is no longer proposed by the Applicant, as such Case 2B (discharge of effluent to Tees Bay via the NZT outfall) will be progressed. Therefore, effluent will be treated to an appropriate level associated with the use of Best Available Technique and disposed of via the NZT outfall that is to be built as part of the NZT DCO development.

SOUTH TEES GROUP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
There is limited information on the potential quantity of brine steam that will be tankered offsite for disposal by a third party or the quantity of any solids that will be sent for disposal. The South Tees Group requires further detail in respect of both options in order that it can understand the potential for highways impacts associated with both options.	

3.4 RR-006 Air Products PLC

3.4.1 Air Products PLC's RR and the Applicant's response are set out in Table 3.4 below.

Table 3.4: Air Products PLC RR and Applicant's Response

AIR PRODUCTS RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Air Products would like to agree with the Applicant the inclusion of Protective Provisions in the draft DCO for the protection of Air Products' existing infrastructure, and an asset protection agreement as relevant. Air Products reserves the right to make further representations as part of the Examination process and would welcome further opportunity to discuss with the Applicant with a view to reaching agreement on these matters.	The Applicant acknowledges Air Products' concerns regarding the proposed acquisition of land and rights and the parties' solicitors have commenced discussions on the inclusion of bespoke Protective Provisions within the draft DCO, and an Asset Protection Agreement as required. The Applicant expects to issue draft Protective Provisions for Air Products' consideration shortly and is keen to engage further to understand how the scheme may impact their assets and operations. The Applicant looks forward to continuing to progress these discussions collaboratively

3.5 RR-010 Anglo American

3.5.1 Anglo American's (AA) RR and the Applicant's response are set out in Table 3.5 below.

Table 3.5: Anglo American RR and Applicant's Response

ANGLO AMERICAN RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
AA has the following concerns with the Application documents: the Order limits of the H2 Teesside dDCO ("H2T DCO") include land within the YP DCO Limits – a Nationally Significant Infrastructure Project (NSIP) that was consented by the Secretary of State in 2016, being part of the Woodsmith Project that has made significant progress in its implementation; the H2T Book of Reference includes areas of land (in addition to that identified in paragraph 1.4.1) in which AA has a Category 1 and /or Category 2 interest; article 9 of and Schedule 3 (currently blank) to the H2T dDCO purport to amend the YP DCO without detail or justification and there has been limited attempt to engage with AA on these provisions; in spite of the clear proximity and material interface of the H2T proposals and the YP DCO, there are no provisions in the H2T dDCO for the protection of AA in its capacity as undertaker for the delivery of the YP DCO NSIP; and	The Applicant has been in regular engagement with Anglo American (AA) with regards to the proposed development. The Applicant and AA have agreed that the NZT DCO Protective Provisions are an appropriate starting point for negotiations on H2Teesside, subject to making necessary updates to reflect the specific nature and interactions of the proposed development. The Applicant has agreed to undertake an initial review of the NZT DCO Protective Provisions and consider appropriate amendments to reflect the interactions specific to H2Teesside. The Applicant's solicitors will issue draft Protective Provisions to AA shortly for their review and consideration. It is acknowledged that AA is the undertaker pursuant to the York Potash Harbour Facilities Order 2016 and it is anticipated that reciprocal protective provisions will be required between the parties, as well as collaboration provisions to manage construction and operational interfaces. The Applicant is committed to meaningful engagement with AA to agree protective provisions to appropriately manage such interfaces. The Applicant is going to submit a note describing the overlap between HyGreen and other planned projects on the Foundry site at Deadline 2.

ANGLO AMERICAN RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
the H2T dDCO Order Limits overlap with the application boundary for the Hygreen Hydrogen Facility at the Foundry Site, Teesworks, submitted to Redcar and Cleveland Borough Council on behalf of BP Alternative Energy Investments Limited [Ref: R/2024/0271]. BP is one of the project partners for H2 Teesside. AA has concerns regarding the appropriateness of this overlap, particularly given the lack of clarity in the Application documents.	
Concerns over land boundaries crossing between YP and H2T.	The Applicant is in dialogue with AA concerning the YP project in order to develop a technical solution which accommodates all parties' proposed services. AA has provided details of the location of foundations for the conveyor and the Applicant will consider these when routing pipelines in their vicinity.
The Environmental Statement submitted with the H2T Application does not take into account the construction of the YP DCO development nor AA operations in the area. Given the significance of AA operations, and the scale of delivery of the YP DCO development, AA questions the adequacy of the Environmental Statement.	The Applicant considers the ES has taken account of AA current and proposed operations in the area, as follows: • The York Potash Harbour Facilities Order 2016 (TR030002) (Included in the future baseline and so assumed that infrastructure would be operating at time of H2Teesside's construction/operation with little overlap) • ICL Tees Dock: Refurbishment of redundant 'coal rail pit' for handling polysulphate products, potash conveyor, Tees Dock Terminal, Teesport (R/2018/0587/FFM) (scoped out) • Sirius Minerals plc: Outline planning application for an overhead conveyor and associated storage facilities in connection with the York potash project, land between Wilton International and Bran Sands, Redcar (R/2017/0906/OOM) (scoped into cumulative assessment)

ANGLO AMERICAN RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	• Sirius Minerals: Full planning application: Variation of condition 2 (approved plans) of planning permission R/2014/0626/FFM (R/2018/0139/VC) (scoped out as assumed construction will be complete and it is a minor amendment to R/2014/0626/FFM)) • York Potash Ltd: Full planning application: The winning and working of polyhalite by underground methods (R/2014/0627/FFM) (scoped into cumulative assessment) • York Potash Ltd: Mineral (Polyhalite) granulation and storage facility (R/2014/0626/FFM) (scoped into cumulative assessment) However, it is noted that AA has confirmed that the York Potash Order (TR030002) is yet to conclude its construction period and therefore the potential exists for the overlap of the construction phases of both developments. The Applicant is currently updating the cumulative effects assessment and will take account of this information as part of the update. This will be submitted into the Examination at Deadline 5. The matters which the Applicant will particularly consider for potential cumulative effects include traffic generation during the construction period, availability of construction workers and infrastructure to support them, noise and vibration impacts on marine mammals plus general impacts to marine ecology, and visual impacts on PRoW in the area.
owned by AA and within the remit of the existing Environmental Permit at Bran Sands:owned by AA and within the remit of the existing Environmental Permit at Bran Sands: 4.3.1 The implication of the proposed compulsory acquisition of AA land would have the effect of AA retaining liability under the terms of the Environmental Permit notwithstanding that it would no longer be in control of that land. The permit mandates that AA secure the site and	The Applicant acknowledges this concern and notes that it was able to be dealt with in the DCO for NZT. The Applicant is currently considering appropriate drafting for inclusion into the H2T DCO and will provide relevant drafting in the updated draft DCO submitted at Deadline 2.

ANGLO AMERICAN RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
conduct long term environmental monitoring of leachate, surface water, groundwater, and landfill gas. AA must also implement necessary measures to prevent the uncontrolled release of landfill gas. Additionally, any alterations or modifications to the landfill infrastructure must be documented and receive prior approval from the Environment Agency. The dDCO does not contain any provision to modify the existing Environmental Permit. 4.3.2 No attempt has been made by H2T through article 9 of the dDCO to amend the Environmental Permit such that they would assume liability for their activity within the permit boundaries, nor have H2T engaged meaningfully with AA to resolve the issue. 4.3.3 The resulting enforcement of environmental permitting and compliance regime across the site of the H2T proposed development, should the dDCO include the powers of acquisition in this regard, would be unreasonable insofar as AA retains liability under a permit over which it has no control. This is clearly an unacceptable proposition.	
AA has been made aware of proposed changes to the Application, particularly as regards the extent of the proposed compulsory powers affecting AA's land interests. AA requires clarity in this regard. In spite of repeated requests made by AA, no information has been forthcoming from the Applicant in response.	The Applicant has submitted a Change Notification [PDA-019] at Procedural Deadline A that details these changes. Prior to the submission of this, the Applicant shared the details of the changes with AA having discussed these with AA previously.

ANGLO AMERICAN RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Given the lack of engagement by the Applicant with AA concerning the H2T land requirements over areas owned by AA and areas consented for development under the YP DCO, AA has not been allowed the opportunity to explore options to grant requisite rights in land through private treaty. AA formally objects to the Applicant's proposal that AA's interests land should be acquired by or subject to compulsion.	The Applicant has monthly interface meetings with AA as a minimum to discuss these matters and the parties have now agreed on a basis for the Protective Provisions as set out above. The Applicant believes that these concerns can be addressed via these Protective Provisions.

3.6 RR-011 CF Fertilisers UK Ltd

3.6.1 CF Fertilisers UK Ltd's RR and the Applicant's response are set out in Table 3.6 below.

Table 3.6: CF Fertilisers UK Ltd's RR and Applicant's Response

CF FERTILISERS UK RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
1.9 As part of the Project, the Applicant seeks to compulsorily acquire new rights over various plots of land which CFL either owns, occupies or has rights over. The Applicant also proposes to take powers to extinguish, suspend or interfere with CFL's rights and impose new restrictions on such land. 1.10 Whilst CFL does not object to the Applicant's project in principle, it must ensure that the construction and operation of the proposed works do not adversely affect its current and planned future operations (nor those of others for whom CFL is vicariously responsible) or lead to the impacts identified above. It is expected that these concerns can be addressed by the inclusion of appropriate protective provisions in the	The Applicant has had meaningful discussions with CF Fertilisers and has agreed high level principles for protective provisions drafting. The Applicant's solicitors are currently drafting Protective Provisions reflective of these principles to issue to CF Fertilisers for review and expects to issue these imminently.
The proposed DCO and authorised works have the potential to 1.8.2 compromise Control of Major Accident Hazards ("COMAH") safety planning and give rise to unacceptable hazards.	Given the upper tier COMAH status of the site, the Applicant is committed to adhering to safety standards and working collaboratively with CF Fertilisers and other relevant stakeholders to ensure that safety concerns are fully addressed. The Applicant is planning the proposed works in compliance with all necessary safety regulations.
The proposed DCO and authorised works have the potential to inadequately address decommissioning.	The Applicant acknowledges the importance of a clear decommissioning process, and notes that this is likely to occur a significant number of years in the future. The draft DCO includes robust

CF FERTILISERS UK RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	provisions to manage decommissioning effectively, ensuring that safety, environmental, and operational standards are met. These provisions ensure that decommissioning will be carried out safely, with oversight from regulatory authorities, and will ensure that remaining infrastructure is left in a safe condition. The Applicant will engage with CF Fertilisers to ensure a decommissioning regime that meets their operational needs and aligns with regulatory requirements at the time of decommissioning.
The proposed DCO and authorised works have the potential to prevent access (by CFL and other third parties) to critical infrastructure (owned by both to CFL and other third parties)	Safeguarding both existing and future infrastructure, while maintaining uninterrupted access for inspections, maintenance, and emergency interventions are matters which the Applicant envisages will be appropriately resolved through the negotiation of appropriate protective provisions with CF Fertilisers. Please see response above confirming the current status of draft protective provisions.
The Applicant has not yet been able to present CFL with any detailed designs for its proposed infrastructure, precise locations or constructions programmes. Without appropriate protections, there is no guarantee that the Applicant would be able to ensure that its works are suitably timed, located or undertaken in a way that reduces major hazard risk to as low as reasonably practicable. Nor is there any guarantee that access will be maintained for appropriate safety inspections and emergency maintenance	The Applicant has provided CFL with indicative pipeline designs and the associated routing and will share further details of design when these are available. Please see responses above regarding the preparation of protective provisions for review by CF Fertilisers.
2.12 The proposed powers include the ability to extinguish, suspend or interfere with CFL's rights. Unchecked, this is unacceptable in the context of critical infrastructure which must be maintained in situ without interruption and with a continuous right of	The Applicant has included the power to extinguish rights in the DCO, to ensure the delivery of the Proposed Development.

CF FERTILISERS UK RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
access for maintenance and major accident prevention reasons.	Where critical infrastructure will remain in situ during the construction and operation of the proposed development, bespoke protective provisions will be negotiated with CF Fertilisers to regulate such interactions.
3.1 Aside from its existing infrastructure, CFL has the benefit of a Deed of Grant enabling it to construct new pipelines in the corridor that spans land plans sheets 1, 2, 3, 5, 9 and 10. It may in the future rely on these rights to construct new infrastructure in the corridor. 3.2 The current draft DCO does not explicitly provide for capacity to be retained within the pipeline corridor for future pipeline infrastructure. 3.3 CFL's rights to lay the new pipelines (both in accordance with its rights under the Deed of Grant and any alternative routings) should not be interfered with by the Applicant, who should be under an obligation to ensure that its own works do not prevent or materially increase the costs of implementing future pipeline infrastructure	The Applicant acknowledges the landowner's concerns around future pipeline infrastructure and will locate the pipeline in the most efficient way so as to maximise the potential for future pipelines to utilise the existing infrastructure.
COMPULSORY ACQUISITION 4.1 It is understood that much of the land and rights proposed to be compulsorily acquired in the DCO application are required for a hydrogen connection to the CFL site. In fact, since the decision was made to close the ammonia plant, there is no longer any requirement for such connection. Furthermore, it is also understood that a further potential customer, Mitsubishi, located beyond CFL's site has also ceased a number of operations and likely also no longer	The pipeline routing for the Hydrogen Distribution Network has, throughout the project, been designed to accommodate the decarbonisation of Teesside industry as a whole, as opposed to being constructed to facilitate specific offtakers who are currently in situ. The area has been identified as one where high carbon industries are likely to exist in the future, and the Proposed Development provides the capacity to enable their decarbonisation. The Applicant has had meaningful discussions with CF Fertilisers and has agreed high level principles for protective provisions drafting. The Applicant's solicitors are currently drafting Protective Provisions reflective of these principles to issue to CF Fertilisers for review and expects to issue these imminently.

CF FERTILISERS UK RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
require a hydrogen feed. Other proposed users in the area are understood to be modest. On this basis, CFL questions whether compulsory acquisition powers are necessary for this element of the project and indeed whether it is deliverable. A better alternative would be to reach private agreements with CFL and others and the Applicant is encouraged to engage with CFL to discuss this. 5. OBJECTION 5.1 For these reasons CFL must currently OBJECT to the DCO application. It is acknowledged that discussions with the Applicant to date are ongoing and that the concerns identified may in part be capable of being addressed through protective provisions and requirements. CFL will update the Examining Authority as soon as possible in this regard.	

3.7 RR-012 INEOS Nitriles (UK) Ltd

3.7.1 INEOS Nitriles (UK) RR and the Applicant's response are set out in Table 3.7 below.

Table 3.7: INEOS Nitriles (UK) RR and Applicant's Response

INEOS NITRILES (UK) RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
2.6 In addition to this, land is also sought for a temporary construction compound and accessway (plots 10/22 and 10/23). Whilst the principle of using part of INEOS' site for such purposes would be supported, INEOS has concerns that the part of the site selected is not practicable without significant impacts to its own development proposals. INEOS has already been in discussions with the Applicant to relocate the construction activities here to the "Dow land" being that part of the site which is currently leased to Dow Chemicals – the Applicant is in discussion with Dow Chemicals accordingly.	The Applicant has engaged with INEOS Nitriles (UK) Limited (INEOS Nitriles) since February 2023, including issuing land interest questionnaires and holding constructive technical discussions in relation to the Proposed Development and INEOS' land. The Applicant acknowledges the concerns raised by INEOS Nitriles regarding the practicability of using plots 10/22 and 10/23 for a temporary construction compound. In response to the feedback from INEOS, the Applicant has worked collaboratively with both INEOS Nitriles and The Dow Chemical Company to confirm the requirements for the construction compound. In addition to engagement on use of the 'Dow Land' (Plots 10/22 and 10/23), The Applicant is looking to continue technical and commercial discussions relating to the use of all the land required by the compound and accesses, as plots 9/20, 10/18, 10/19, 10/20, 10/21, 10/46 and 10/47 are also required for temporary construction activities. Discussions with The Dow Chemical Company regarding the use of the "Dow land" are ongoing, and the Applicant is committed to reaching a voluntary agreement that satisfies all parties involved if possible.

INEOS NITRILES (UK) RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	The Applicant will continue to engage with INEOS Nitriles and The Dow Chemical Company to seek to address any remaining concerns.
3.2 INEOS proposes that the DCO includes protective provisions to offer protection in relation to its interest INEOS proposes to work with the Applicant to agree suitable protective provisions.	The Applicant and INEOS Nitriles are engaged in negotiations regarding the acquisition of land and rights necessary for the Proposed Development. The Applicant and INEOS Nitriles have agreed that the NZT DCO Protective Provisions are a suitable starting point for protective provisions negotiations between the parties subject to making any necessary amendments to reflect the specific nature and interactions of the proposed development. The Applicant has agreed to undertake an initial review of the NZT DCO Protective Provisions and will issue draft Protective Provisions to INEOS Nitriles shortly.

3.8 RR-013 Navigator Terminals Ltd

3.8.1 Navigator Terminals Ltd's RR and the Applicant's response are set out in Table 3.8 below.

Table 3.8: Navigator Terminals RR and Applicant's Response

NAVIGATOR TERMINALS RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Object to current acquisition of land and rights. At the northern end of the North Tees site is a partially undeveloped site fronting onto the River Tees, the majority of which has been included within the draft order limits (Plots 11/24, 11/43, 11/45-49). This site, whilst partially undeveloped, is strategically important to Navigator. It is immediately adjacent to Navigator's existing bulk storage site and also contains a research facility operated by Intertek in its north west corner. To the north of the site is a tunnel and pipeline corridor (both operated by Sembcorp) through which pass various pipelines that cross under the river Tees. Navigator has already earmarked a significant proportion of the site for its own CO2 hub development. -Rail to Zero carbon capture rail corridor from Ferrybridge to Teesside -NZT is using part of this site for a compound Navigator must be satisfied that any proposal will: Not prevent its land being used for its own important net zero related projects; Be planned collaboratively with all	The Applicant acknowledges the concerns and objection raised by Navigator Terminals regarding the acquisition of land and rights within their North Tees site including the partially undeveloped areas at the northern end. The Applicant and Navigator Terminals have been engaged in discussions about the current and future uses of the land included within the Order Limits since January 2023. Terms are at an advanced stage for the use of Plots 11/24, 11/49, 11/47, 11/48, and part of 11/45 for a temporary construction compound and the temporary and permanent rights associated with the laying of the Hydrogen Pipeline. The majority of the undeveloped land within the Order Limits will be utilised on a temporary basis, and the construction programme has been discussed with Navigator with a view to aligning timings between the Proposed Development and Navigator's own net zero-related projects on the same land. The Applicant is also conducting technical investigations to provide greater certainty and reduce optionality regarding the river crossing from Navigator Terminals. Terms are in early discussions in regard to temporary construction activities over Plot 11/55 and the acquisition of rights over Plots 11/56, 11/66, and 11/58 for the river crossing tunnel head. The Applicant is also committed to a collaborative approach that involves close coordination with Navigator Terminals and other interested parties within the Order Limits, to ensure the

NAVIGATOR TERMINALS RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
stakeholders and other project developers, to avoid the inefficient use of land; as opposed to a "first come first served" approach.	efficient and effective use of land that considers the needs and interests of all involved stakeholders. The Applicant is confident that through continued discussions and collaboration with Navigator Terminals, a voluntary agreement can be reached.
There must also be protection for others' interest such as Intertek who operate from the site Any works proposed on this site must firstly be located and planned very carefully so as to avoid disturbance to the busy Intertek building and any impacts on existing pipeline infrastructure. As already mentioned, there is a safety dimension to this because of the upper tier COMAH status of the Navigator site and the presence of MAH pipelines.	The Intertek lease area is not within the Order Limits and the Applicant will engage with Intertek to address concerns in relation to their access and operations. The Applicant understands the need to plan and locate any proposed works carefully to avoid any disturbance to existing operations and to ensure the safety and integrity of the existing pipeline infrastructure. The Applicant is committed to adhering to safety standards and to working collaboratively with all relevant stakeholders to ensure that these safety concerns are adequately addressed, given the upper tier COMAH status of the Navigator site and the presence of Major Accident Hazard pipelines.
Navigator proposes that the DCO include protective provisions to offer protection in relation to its interests.	The Applicant and Navigator Terminals Ltd have agreed that the bespoke NZT DCO Protective Provisions for the benefit of Navigator Terminals are a suitable starting point for protective provisions negotiations, subject to making any necessary updates to reflect the specific nature and interactions of the proposed development. The Applicant has agreed to undertake an initial review of the NZT DCO Protective Provisions in this regard and will issue draft Protective Provisions to Navigator Terminals Ltd shortly.

3.9 RR-014 PD Teesport Ltd

3.9.1 PD Teesport Ltd's (PDT) RR and the Applicant's response are set out in Table 3.9 below.

Table 3.9: PD Teesport RR and Applicant's Response

PD TEESPORT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Riverside ro-ro and Northern Gateway Container Terminal (NGCT) 2.4 The order limits encompass the area occupied by the Riverside ro-ro berth, located on the eastern bank of the River Tees next to the Riverside Ro Ro Terminal (plots 11/102 to 11/110 and 11/115 to 11/120). 2.5 This facility was built in 1999/2000 to accommodate stern ramp roll on roll off (ro-ro ferries). The facility is a key component of the PDT Unitised business and will become increasingly important following a planned enhancement to the facility to enable it to handle 200m long car carriers to support the current buoyant African business in addition to the existing ferry business. The development of infrastructure to support these stern ramp vessels at a capital cost of circa £7-8m has received Board approval at the September 2021 Board meeting. 2.6 The Northern gateway is a fully consented (Teesport Harbour Revision Order 2008) deep sea terminal which will ultimately consist of over a kilometre of quay, channel deepening and associated landside infrastructure. The project also includes a new rail terminal which is to be constructed in the area between	The Applicant is proposing to build a new pipeline crossing of the River Tees including in plots 11/102 to 11/110 and 11/115 and 11/120. This would be either a Microtunnel or Horizontal Directional Drill under the riverbed so as to avoid interference with the surface infrastructure. The Applicant notes PDT's concerns and believes that these can be addressed via appropriate Protective Provisions. The Applicant and PDT have agreed that the NZT DCO Protective Provisions are a suitable starting point for negotiations on H2Teesside protective provisions, subject to any amendments required to reflect the specific nature and interactions of the proposed development. The Applicant has agreed to undertake an initial legal and technical review of the NZT DCO Protective Provisions in this regard and will issue draft Protective Provisions to PDT shortly for review.

PD TEESPORT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
the Asda and Tesco import centres and Dabholm gut (again shown on the drawing). This is a key project for PDT's growth plans with in excess of £5m invested to date in the development stages, including the current marine and landside site investigation works. The quay construction will require piles to be driven to significant depth which could impact on any pipeline infrastructure. 2.7 Consequently, the acquisition of rights in this area (and potential interference with existing rights) to enable construction of new pipe infrastructure is likely to be very disruptive and potentially significantly determinantal to the operation of the Port and its future expansion. This is not to mention the knock-on impacts that may be experienced by the surrounding occupiers and beneficiaries of this facility. 2.8 If the relevant land is not removed then PDT considers that material determinant may be caused to its undertaking, within the meaning set out in section 127 of the 2008 Act. Existing pipeline infrastructure 2.9 The area behind the Riverside ro-ro is already fairly congested with existing pipelines which pass under the River Tees to the South Bank. This includes pipelines belonging to, inter alia, Sembcorp, Breagh, Trafigura and BOC. There is little information available on the	

PD TEESPORT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Project proposals which allow PDT to assess the potential clashes.	
2.10 It would also be necessary to consider the nature of the pipeline and any associated Health and Safety Executive ("HSE") consultation distances which could impact on the activities of PDT and its tenants including Tesco and Asda.	The Applicant has performed an assessment of the hazards presented in 6.2.20 ES Vol 1 Chapter 20 Major Accidents and Disasters [APP-073] and has not identified any adverse effect. The Applicant will also be consulting with the HSE as part of the statutory processes.
2.11 South Gare Breakwater is an area of land located on the mouth of the River Tees which is owned and controlled by PDT. This breakwater effectively protects the river and land along the river edge from damage that would otherwise naturally occur from the North Sea. In addition to being important as a breakwater and for navigation purposes (requiring maintenance, often on an unplanned basis), access is also required for pilotage, a lighthouse and radar systems and a variety of private uses such as fishermen huts, sub aqua clubs, RNLI buildings etc. 2.12 Access to the South Gare Breakwater is taken, as of right, via the South Gare access road which runs along the edge of the former Site of Special Scientific Interest ("SSSI") before turning north to run along the peninsula. 2.13 Part of this access track is within the order limits, located to the north of the Steel Works. The extent and type of works to be undertaken in this	Section 6.0 of the Framework CTMP [APP-050] outlines a process for liaison between key stakeholders during the construction phase of the Proposed Development. This includes: • establishing a channel of communication between the EPC Contractor(s) and the regulating authorities; • making all parties aware of the results of monitoring of the Final CTMP(s); • providing a route by which any complaints can be communicated and dealt with; • providing a route through which transport related issues can be identified and dealt with; and • providing prior notice of significant events e.g. delivery of abnormal loads, in accordance with standard protocols. Crucially, paragraph 6.1.2 of the Framework CTMP [APP-050] states that it is proposed that a short-written report is prepared by the EPC Contractor(s) on a six-monthly basis and circulated to all key stakeholders. Any comments generated by the report will be circulated to all key stakeholders and a meeting may be held if required.

PD TEESPORT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
area is unclear but PDT must be permitted to retain access to South Gare Breakwater for operational port purposes (as well as for its tenants/licensees) at all times during the Applicant's works and on completion of the Project.	The Applicant notes PDT's concerns with regards to access and believes that these can be resolved through negotiation of bespoke Protective Provisions referred to in more detail above.
2.14 The land known as Redcar Bulk Terminal ("RBT") is included within the order limits. It is unclear whether this is simply an area through which pipelines may be located or whether other uses of the land are proposed. 2.15 PDT has rights of access along the accessway that leads to the RBT (Plots 13/1, 13/4, 13/5, 13/6, 13/7, 13/10 and 13/17) as well as holding the freehold title in RBT itself (Plots 13/1 and 13/4). Whilst the site is subject to a lease, PDT has retained the rights to use RBT where there is capacity. Temporary possession rights are being sought over the majority of plots PDT has an interest in, with the exception of Plot 13/17 over which the rights are being compulsorily acquired. 2.16 Access to RBT is required to be maintained at all times for the purposes of PDT exercising its rights to use the berth, for example being able to import construction materials, during and after the Applicant's proposed works.	Plots 13/1, 13/4, 13/5, 13/6, 13/7, 13/10, and 13/17 are proposed to be used for access and construction laydown area purposes only and no permanent infrastructure (e.g., pipeline) is proposed to be built on these plots. The Applicant notes PDT's concerns with regards to access and believes that these can be resolved through the negotiation of bespoke Protective Provisions referred to in more detail above.
2.17 There are a number of access roads included within the order limits, notably both public and private parts of Tees Dock road and a private road running from the Tees Dock roundabout to the BOC Middlesborough	Section 6.0 of the Framework CTMP [APP-050] outlines a process for liaison between key stakeholders during the construction phase of the Proposed Development. This includes:

PD TEESPORT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
site alongside the railway line. Tees Dock Road is very busy at peak periods and is critical for PDT's operations. Any use or works to this road will need to be carefully considered and any impacts on PDT's operations avoided/mitigated. Would like careful consideration of potential impacts to PDT due to works impacting Tees Dock Road and a private road running from the Tees Dock roundabout to the BOC Middlesborough site alongside the railway line.= As private roads, there are also potential cost implications associated with damage/wear and tear, which will need to be addressed by the applicant.	• establishing a channel of communication between the EPC Contractor(s) and the regulating authorities; • making all parties aware of the results of monitoring of the Final CTMP(s); • providing a route by which any complaints can be communicated and dealt with; • providing a route through which transport related issues can be identified and dealt with; and • providing prior notice of significant events e.g. delivery of abnormal loads, in accordance with standard protocols. Crucially, paragraph 6.1.2 of the Framework CTMP [APP-050] states that it is proposed that a short-written report is prepared by the EPC Contractor(s) on a six-monthly basis and circulated to all key stakeholders. Any comments generated by the report will be circulated to all key stakeholders and a meeting may be held if required. The Applicant acknowledges PD Teesports Ltd concerns regarding the Project's use, and the associated maintenance cost implications, of the private roads within the Order Limits. The Applicant is willing to discuss viable solutions to these concerns. The Applicant notes PDT's concerns with regards to access and believes that these can be resolved through the negotiation of bespoke Protective Provisions referred to in more detail above.
2.19 An emergency access road for the petrochemical industrial cluster at Seal Sands is located off the A178 Tees Road to the north of Greatham Creek. 2.20 PDT own the freehold over areas along the emergency	The Applicant is planning to use Plots 9/1, 10/17 and 10/29-33 for access only. The Applicant notes PDT's concerns with regards to access and believes that these can be resolved through the negotiation of bespoke Protective Provisions referred to in more detail above.

PD TEESPORT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
access road included in the order limits, including Plots 9/1, 10/17 and 10/29-33. 2.21 This emergency access (which forms part of the wider Seal Sands emergency plan) is required to remain unobstructed at all times. PDT requires further details of any proposed works or access proposals that may interfere with this access.	
3.3 PDT would encourage the Applicant to engage with it as early as possible in relation to any private treat acquisitions that it may decide to pursue. 3.4 PDT propose that the DCO include protective provisions to offer protection in relation to PDT's interests. Aside from PDT's interests, there must also be protection from the various businesses around the Port, who rely on the Port's uninterrupted operation. 3.5 PDT proposes to work with the Applicant to agree suitable protective provisions. 4. OBJECTION 4.1 For these reasons PDT must currently OBJECT to the DCO application. It is also of the view that the Applicant has not demonstrated that the proposed compulsory acquisition by the Applicant can be undertaken without serious detriment to PDTs undertaking (as required by section 127 of the 2008 Act) and should not therefore be approved by the Secretary of State in it current form.	The Applicant and PDT have agreed that the NZT DCO Protective Provisions are a suitable starting point subject to making any necessary updates to reflect the specific nature and interactions of the proposed development. The Applicant and PDT have agreed that the NZT DCO Protective Provisions are a suitable starting point for negotiations on H2Teesside protective provisions, subject to any amendments required to reflect the specific nature and interactions of the proposed development. The Applicant has agreed to undertake an initial legal and technical review of the NZT DCO Protective Provisions in this regard and will issue draft Protective Provisions to PDT shortly for review.

PD TEESPORT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
4.2 It is acknowledged that discussions with the Applicant to date are ongoing and that the concerns identified above should be capable of being addressed through protective provisions, amendment to the DCO including the removal of land plots and revised requirements. PDT will update the Examining Authority as soon as possible in this regard.	

3.10 RR-015 Sembcorp Utilities UK Limited

3.10.1 Sembcorp Utilities UK Limited's (Sembcorp) RR and the Applicant's response are set out in Table 3.10 below.

Table 3.10: Sembcorp RR and Applicant's Response

SEMBCORP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Sembcorp considers that the Applicant should seek to protect Sembcorp's assets, interests and the key role that it performs in managing critical infrastructure in the area. This is best achieved by private treaty negotiation rather than by compulsion. Notwithstanding this, and to the extent that compulsory acquisition is proposed, it is imperative that appropriate protective provisions are incorporated into any DCO proposed for the project; currently there appear to be none. Due to the similarities between the projects, the starting point for these provisions should be those agreed in relation to the Net Zero Teesside Order 2024. 4.3 Sembcorp would encourage the Applicant to engage with it as early as possible in relation to any private treaty acquisitions that it may decide to pursue. 4.4 Sembcorp proposes that the DCO include protective provisions in relation to Sembcorp's interests, which should be based on those agreed for the proposed Net Zero Teesside Order. Sembcorp proposes to work with the Applicant to agree suitable protective provisions.	The Applicant and Sembcorp Utilities UK Limited (Sembcorp) have agreed that the bespoke NZT DCO Protective Provisions are a suitable starting point for the negotiation of protective provisions on H2Teesside, subject to project-specific amendments to be agreed between the parties. The Applicant's legal and technical teams are undertaking a detailed review of the interactions on H2Teesside and a meeting is being arranged between the parties' legal and technical teams to discuss the interactions in further detail.
Sembcorp seeks to protect and maintain its pipeline corridor…the pipeline corridor is fundamental in serving an array of businesses and customers both on Teesside and nationally. Sembcorp is concerned that any acquisition rights (and potential interference with existing rights) over the	The Applicant notes Sembcorp's concerns and believes that these can be addressed adequately via the bespoke Protective Provisions referred to above.

SEMBCORP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Sembcorp Pipeline Corridor will cause significant disruption to the pipelines. In addition, such disruption may have significant health and safety implications since some facilities within the Wilton complex are on the register maintained by the Health and Safety Executive (HSE) under the COMAH Regulations	The Applicant is committed to adhering to safety standards and to working collaboratively with all relevant stakeholders to ensure that these safety concerns are adequately addressed, especially given the COMAH status.
If the Applicant seeks compulsory acquisition or extinguishment of rights within the operational area of the integrated Sembcorp Pipeline Corridor, the potential for the timing of acquisition and development and for the interference with access, operations and other upgrade proposals could be significantly detrimental to the continuing safe and economic operation of plant, both that of individual operators at Wilton and within the wider cluster served by the Corridor. Furthermore, the acquisition of new rights (and potential interference with existing rights) may be of significant detriment to the any future development proposals.	The Applicant notes Sembcorp's concerns and believes that these can be addressed adequately via the bespoke Protective Provisions referred to above.
Sembcorp is now in contact with several parties seeking to promote nationally significant infrastructure as well as important Tees Valley Developments on both sides of the Tees, most notably: 3.10.1 Net Zero Teesside – a collection of industrial, power and hydrogen businesses which aim to decarbonize their operations through the deployment of carbon capture utilization and storage (CCUS). DCO project currently granted. 3.10.2 Lighthouse Green Fuels – a project that will make sustainable aviation fuel (SAF) from non-recyclable waste and waste biomass at Alfanar's Billingham site, Stockton-on-Tees, UK. DCO project, at pre	The Applicant would like to note that it is the only low carbon hydrogen project currently selected by DESNZ as part of the Track 1 Cluster Sequencing process in Teesside. Furthermore, the Applicant would like to make clear that the relevant UK Government developed business model for low carbon hydrogen production plants restricts and in some instances prevents the ability to share infrastructure with other projects.

SEMBCORP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
application stage. 3.10.3 Wavecrest Energy LNG import facility – a project to construct a new LNG import facility. 3.10.4 H2NorthEast is a major project to build a 1GW CCUS-enabled low carbon hydrogen production facility next to the CATS terminal on Teesside. 3.10.5 Whitetail Clean Energy power station - a 350 MW power plant with CCS at Sembcorp's site. 3.10.6 Teesside Green Lithium - large-scale lithium refinery. 3.11 To varying degrees, these projects wish to utilise the Sembcorp pipeline corridor. Whilst Sembcorp seeks to work collaboratively with all developers, it is concerned that those promoting these projects should coordinate and collaborate with each other in relation to their infrastructure requirements. In particular, because of the complex and heavily developed areas through which the Sembcorp pipeline corridor navigates, it is constrained and has a finite capacity and, as currently designed, it is unlikely to accommodate all of the infrastructure required to enable the above mentioned projects. Sembcorp considers that all developers wishing to install new infrastructure in the pipeline corridor should; 3.12.1 explore the possibilities for sharing such infrastructure – for example hydrogen and gas pipelines; and 3.12.2 Consider design solutions which facilitate the most efficient use of space and maximise the current and provide for future capacity of the pipeline corridor. 3.13 If each developer operates in a silo then the ultimate capacity of the pipeline corridor may be unnecessarily constrained and other NSIP infrastructure obstructed. For example, the continued addition of pipelines to the corridor is likely to make it exceptionally difficult and uneconomic to add a pipe rack to the corridor, which could significantly increase its capacity, thereby unlocking other	

SEMBCORP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
projects and achieving greater public benefits. Design solutions which allow one NSIP project to proceed to the detriment of others must surely be avoided.	
In addition to the efficient and coordinated approach to the addition of new infrastructure in the pipeline corridor, Sembcorp also wishes to note that another significant constraint in the area is the ability for pipelines to cross the River Tees. Very little capacity remains within existing tunnels under the Tees and Sembcorp has worked with the Applicant to explore the opportunity to construct a new tunnel. In light of such concerns, Sembcorp met with the Applicant several times to discuss the viability of a third tunnel option although discussions halted before agreement was reached. Sembcorp had understood that the Applicant had sufficient information to progress the third tunnel option and is surprised to note that this appears not to have been taken forward in the DCO application and supporting Environmental Statement. In fact, Sembcorp has not been able to locate any consideration of this alternative in the application documents, despite this being a significantly better option for the broader Teesside industrial cluster. In the meetings with the Applicant, Sembcorp explained that additional HDD and microbore tunnels under the Tees would be likely to make it materially more complex to construct a new tunnel 3 under the Tees in the future. The crossing areas already contain a number of tunnels and pipelines, with each new one creating a further subterranean obstruction for any infrastructure that follows. It has reached the point whereby	The Applicant has explored and exhausted alternative options for the river crossing. The Applicant also notes that there are already seven existing crossings of the River Tees at this crossing location and the presence of these does not currently mean that the land is sterilised. This was explained by the Applicant at ISH1, a summary of why is provided in the Summary of Oral Submissions at ISH1.

SEMBCORP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
further microbore or HDD construction would make a third infrastructure tunnel potentially unviable. In this way, the Applicant's preferred solution may have the effect of constraining other national infrastructure projects which require infrastructure that crosses the river. A third tunnel option would not only serve the Applicant, but would enable other important projects to proceed and Sembcorp considers that this should be properly explored and taken forward by the Applicant. 4.2 Sembcorp would encourage the Applicant to re-consider the construction of a new tunnel crossing under the River Tees in order to avoid sterilising other important infrastructure projects in the Teesside cluster.	
Any proposed use or works to any access roads will need to be carefully considered and any impacts on Sembcorp's operations avoided/mitigated. Where any rights relate to private roads, there are also potential cost implications associated with damage/wear and tear, which will need to be addressed by the Applicant.	The Applicant is willing to discuss these cost implications and will discuss these as part of the Protective Provisions negotiations which have commenced. Please see more detail on protective provisions above.

3.11 RR-016 BOC Ltd

3.11.1 BOC Ltd's (BOC) RR and the Applicant's response are set out in Table 3.11 below.

Table 3.11 BOC RR and Applicant's Response

BOC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
While BOC do not currently object in principle to the proposed application by the Applicant for an Order Granting Development Consent for the H2 Teesside Hydrogen Project, this is on the basis that acceptable Protective Provisions will be agreed between BOC and the Applicant. In this respect, BOC object to the proposed acquisition of land and rights in their current form. The agreement of Protective Provisions is of critical importance to ensure that BOC retains all necessary protections and rights to enable it to repair maintain and operate its apparatus and pipeline network. BOC would therefore like to register as an Interested Party.	The Applicant commenced discussions with BOC in January 2024 in relation to the Proposed Development and subsequently in respect of Protective Provisions. The Applicant and BOC are currently engaged and seeking to progress negotiations relating to the protection of existing rights and assets, land and the wider supply of products from BOC further. The Applicant awaits further information in relation to BOC's assets within and in proximity to the order limits in order to effectively progress the proposed Protective Provisions with BOC.
BOC require access to the entirety of its pipeline infrastructure to comply with their statutory and regulatory obligation.	The Applicant is aware of BOC's regulatory and statutory requirements and is hoping to work with BOC to ensure that their existing obligations can be maintained.
If BOC's rights were to be extinguished and equivalent replacement rights not granted, BOC would be unable to carry out maintenance, monitoring and emergency works. This could ultimately mean its pipeline infrastructure could become hazardous thereby posing significant health and safety risks.	Discussions between the Applicant's and BOC's solicitors are ongoing, with a focus on appropriate Protective Provisions that will provide the appropriate safeguards for BOC's infrastructure, including access for maintenance, monitoring, and emergency works.
We are now in communication with Pinsent Masons LLP who act for the Applicant. It is hoped that acceptable protective provisions can be negotiated between the parties which, once agreed, should provide acceptable comfort to BOC. Appropriate Protective Provisions should also mitigate any health and safety concerns. The Examining Authority will be updated on the progress of any negotiations. In the absence of acceptable Protective Provisions, BPA will have to continue its objection to the granting of a Development Consent Order for the	The Applicant considers that suitable protection can be put in place for the benefit of BOC's infrastructure and operations. Based on the information that the Applicant has, it is the Applicant's understanding that the proposed development does not affect any of BOC's owned or leased land. BOC has indicated that it has apparatus within the

BOC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
proposals and reserves the rights to submit representation and evidence to support its requirement for appropriate protective provisions.	Sembcorp Pipeline Corridor. As far as the Applicant is aware, these interactions are in substance the same as for the NZT DCO and the Applicant's view is, therefore, that broadly equivalent Protective Provisions would be appropriate. The Applicant awaits further information in relation to BOC's assets within and in proximity to the order limits in order to effectively progress the proposed Protective Provisions with BOC.

3.12 RR-017 National Gas Transmission

3.12.1 National Gas Transmission's (NGT) RR and the Applicant's response are set out in Table 3.12 below.

Table 3.12 NGT RR and Applicant's Response

NGT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
NGT is also separately engaging with the Applicant to identify how the Project can integrate with Project Union. Project Union is an NGT-led project which aims to create a national hydrogen network which will contact hydrogen supply, demand and storage.	The Applicant is looking forward to working together with NGT on this matter.
NGT also has the following land interests within the proposed Order Limits: Land Registry Title Number: CE170117 – Leasehold Plot Numbers: 2/38 Extent, description and situation of land: Permanent acquisition of land rights Land Registry Title Number: CE185475 – Leasehold Plot Numbers: 4/10, 4/13, 4/16, 4/8 Extent, description and situation of land: Permanent acquisition of land rights Land Registry Title Number: CE134288 – Leasehold Plot Numbers: 9/10 Extent, description and situation of land: Permanent acquisition of land rights Having reviewed the Land Plans [APP-008] and Book of Reference (BoR) [APP-023] for the Project, it is apparent that there are several instances where NGT's interests in certain plots (in respect of apparatus) are not listed. A further detailed review of the Land Plans	The applicant acknowledges that there were instances where NGT's interests in certain plots, particularly concerning apparatus, were not accurately listed. We appreciate NGT's initiative in conducting a further detailed review of these documents and welcomed the opportunity to engage collaboratively to address these discrepancies. Following feedback from NGT and completing our own detailed review of the Book of Reference and Land Plans, we have now included NGT's interests '(in respect of apparatus)' on the relevant plots. Specifically, NGT has been added to the following plots: 2/32, 2/34, 2/35, 2/36, 4/94, and 4/95. We will continue to work with NGT to ensure that all interests are fully and accurately reflected in the project documentation.

NGT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
and Book of Reference is being undertaken on behalf of NGT, and it is NGT's intention to share the outputs of that review process with the Applicant. In the meantime, NGT would request that the Applicant undertakes its own review of the Book of Reference and provides further clarification at the earliest opportunity, Protection of NGT Assets As a responsible statutory undertaker, NGT's primary concern is to meet its statutory obligations and ensure that any development does not impact in any adverse way upon those statutory obligations. As such, NGT has a duty to protect its position in relation to infrastructure and land which is within or in close proximity to the draft Order Limits. As noted, NGT's rights to retain its apparatus in situ and rights of access to inspect, maintain, renew and repair such apparatus located within or in close proximity to the Order Limits should be maintained at all times and access to inspect and maintain such apparatus must not be restricted. NGT therefore requests that the Applicant continues to engage with it to provide explanation and reassurances as to how the Applicant's works pursuant to the Order (if made) will ensure protection for those NGT assets which will remain in situ, along with facilitating all future access and other rights as are necessary to allow NGT to properly discharge its statutory obligations. NGT will continue to liaise with the Applicant in this	

NGT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
regard with a view to concluding matters as soon as possible during the DCO Examination and will keep the Examining Authority updated in relation to these discussions.	
In addition to the above, NGT is aware that a form of protective provisions for the benefit of NGT has been included in Part 5 of Schedule 12 to the draft Development Consent Order (the "Order") for the Project. Aside from noting that those protective provisions incorrectly refer to 'National Grid Gas Plc' rather than 'National Gas Transmission Plc', NGT considers the protective provisions to be materially deficient. In particular, where the Applicant intends to acquire land or rights held by NGT compulsorily or to take temporary possession of the same, or otherwise to interfere with any of NGT's interests in land, any such acquisition, temporary possession or interference must be with the prior agreement and consent of NGT. A failure to secure such agreement risks compromising the safety and integrity of NGT's operational assets, in addition to inhibiting the proper discharge of NGT's statutory obligations and functions. No explanation has been provided by the Applicant as to the omission of the relevant elements of drafting from the protective provisions, noting the established line of precedent which supports the position adopted by NGT (and, indeed, other statutory undertakers) as to the need for	NGT's solicitors have issued draft Protective Provisions to the Applicant for review and the Applicant's technical and legal teams are undertaking a full review of these and will respond as soon as practicable. The incorrect reference to National Grid Gas Plc will be rectified in the next iteration of the dDCO, to be submitted at Deadline 2.

NGT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
a restriction on the actual exercise of powers of compulsory acquisition and/or temporary possession. NGT is therefore liaising with the Applicant with a view to securing the necessary amendments to the protective provisions, along with any supplementary agreements which may be required. NGT would be pleased to provide the Examining Authority with a further update in this respect. In the absence of an agreed form of protective provisions containing all necessary (and usual) safeguards, NGT must object to what would otherwise amount to an unfettered ability for the Applicant to exercise powers of compulsory acquisition and/or temporary possession in respect of NGT's assets, land or rights over its land.	

3.13 RR-018 Ms Shirley Peel

3.13.1 Ms Shirley Peel's RR and the Applicant's response are set out in Table 3.13 below.

Table 3.13 NGT RR and Applicant's Response

SHIRLEY PEEL RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
We consider the route should be reassessed and an alternative route north east of the A1185 and through Woodland Park should be considered. This would take the route away from our client's land.	The Applicant acknowledges that Ms Peel objects to the Proposed Development of a pipeline through her property and her preference that the pipeline be routed to the east of the A1185 and through the Cowpen Bewley Woodland Park. Following consultation, this alternative route was carefully considered and discounted due to several significant constraints which include, but are not limited to, the following: - Existing utilities and their protection zones. - The land to the northeast of the A1185 is partially a designated Special Protection Area (SPA) and partially historic landfill. Both designations would restrict construction in these areas, and require consideration of alternatives (such as the selected route). - The Applicant has an obligation under the National Policy Statement for Energy (including in particular the mitigation hierarchy) to minimise tree loss and destruction of habitat. - Pursuant to NPS policy and in light of the protections contained in section 131 and 132 of the Planning Act 2008, which would require further third party replacement land to be provided, the Applicant must seek to minimise interactions with Open Space land – the Cowpen Bewley Woodland Park falls into this category of land. -

SHIRLEY PEEL RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
	This has previously been communicated to Ms Peel via an email to her agent in April 2024.
Our client's land already contains infrastructure which could/may overlap with the proposed scheme.	The Applicant has undertaken utility searches and is aware of the existing public infrastructure throughout Ms Peel's property and the surrounding area; that public infrastructure has informed the routing proposed in the Application. If Ms Peel has knowledge of any private infrastructure the Applicant would welcome further information on this.
Our clients being intimately acquainted with their land and current drainage arrangements we require specific details in respect of the drainage schemes for their land in respect of this project. The land has experienced significant drainage problems due to present infrastructure.	The Applicant acknowledges the potential for project interaction with existing field drainage in Ms Peel's land. The Applicant notes that the mechanisms set out in section 4.2 of the Framework CEMP [APP-043] will be able to be applied to any interactions with that field drainage. These measures include engagement with affected parties such as Ms Peel - the Applicant will work collaboratively with Ms Peel and her representatives to ensure that any new drainage designs are sufficient to prevent any deterioration of drainage in Ms Peel's land. The Applicant will also include wording into its land agreement with Ms Peel to this effect. The Applicant will continue to negotiate terms with Ms Peel under which the parties may to a voluntary agreement to address her concerns.

3.14 RR-019 GTC Pipelines Ltd

3.14.1 GTC Pipelines (GTC) RR and the Applicant's response are set out in Table 3.14 below.

Table 3.14 GTC RR and Applicant's Response

GTC PIPELINES RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
I can confirm GTC has no assets present within the order limits shown on the plan attached to the website, and which was received via post. Therefore GTC has no objections to the project.	The Applicant notes GTC's comments that it has no assets present within the Order Limits and therefore no objection to the Proposed Development.

3.15 RR-022 Redcar Bulk Terminal Ltd

3.15.1 RBT's RR and the Applicant's response are set out in Table 3.15 below.

Table 3.15 RBT RR and Applicant's Response

RBT RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
In order for RBT to be in a position to withdraw its objection RBT requires: (a) satisfactory agreements with the Applicant that (i) regulate the manner in which rights over certain Plots are granted and the relevant works are carried out and (ii) confirm that compulsory acquisition powers will not be exercised in relation to such land; and (b) the removal from the Order of certain Plots; and (c) the inclusion of protective provisions in the DCO which safeguard the Terminal's continued operation.	a) and c) The Applicant has been in discussions with RBT on Protective Provisions since March 2024. The Applicant is looking forward to receiving comments on the proposed Protective Provisions provided to RBT for review and collaboratively progressing negotiations. b) In response to the Applicant's continued engagement with RBT, Plot 13/8 is proposed to be removed from the Order Limits as part of Change Notification (PDA-019) that is currently being consulted.

3.16 RR-023 Natara Global Ltd

3.16.1 Natara Global Ltd's RR and the Applicant's response are set out in Table 3.16 below.

Table 3.16 Natara Global Ltd's and Applicant's Response

NATARA GLOBAL RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Whilst we have no objection to the Project in principle and are supportive of the purpose of the Project, we have a strong objection to the impacts that the Project, as it stands, has on the Property and also the impacts that the Project works will have on our business. We have submitted representations to the Second Consultation, engaged with the Project team, including hosting a site visit for the Project Team on 13 March 2024, and have also written to the Project team following that visit. We do not believe that our concerns have been adequately considered and addressed by the Applicant, nor that alternative options to route/construct pipework have been adequately considered so as to avoid having an impact on the Property or our business. From our discussion with the Project team, we understand the Project's requirements for access to the Property to be a 4-week continuous construction phase to be commenced and completed sometime between 2026 and 2028. During this 4-week construction phase, the Project is seeking full use of, and access to, our only site entrance from Belasis Avenue onto the Property, along with access to and exclusive control of the yard	The Applicant acknowledges Natara Global's concerns on the potential impacts that the design and Order Limits might have on its business operations. The Applicant remains committed to engaging constructively with Natara Global to address these issues and minimise disruption to their property, particularly with a focus on enabling the continuous operation of the site. The Applicant recognises the importance of ensuring access to Natara Global's site during the construction phase. While temporary access to the main entrance from Belasis Avenue and certain yard areas is necessary, the Applicant is committed to working closely with Natara Global to mitigate any operational disruptions. Further discussions can explore adjustments to construction activities to ensure the continuous operation of Natara Global's business. Since mid-2023, the Applicant has sought to engage with Natara Global to refine technical and design assumptions, starting with site surveys and progressing to land agreements. The Applicant has also explored alternatives during the previous design phase, including a potential route over the eastern pipe bridge, which was deemed unfeasible due to capacity limitations. Given these constraints, the current route within the Order Limits remains the most viable option for the Project. Further to Natara Global's request for further engagement, the parties held a site meeting on 12th September 2024, to discuss the construction and operational phases in greater detail and explore potential modifications to the current design and construction schedule to accommodate Natara Global's needs. The Applicant and Natara Global have both confirmed

NATARA GLOBAL RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
areas between our site buildings situated on the Property and the rear yard beyond our buildings, at the eastern limits of our Property. After completion of the construction phase of the Project, on-going access would be required along the Property's southern boundary for the inspection and maintenance of the distribution pipeline on a 2 to 3 yearly basis. The Property is used as a chemical manufacturing facility engaged in the manufacture, storage and distribution of natural extracts and resins, blended oils and synthetic aroma chemicals. The Property is a key link within our international distribution network with products and intermediates being received and shipped to and from the Property in full container loads to and from our other facilities in China and the USA. The Property is now operating five days per week/24hrs a day and we may need to extend operations in the future with weekend shift working. We require the flexibility to do this to meet demand. Site activities at the Property include road deliveries of raw materials for production/finished goods for distribution, road movements of finished goods from the site on HGVs, as well as constant on-site movement between production areas and warehousing using heavy machinery that requires adequate space to manoeuver. In addition, some materials and production waste are stored in the yard area which need to be carefully managed.The Project's proposal to use the road	that this site meeting was helpful in further developing their understanding of the technical interfaces and finding ways of managing these interfaces. The Applicant and Natara Global have agreed to negotiate suitable Protective Provisions that will satisfy Natara Global's requirements. The Applicant's solicitors are in the process of preparing drat Protective Provisions in light of the additional information provided at the joint site meeting and expect to issue these to Natara Global shortly for their consideration.

NATARA GLOBAL RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
entrance and yard areas of the Property during a 4-week construction phase would completely stop our ability to use these areas for day-to-day production and distribution and would therefore stop our ability to continue production on-site, altogether. This would be a significant financial impact to our business, as indicated to the Project team. Alternative options for the Project to consider which we have raised in our previous discussions with the Project team, which would remove the need for access to, and use of, our Property, include using the existing pipe bridge to the east of the Property in the main corridor of the Project. There are also other alternatives using land within our business's ownership or adjacent land, which would be less disruptive to us and our business (as well as to other neighbouring land owners) compared to the current Project proposals.	

3.17 RR-024 National Grid Electricity Transmission Plc

3.17.1 National Grid Electricity Transmission Plc's (NGET) RR and the Applicant's response are set out in Table 3.17 below.

Table 3.17 GTC RR and Applicant's Response

NGET RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
NGET requests that the Applicant continues to engage with it to provide explanation and reassurances as to how the Applicant's works pursuant to the Order (if made) will ensure protection for those NGET assets which will remain in situ, along with facilitating all future access and other rights as are necessary to allow NGET to properly discharge its statutory obligations.	The Applicant commenced discussions with National Grid Electricity Transmission Plc (NGET) in August 2022 and have held several site and virtual meetings, with NGET and its representatives regarding the Proposed Development and its interaction with NGET's apparatus and proposed substation expansion.
NGET considers the current form of Protective Provisions to be materially deficient. In particular, where the Applicant intends to acquire land or rights held by NGET compulsorily, to take temporary possession of the same, or otherwise to interfere with any of NGET's interests in land, any powers authorising such acquisition, temporary possession or interference must only ever be exercised with the prior agreement and consent of NGET.A failure to secure such prior agreement risks compromising the safety and integrity of NGET's operational assets, in addition to inhibiting the proper discharge of NGET's statutory obligations and functions. This risk is particularly acute in the context of the Project, where it is understood that land and rights are intended to be compulsorily acquired and extinguished by the Applicant immediately to the west of NGET's existing Saltholme Substation for the purposes of Works Nos. 6A.1 and	The Applicant acknowledges National Grid Electricity Transmission Plc's (NGET) concerns regarding the Protective Provisions within the draft DCO. With regards to the land in the vicinity of the Saltholme Substation this matter had not been notified to the Applicant during the various consultations and was only shared with the Applicant in recent months. To date no plans have been shared with the Applicant to explain the extent of the expansion plans. The Applicant is in discussions with NGET to understand their proposals. The Applicant is aware of NGET's regulatory obligations and NGET's solicitors have issued draft Protective Provisions to the Applicant for review. The Applicant's technical and legal teams are undertaking a full review of these and will respond as soon as practicable.

NGET RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
6B.1 [APP-010] and [APP-016]. The land affected, which comprises Plots 3/17 to 3/23 and 3/24 to 3/26 (as shown on Sheet 3 of the Land Plans [APP 008]), is owned by NGET and also comprises a strategically important angle tower (Tower YYJ037) which forms part of the YYJ 400kV overhead line. It is essential that proposals do not prevent NGET from being able to maintain, repair, refurbish, replace or upgrading this tower in order to fulfil its statutory duties.	
As part of NGET's ongoing programme of works to reinforce the electricity transmission network in England and Wales, which is being undertaken in alignment with HM Government's British Energy Security Strategy (April 2022), NGET is in the early stages of assessing the impact of a number of connection applications at Saltholme Substation. This also includes connection applications to the Northern Power Grid (NPG) distribution network, whose 132kV Grid Supply Point is also located within the extent of the site. Owing to existing geographical constraints, it is anticipated that any extension, modification, or offline replacement of either NGETs or NPG's substation may need to be brought forward on undeveloped land owned by NGET. It is reasonably foreseeable that land to both the east and to the west of the existing Substations will be required in the future to accommodate such works. Any such extension, modification or offline replacement would also likely involve the relocation of Tower YYJ037 and the realignment of the relevant section of the YYJ 400kV overhead line. As currently drafted, the Protective Provisions permit the unfettered exercise by the Applicant of powers of compulsory acquisition and/or temporary possession. NGET considers that the Protective Provisions will, therefore, prevent the delivery of any future extension of Saltholme Substation and, in turn, hinder the	The Applicant has been informed of NGET's intention to consider the extension of Saltholme Substation as part of their ongoing network reinforcement programme. The Applicant has expressed a willingness to collaborate with NGET to ensure that interactions between the Proposed Development and NGET's expansion plans are mitigated. The Applicant is committed to ensuring that the Protective Provisions and a voluntary land agreement are appropriately structured to facilitate NGET's future use of the site, including any necessary extensions or modifications, while maintaining the feasibility of the Proposed Development. The Applicant looks forward to continuing to work collaboratively with NGET to resolve any outstanding concerns and to agree a version of the Protective Provisions that enables both the delivery of the Proposed Development and NGET's future expansion, as well as ensuring NGET's continuing compliance with their statutory obligations.

NGET RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
effective discharge by NGET of its statutory duties at a critical location in the electricity transmission network. The exercise of those powers in the manner contemplated by the Applicant is also likely to significantly impact on NGET's ability to undertake routine maintenance to the YYJ 400kV overhead line.	
No explanation has been provided by the Applicant as to the omission of the relevant elements of drafting from the Protective Provisions, noting the established line of precedent which supports the position adopted by NGET (and, indeed, other statutory undertakers) as to the need for a restriction on the actual exercise of powers of compulsory acquisition and/or temporary possession. So far as NGET is aware, the Applicant has also failed to explain why it is necessary for Works Nos. 6A.1 and 6B.1 to be sited on land owned by NGET and, indeed, to demonstrate the absence of suitable alternative locations for constructing the relevant aspects of the Project. It is therefore essential that the Protective Provisions contain the consent mechanism noted above and, in doing so, enable NGET to continue to deliver planned reinforcements to the electricity transmission network and to accommodate connection requests received from electricity generation customers. NGET is liaising with the Applicant in relation to the Protective Provisions, along with any supplementary agreements which may be required. Furthermore, the Applicant is seeking compulsory purchase powers over a number of plots which include NGET assets and/or interests. These plots include access rights across plots 3/24, 3/69 to 3/76 (Marsh Lane, Cowpen Bewley). Where the Applicant intends to acquire land or rights, or interfere	NGET's solicitors have issued draft Protective Provisions to the Applicant for review and the Applicant's technical and legal teams are undertaking a full review of these and will respond as soon as practicable. The Applicant is in discussions with NGET to explain the alternatives considered and why this is the only viable route.

NGET RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
with any of NGET's interests in land, NGET will require further discussion with the Applicant and NGET will require its standard Protective Provisions to be included within the Order.	

3.18 RR-027 Northern Powergrid (Northeast) Plc

3.18.1 Northern Powergrid (Northeast) Plc's RR and the Applicant's response are set out in Table 3.18 below.

Table 3.18 Northern Powergrid (Northeast) RR and Applicant's Response

NORTHERN POWERGRID (NORTHEAST) RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
There is a significant amount of Northern Powergrid infrastructure within the red line boundary area of the Order including a primary substation (the Tees Industrial primary substation) and thus the project has a direct impact on Northern Powergrid's existing critical national infrastructure which serves significant numbers of customers in the local and wider area.Northen Powergrid's rights for these assets are essential in maintaining an uninterrupted power supply to the customers they serve. As a statutory undertaker, Northern Powergrid has a statutory obligation to ensure the uninterrupted supply of electricity. The proposed development seeks to interfere with Northern Powergrid's existing apparatus; 2 x 132kV dual circuit tower lines pass through multiple sections of the Order Land and the Tees Industrial primary substation is also located within the Order Land. Northern Powergrid therefore reserves the right to review the position as the scheme progresses and protect its existing apparatus including with bespoke protective provisions in the Order to ensure that Northern Powergrid are sufficiently protected against the costs of any diversions or replacement apparatus required to facilitate the H2Teeside Project. The cost of replacement apparatus is potentially vast; approximately 90% of Northern Powergrid's affected EHV cables are oil filled cables and therefore each section of replacement cable would require 2 x oil circuit kits costing approximately £200,000. There are also pilot / fibre optics that will need to be diverted along with their associated feeder circuits in order to	The Applicant has met with Northern Powergrid (Northeast) Plc on a number of occasions to discuss the Proposed Development and continues to be engaged in discussions. The Applicant acknowledges Northern Powergrid (Northeast) Plc's concerns regarding the potential impact of the Proposed Development on its infrastructure, particularly the Tees Industrial primary substation and other assets within the Order Limits. The Applicant understands the importance of maintaining an uninterrupted power supply to Northern Powergrid's customers and is committed to working collaboratively to minimise any disruption. Northern Powergrid's solicitors have recently issued draft Protective Provisions and an Asset Protection Agreement to the Applicant for review and the Applicant's technical and legal teams are undertaking a full review of these and will respond as soon as practicable. The Applicant looks forward to continued discussions and is confident that an agreement can be reached to address Northern Powergrid's concerns and ensure that Northern Powergrid's critical infrastructure is protected in any interactions with the Proposed Development.

NORTHERN POWERGRID (NORTHEAST) RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
accommodate the H2Teeside Project. It is therefore vital that Northern Powergrid agrees bespoke protective provisions to protect its position and any potential costs of relocation. Northern Powergrid objects to the scheme unless it can reach agreement with H2Teeside Limited ('the Applicant') that its equipment can be sufficiently protected. The compulsory purchase powers incorporated into the DCO seeks to acquire land and interests which, if acquired, would adversely affect Northern Powergrid's ability to use, access, maintain and where necessary upgrade its equipment. It is not necessary to acquire these interests where an agreement between the parties would be more appropriate. In addition to the technical impacts of the proposed development, Northern Powergrid has concerns over the proposed protective provisions contained within the draft Order as they do not take into account site specific issues and do not accord with Northern Powergrid's standard protective provision requirements. The specific details of the DCO infrastructure including the depth, diameter and respective easement strips are at this stage unknown, thus Northern Powergrid reserves its position accordingly. Northern Powergrid opposes the H2Teeside Project and has discussed its concerns with the Applicant. The parties are however working closely to reduce the project's impacts on Northern Powergrid's apparatus and agree bespoke protective provisions within the draft Order. Northern Powergrid is keen to keep an open dialogue with the Applicant and to engage with the applicant's legal representative to agree appropriate amendments to the protective provisions.	

3.19 RR-028 Northern Gas Processing Ltd

3.19.1 Northern Gas Processing Ltd's RR and the Applicant's response are set out in Table 3.19 below.

Table 3.19 Northern Gas Processing Ltd RR and Applicant's Response

NORTHERN GAS PROCESSING LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
3.1 Based on the application information currently available, we understand that H2Teesside proposes to acquire existing and create new rights in land which is currently subject to the NSMP Entities' rights and interests necessary for operating the Gas Processing Plant. 3.2 H2Teesside's proposed acquisition appears to include rights across the sole access road to the Gas Processing Plant (the "Access Road") which connects the Gas Processing Plant to Seal Sands Road. 3.3 To operate the Gas Processing Plant, the NSMP Entities are reliant on crucial rights over the Access Road, and other areas which are identified in the application documentation. If the NSMP Entities' ability to exercise these rights becomes impaired by the Project, the safe operation of the Gas Processing Plant will be jeopardised and the NSMP Entities' ability to use and develop their land and operations will be undermined. 3.4 In particular, preservation of the NSMP Entities' use of the Access Road is fundamental: any disruption in smooth and unimpeded use of this road for even a short window would have severe and immediate consequences to the NSMP Entities' continued ability to safely operate the Gas Processing Plant and maintain a stable flow of gas into the national supply. As the Gas Processing Plant is classified as an Upper Tier COMAH site, any hindrance of access could have very serious adverse consequences.	Northern Gas Processing Ltd are one of the NSMP Entities so the response here refers to NSMP Entities. The Applicant has been engaging with the NSMP Entities to discuss and agree the interfaces between H2Teesside and the NSMP Entities. The Applicant has looked to minimise the land take in this part of the Order Limits by mirroring the made NZT Order Limits. The Applicant has had discussions with the NSMP Entities about appropriate Protective Provisions and the parties are committed to progressing these. The Applicant looks forward to continuing these productive discussions.
3.5 The NSMP Entities continue to analyse the plans for the Project in order to understand the impacts in the NSMP Entities' business. The NSMP	The Applicant and the NSMP Entities are engaging to address these concerns via appropriate Protective Provisions.

NORTHERN GAS PROCESSING LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Entities have requested further engagement with H2Teesside in order to understand these plans. 3.6 We understand that H2Teesside seeks to obtain these rights in order to carry out the following works for the Project: 3.6.1 Work No.2A – Natural Gas Connection - Underground High Pressure Gas Pipeline; 3.6.2 Work No.6A.1 – Hydrogen Distribution Network - Overground and Underground Pipelines; 3.6.3 Work No.6B.1 – Hydrogen Distribution Network - Above Ground Installations; 3.6.4 Work No.8 – Oxygen and Nitrogen Gas Connections; and 3.6.5 Work No.10A.1 – Access Highway Improvements and Use. 3.7 However, beyond a high-level description, it is not clear what activities these works packages comprise. In particular, it is not clear what activities will be undertaken at the relevant sites or their duration. As a result, the NSMP Entities are unable to assess precisely how its operations could be impacted by the Project. We are working with H2Teesside to obtain this information. 3.8 Additionally, at this stage no protective provisions in favour of the NSMP Entities have been proposed in the draft DCO. The NSMP Entities consider such provisions will be required to ensure it is able to continue to operate the Gas Processing Plant safely, and that their interests are protected.	Works Plans [APP-010] in conjunction with the draft Development Consent Order [APP-027] set out the nature of the works plans in different parts of the Order Limits.
3.9 While the NSMP Entities recognise the national importance of the Project and are supportive of it in principle, the NSMP Entities consider the	The Applicant welcomes the NSMP Entities' acknowledgement of the nationally important nature of H2Teesside.

NORTHERN GAS PROCESSING LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
following measures are required in order to ensure their interests are maintained: 3.9.1 The preservation of unimpeded access, maintenance and other existing rights, both in relation to the NSMP Entities' land and third party land and installations over which the NSMP Entities have rights, at all stages of the Project. This is particularly important in respect of the sole access road to the Gas Processing Plant which connects the Gas Processing Plant to Seal Sands Road. 3.9.2 The provision of adequate controls and procedures to ensure the continued safe operation of the Gas Processing Plant and associated assets. 3.9.3 The preservation of the NSMP Entities' ability to develop its business and operations in the future by making use of its existing assets and rights, including in relation to green transition initiatives and improvements and modifications to the Gas Processing Plant. 3.9.4 The development of protective provisions in favour of the NSMP Entities in the draft DCO, which provide for the above issues. 3.10 We note that NSMP Entities are working with H2Teesside to resolve the issues outlined above, and consider that this is achievable through the provision of appropriate protective provision in the DCO, along with a private agreement.	The Applicant also notes the NSMP Entities' concerns and is looking forward to continuing the meaningful discussions to address these via appropriate Protective Provisions. The Applicant presently envisages that Protective Provisions derived from those in the NZT DCO are likely to provide a suitable starting point subject to making any necessary updates to reflect the specific nature and interactions of the proposed development.

3.20 RR-029 North Sea Midstream Partners Ltd

3.20.1 North Sea Midstream Partners Ltd's (NSMP) RR and the Applicant's response are set out in Table 3.20 below.

Table 3.20 NSMP RR and Applicant's Response

NSMP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
3.1 Based on the application information currently available, we understand that H2Teesside proposes to acquire existing and create new rights in land which is currently subject to the NSMP Entities' rights and interests necessary for operating the Gas Processing Plant. 3.2 H2Teesside's proposed acquisition appears to include rights across the sole access road to the Gas Processing Plant (the "Access Road") which connects the Gas Processing Plant to Seal Sands Road. 3.3 To operate the Gas Processing Plant, the NSMP Entities are reliant on crucial rights over the Access Road, and other areas which are identified in the application documentation. If the NSMP Entities' ability to exercise these rights becomes impaired by the Project, the safe operation of the Gas Processing Plant will be jeopardised and the NSMP Entities' ability to use and develop their land and operations will be undermined. 3.4 In particular, preservation of the NSMP Entities' use of the Access Road is fundamental: any disruption in smooth and unimpeded use of this road for even a short window would have severe and immediate	The Applicant has been engaging with the NSMP Entities to discuss and agree the interfaces between H2Teesside and the NSMP Entities. The Applicant has looked to minimise the land take in this part of the Order Limits by mirroring the made NZT Order Limits. The Applicant has had discussions with the NSMP Entities about appropriate Protective Provisions and the parties are committed to progressing these. The Applicant looks forward to continuing these productive discussions.

NSMP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
consequences to the NSMP Entities' continued ability to safely operate the Gas Processing Plant and maintain a stable flow of gas into the national supply. As the Gas Processing Plant is classified as an Upper Tier COMAH site, any hindrance of access could have very serious adverse consequences.	
3.5 The NSMP Entities continue to analyse the plans for the Project in order to understand the impacts in the NSMP Entities' business. The NSMP Entities have requested further engagement with H2Teesside in order to understand these plans. 3.6 We understand that H2Teesside seeks to obtain these rights in order to carry out the following works for the Project: 3.6.1 Work No.2A – Natural Gas Connection - Underground High Pressure Gas Pipeline; 3.6.2 Work No.6A.1 – Hydrogen Distribution Network - Overground and Underground Pipelines; 3.6.3 Work No.6B.1 – Hydrogen Distribution Network - Above Ground Installations; 3.6.4 Work No.8 – Oxygen and Nitrogen Gas Connections; and 3.6.5 Work No.10A.1 – Access Highway Improvements and Use. 3.7 However, beyond a high-level description, it is not clear what activities these works packages comprise. In particular, it is not clear what activities will be	The Applicant and the NSMP Entities are engaging to address these concerns via appropriate Protective Provisions. The Works Plans [APP-010] in conjunction with the draft Development Consent Order [APP-027] set out the nature of the works in different parts of the Order Limits.

NSMP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
undertaken at the relevant sites or their duration. As a result, the NSMP Entities are unable to assess precisely how its operations could be impacted by the Project. We are working with H2Teesside to obtain this information. 3.8 Additionally, at this stage no protective provisions in favour of the NSMP Entities have been proposed in the draft DCO. The NSMP Entities consider such provisions will be required to ensure it is able to continue to operate the Gas Processing Plant safely, and that their interests are protected.	
3.9 While the NSMP Entities recognise the national importance of the Project and are supportive of it in principle, the NSMP Entities consider the following measures are required in order to ensure their interests are maintained: 3.9.1 The preservation of unimpeded access, maintenance and other existing rights, both in relation to the NSMP Entities' land and third party land and installations over which the NSMP Entities have rights, at all stages of the Project. This is particularly important in respect of the sole access road to the Gas Processing Plant which connects the Gas Processing Plant to Seal Sands Road. 3.9.2 The provision of adequate controls and procedures to ensure the continued safe operation of the Gas Processing Plant and associated assets.	The Applicant welcomes the NSMP Entities' acknowledgement of the nationally important nature of H2Teesside. The Applicant also notes the NSMP Entities' concerns and is looking forward to continuing the meaningful discussions to address these via appropriate Protective Provisions. The Applicant presently envisages that Protective Provisions derived from those in the NZT DCO are likely to provide a suitable starting point subject to making any necessary updates to reflect the specific nature and interactions of the proposed development.

NSMP RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
3.9.3 The preservation of the NSMP Entities' ability to develop its business and operations in the future by making use of its existing assets and rights, including in relation to green transition initiatives and improvements and modifications to the Gas Processing Plant. 3.9.4 The development of protective provisions in favour of the NSMP Entities in the draft DCO, which provide for the above issues. 3.10 We note that NSMP Entities are working with H2Teesside to resolve the issues outlined above, and consider that this is achievable through the provision of appropriate protective provision in the DCO, along with a private agreement.	

3.21 RR-030 Teesside Gas Processing Plant Ltd

3.21.1 Teesside Gas Processing Plant Ltd's RR and the Applicant's response are set out in Table 3.21 below.

Table 3.21 Teesside Gas Processing Plant Ltd RR and Applicant's Response

TEESSIDE GAS PROCESSING PLANT LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
3.1 Based on the application information currently available, we understand that H2Teesside proposes to acquire existing and create new rights in land which is currently subject to the NSMP Entities' rights and interests necessary for operating the Gas Processing Plant. 3.2 H2Teesside's proposed acquisition appears to include rights across the sole access road to the Gas Processing Plant (the "Access Road") which connects the Gas Processing Plant to Seal Sands Road. 3.3 To operate the Gas Processing Plant, the NSMP Entities are reliant on crucial rights over the Access Road, and other areas which are identified in the application documentation. If the NSMP Entities' ability to exercise these rights becomes impaired by the Project, the safe operation of the Gas Processing Plant will be jeopardised and the NSMP Entities' ability to use and develop their land and operations will be undermined. 3.4 In particular, preservation of the NSMP Entities' use of the Access Road is fundamental: any disruption in smooth and unimpeded use of this road for even a short window would have severe and immediate consequences to the NSMP Entities' continued ability to safely operate the Gas Processing Plant and maintain a stable flow of gas into the national supply. As the Gas Processing Plant is classified as an Upper Tier COMAH site, any hindrance of access could have very serious adverse consequences.	Teesside Gas Processing Plant Ltd is one of the NSMP Entities so the response here refers to NSMP Entities. The Applicant has been engaging with the NSMP Entities to discuss and agree the interfaces between H2Teesside and the NSMP Entities. The Applicant has looked to minimise the land take in this part of the Order Limits by mirroring the made NZT Order Limits. The Applicant has had discussions with the NSMP Entities about appropriate Protective Provisions and the parties are committed to progressing these. The Applicant looks forward to continuing these productive discussions.
3.5 The NSMP Entities continue to analyse the plans for the Project in order to understand the impacts in the NSMP Entities' business. The NSMP	The Applicant and the NSMP Entities are engaging to address these concerns via appropriate Protective Provisions.

TEESSIDE GAS PROCESSING PLANT LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Entities have requested further engagement with H2Teesside in order to understand these plans. 3.6 We understand that H2Teesside seeks to obtain these rights in order to carry out the following works for the Project: 3.6.1 Work No.2A – Natural Gas Connection - Underground High Pressure Gas Pipeline; 3.6.2 Work No.6A.1 – Hydrogen Distribution Network - Overground and Underground Pipelines; 3.6.3 Work No.6B.1 – Hydrogen Distribution Network - Above Ground Installations; 3.6.4 Work No.8 – Oxygen and Nitrogen Gas Connections; and 3.6.5 Work No.10A.1 – Access Highway Improvements and Use. 3.7 However, beyond a high-level description, it is not clear what activities these works packages comprise. In particular, it is not clear what activities will be undertaken at the relevant sites or their duration. As a result, the NSMP Entities are unable to assess precisely how its operations could be impacted by the Project. We are working with H2Teesside to obtain this information. 3.8 Additionally, at this stage no protective provisions in favour of the NSMP Entities have been proposed in the draft DCO. The NSMP Entities consider such provisions will be required to ensure it is able to continue to operate the Gas Processing Plant safely, and that their interests are protected.	The Works Plans [APP-010] in conjunction with the draft Development Consent Order [APP-027] set out the nature of the works in different parts of the Order Limits.
3.9 While the NSMP Entities recognise the national importance of the Project and are supportive of it in principle, the NSMP Entities consider the following measures are required in order to ensure their interests are maintained:	The Applicant welcomes the NSMP Entities' acknowledgement of the nationally important nature of H2Teesside.

TEESSIDE GAS PROCESSING PLANT LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
3.9.1 The preservation of unimpeded access, maintenance and other existing rights, both in relation to the NSMP Entities' land and third party land and installations over which the NSMP Entities have rights, at all stages of the Project. This is particularly important in respect of the sole access road to the Gas Processing Plant which connects the Gas Processing Plant to Seal Sands Road. 3.9.2 The provision of adequate controls and procedures to ensure the continued safe operation of the Gas Processing Plant and associated assets. 3.9.3 The preservation of the NSMP Entities' ability to develop its business and operations in the future by making use of its existing assets and rights, including in relation to green transition initiatives and improvements and modifications to the Gas Processing Plant. 3.9.4 The development of protective provisions in favour of the NSMP Entities in the draft DCO, which provide for the above issues. 3.10 We note that NSMP Entities are working with H2Teesside to resolve the issues outlined above, and consider that this is achievable through the provision of appropriate protective provision in the DCO, along with a private agreement.	The Applicant also notes the NSMP Entities' concerns and is looking forward to continuing the meaningful discussions to address these via appropriate Protective Provisions. The Applicant presently envisages that Protective Provisions derived from those in the NZT DCO are likely to provide a suitable starting point subject to making any necessary updates to reflect the specific nature and interactions of the proposed development.

3.22 RR-031 Teesside Gas & Liquids Processing

3.22.1 Teesside Gas & Liquids Processing's RR and the Applicant's response are set out in Table 3.22 below.

Table 3.22 Teesside Gas & Liquids Processing RR and Applicant's Response

TEESSIDE GAS & LIQUIDS PROCESSING RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
3.1 Based on the application information currently available, we understand that H2Teesside proposes to acquire existing and create new rights in land which is currently subject to the NSMP Entities' rights and interests necessary for operating the Gas Processing Plant. 3.2 H2Teesside's proposed acquisition appears to include rights across the sole access road to the Gas Processing Plant (the "Access Road") which connects the Gas Processing Plant to Seal Sands Road. 3.3 To operate the Gas Processing Plant, the NSMP Entities are reliant on crucial rights over the Access Road, and other areas which are identified in the application documentation. If the NSMP Entities' ability to exercise these rights becomes impaired by the Project, the safe operation of the Gas Processing Plant will be jeopardised and the NSMP Entities' ability to use and develop their land and operations will be undermined. 3.4 In particular, preservation of the NSMP Entities' use of the Access Road is fundamental: any disruption in smooth and unimpeded use of this road for even a short window would have severe and immediate consequences to the NSMP Entities' continued ability to safely operate the Gas Processing Plant and maintain a stable flow of gas into the national supply. As the Gas Processing Plant is classified as an Upper Tier COMAH site, any hindrance of access could have very serious adverse consequences.	Teesside Gas & Liquids Processing is one of the NSMP Entities so the response here refers to NSMP Entities. The Applicant has been engaging with the NSMP Entities to discuss and agree the interfaces between H2Teesside and the NSMP Entities. The Applicant has looked to minimise the land take in this part of the Order Limits by mirroring the made NZT Order Limits. The Applicant has had discussions with the NSMP Entities about appropriate Protective Provisions and the parties are committed to progressing these. The Applicant looks forward to continuing these productive discussions.
3.5 The NSMP Entities continue to analyse the plans for the Project in order to understand the impacts in the NSMP Entities' business. The NSMP	The Applicant and the NSMP Entities are engaging to address these concerns via appropriate Protective Provisions.

TEESSIDE GAS & LIQUIDS PROCESSING RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Entities have requested further engagement with H2Teesside in order to understand these plans. 3.6 We understand that H2Teesside seeks to obtain these rights in order to carry out the following works for the Project: 3.6.1 Work No.2A – Natural Gas Connection - Underground High Pressure Gas Pipeline; 3.6.2 Work No.6A.1 – Hydrogen Distribution Network - Overground and Underground Pipelines; 3.6.3 Work No.6B.1 – Hydrogen Distribution Network - Above Ground Installations; 3.6.4 Work No.8 – Oxygen and Nitrogen Gas Connections; and 3.6.5 Work No.10A.1 – Access Highway Improvements and Use. 3.7 However, beyond a high-level description, it is not clear what activities these works packages comprise. In particular, it is not clear what activities will be undertaken at the relevant sites or their duration. As a result, the NSMP Entities are unable to assess precisely how its operations could be impacted by the Project. We are working with H2Teesside to obtain this information. 3.8 Additionally, at this stage no protective provisions in favour of the NSMP Entities have been proposed in the draft DCO. The NSMP Entities consider such provisions will be required to ensure it is able to continue to operate the Gas Processing Plant safely, and that their interests are protected.	The Works Plans [APP-010] in conjunction with the draft Development Consent Order [APP-027] set out the nature of the works in different parts of the Order Limits.
3.9 While the NSMP Entities recognise the national importance of the Project and are supportive of it in principle, the NSMP Entities consider the following measures are required in order to ensure their interests are maintained:	The Applicant welcomes the NSMP Entities' acknowledgement of the nationally important nature of H2Teesside.

TEESSIDE GAS & LIQUIDS PROCESSING RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
3.9.1 The preservation of unimpeded access, maintenance and other existing rights, both in relation to the NSMP Entities' land and third party land and installations over which the NSMP Entities have rights, at all stages of the Project. This is particularly important in respect of the sole access road to the Gas Processing Plant which connects the Gas Processing Plant to Seal Sands Road. 3.9.2 The provision of adequate controls and procedures to ensure the continued safe operation of the Gas Processing Plant and associated assets. 3.9.3 The preservation of the NSMP Entities' ability to develop its business and operations in the future by making use of its existing assets and rights, including in relation to green transition initiatives and improvements and modifications to the Gas Processing Plant. 3.9.4 The development of protective provisions in favour of the NSMP Entities in the draft DCO, which provide for the above issues. 3.10 We note that NSMP Entities are working with H2Teesside to resolve the issues outlined above, and consider that this is achievable through the provision of appropriate protective provision in the DCO, along with a private agreement.	The Applicant also notes the NSMP Entities' concerns and is looking forward to continuing the meaningful discussions to address these via appropriate Protective Provisions. The Applicant presently envisages that Protective Provisions derived from those in the NZT DCO are likely to provide a suitable starting point subject to making any necessary updates to reflect the specific nature and interactions of the proposed development.

3.23 RR-034 Venator Materials UK Ltd

3.23.1 Venator Materials UK Ltd's (Venator) RR and the Applicant's response are set out in Table 3.23 below.

Table 3.23: Venator Materials UK Ltd RR and Applicant's Response

VENATOR RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
As part of its decarbonisation plans, Venator is intending fuel switch its combustion equipment from natural gas to low carbon hydrogen. This would have the potential, depending on both the availability of hydrogen and the amount of the equipment switched to dual-fuel operation, to reduce CO2 emissions by 90 kilotonnes per annum (ktpa). In this context, Venator strongly welcomes the development of the H2Teesside project ("the Project") in the Tees Valley Region. The Project would provide the low carbon hydrogen supply that Venator requires to implement its decarbonisation plans. Venator has been, and continues to be, in commercial discussions with the Applicant to enable the usage of the hydrogen produced by the Project at Venator Greatham Works and it therefore strongly supports the principle of the Project, and in particular, that the Project proposals include the necessary infrastructure and associated powers to distribute hydrogen to Venator Greatham Works.	The Applicant welcomes Venator Materials UK Limited's strong support for the Proposed Development and its acknowledgment of the importance of including the necessary infrastructure and powers to distribute hydrogen to Venator.
There are, however, certain land and operational issues arising from the Applicant's DCO application that must be resolved and there are ongoing discussions with the Applicant to resolve these issues.	The Applicant acknowledges the land and operational issues raised by Venator in relation to the DCO application and remains committed to resolving these matters through ongoing discussions. The Applicant proposes to negotiate and agree bespoke Protective Provisions for the benefit of Venator to address the concerns raised and has issued bespoke Protective Provisions to Venator recently for review.

VENATOR RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
There have been discussions to date and these discussions have been positive and Venator is hopeful that it will be possible to reach agreement with the Applicant for hydrogen supply on mutually acceptable terms.	The Applicant remains confident that through continued negotiations between the parties and any relevant technical contacts that suitable agreements can be reached.

3.24 RR-035 SABIC UK Petrochemicals Ltd

3.24.1 SABIC UK Petrochemicals Ltd's (Sabic) RR and the Applicant's response are set out in Table 3.24 below.

Table 3.24 Sabic RR and Applicant's Response

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
1. Wilton International a. The power to take temporary possession of the Wilton Site roads to the exclusion of SABIC, preventing access to its assets: both in terms of general access to its assets across the site and in particular along the northern access road to its ethylene cracker (Plot 20/6). b. The taking of temporary exclusive possession of Plots 19/10 and 19/13 and adjacent plots. This is in active use by SABIC and the Applicant does not appear to have looked at other sites as an alternative. c. The taking of temporary exclusive possession of Plot 20/13 and adjacent plots. This has underground storage cavities, above and below ground pipework. This is also the location where SABIC's (above-ground) system 32 goes underground and becomes the Trans-Pennine Ethylene Pipeline (TPEP) which is a major accident hazard pipeline.	1.a: Section 6.0 of the Framework CTMP [APP-050] outlines a process for liaison between key stakeholders during the construction phase of the Proposed Development. This includes: • establishing a channel of communication between the EPC Contractor(s) and the regulating authorities; • making all parties aware of the results of monitoring of the Final CTMP(s); • providing a route by which any complaints can be communicated and dealt with; • providing a route through which transport related issues can be identified and dealt with; and • providing prior notice of significant events e.g. delivery of abnormal loads, in accordance with standard protocols. Crucially, paragraph 6.1.2 of the Framework CTMP [APP-050] states that it is proposed that a short-written report is prepared by the EPC Contractor(s) on a six-monthly basis and circulated to all key stakeholders. Any comments generated by the report will be circulated to all key stakeholders and a meeting may be held if required. It goes onto confirm that parties such as Sabic may need to be consulted from time to time. Paragraph 6.1.3 confirms that where required (depending on the works and location) a copy of each detailed Final CTMP approved, along with information on working hours and proposals for traffic management or works on the highways network (including any road

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
d. The taking of temporary exclusive possession of and rights in Plot 20/10. This covers approximately half of SABIC's B7 tank area. This land is required by SABIC for and is integral to its operations.	closures, diversions or alternative access arrangements) that have potential to affect these parties, will be provided at least one month before the relevant works are anticipated to commence. Paragraph 6.1.4 goes onto state that given the other projects within the local area, the EPC Contractor(s) would liaise with other contractors in the local area to co-ordinate works, and associated construction traffic movements as far as practicable. It continues by stating that a working group could be set up as required, although at this time the exact make up and timing of any meetings is unknown and will need to be reviewed and agreed as part of the Final CTMP(s) being approved prior to work commencing on site. Part of this working group's remit could include agreeing a communications plan with neighbouring businesses where construction programmes (and therefore associated HGV movements) between the projects overlap. 1.b: The Applicant is looking to remove plot 19/13 as part of a planned Change Application as set out in the Change Notification (PDA-019) which is currently under consultation. The Application is in discussions with SABIC for a voluntary agreement for 19/10. 1.c: The Applicant notes SABIC's concerns. This plot is needed to enable the construction of the Hydrogen Distribution Network. The Applicant is looking to agree appropriate Protective Provisions with SABIC to address this concern. 1.d: The Applicant is looking to remove plot 20/10 as part of a planned Change Application as set out in the Change Notification (PDA-019) which is currently under consultation.
2. North Tees Site	2.a. Refer to response 1.a.

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
a. The Order would allow the Undertaker to take temporary possession of land all the way around the North Tees site, thereby preventing access. This includes Huntsman Way, the main site access.	2.b. The Applicant has reviewed SABIC's proposed Protective Provisions with its technical and legal teams and is currently preparing a detailed response which takes account of the latest Change Notification (PDA-019) in so far as relevant to the known SABIC interests.
b. The Order would allow the Undertaker to take possession of land which is required for integrity of the site's COMAH plan and to ensure that SABIC can fulfil its responsibilities to HM Treasury to ensure the safety of the goods held in the bonded warehouse which have not yet been subject to excise duties. This includes the main access into the site from Huntsman Way, and the perimeter of the site in a number of locations. The Applicant's Consultation Report states that "In relation to the COMAH-designated sites, the Applicants will comply with the required permitting processes and liaise with the SABIC team where works occur within their boundary." SABIC is not aware of any enforceable commitment within the draft Order to comply with SABIC's COMAH plan, and it is unclear how this issue is to be resolved.	The Applicant believes that this concern will be resolved via the agreement of appropriate Protective Provisions during the course of the examination. 2.c. The Applicant notes SABIC's concern. Plots 10/9 and 10/10 are required to enable the construction and operation for the proposed Above Ground Installation and Hydrogen Distribution Network. The Applicant is looking to agree appropriate Protective Provisions with SABIC to address this concern. 2.d. The Applicant notes SABIC's concern. Plots 10/14, 10/15, 10/16, and 10/10 are required to enable the construction and operation for the proposed Hydrogen Distribution Network. The Applicant is looking to agree appropriate Protective Provisions with SABIC to address this concern.

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
c. The compulsory acquisition of Plot 10/9 and the right to take temporary possession of the adjacent parts of Plot 10/10. Plot 10/10 contains SABIC's air compressors and water purification plant, and is essential for SABIC's operations: it must not be considered a normal access route or an equipment laydown area. d. The taking of temporary exclusive possession of and rights in Plots 10/14, 10/15 and 10/16 as well as the adjoining part of Plot 10/10. This area contains live SABIC equipment, as well as essential access to pipeline corridors and CF Fertilisers Ammonia Storage facility (via an access route which SABIC are responsible for).	
3. River Tees a. The taking of temporary exclusive possession of and rights in Tunnel No.2 under the River Tees; also the power to extinguish rights. b. The nature of the works to be carried out at the River (Work 6A.1) is unclear. The works description for this work in Schedule 1 provides for the hydrogen distribution pipeline to be over or under ground. The Consultation Report states that the crossing will either be with Micro-bored	3.a. The Applicant notes SABIC's concern and is is looking to agree appropriate Protective Provisions with SABIC to address this concern. 3.b. The Applicant is proposing a new crossing over the River Tees below the riverbed using Micro-bored Tunnel or Horizontal Directional Drilling (HDD) techniques.

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Tunnel or Horizontal Directional Drilling (HDD) techniques. It is unclear to SABIC how this commitment is secured in the draft Order.	
4. Link Line Corridors a. The taking of temporary exclusive possession of and rights in the Link Line Corridors and their access roads. Also the power to extinguish SABIC's rights. b. The Pipeline Statement (Document 5.5) sets out details of the design and location of the proposed hydrogen pipelines, including in relation to the use of Mirco-bored Tunnel or Horizontal Directional Drilling (HDD) techniques and whether sections will be above or below ground. It is unclear to SABIC how this commitment is secured in the draft Order.	4.a. The Applicant notes SABIC's concern and is is looking to agree appropriate Protective Provisions with SABIC to address this concern. 4.b. Where the Applicant is proposing additional new crossings these will use Micro-bored Tunnel or Horizontal Directional Drilling (HDD) techniques.
5. Brine Fields and Reservoirs a. These facilities are an integral part of SABIC's operations and require protection so that they can remain operational at all times. They include access roadways and pipe corridors which SABIC will require continuous access to at all times. b. Plot 5/97 is a laydown and construction area which is important to SABIC's operations on site.	5.a. Refer to 1.a. above about traffic management. 5.b. The Applicant is looking to remove plot 5/97 as part of a planned Change Application as set out in the Change Notification (PDA-019) which is currently under consultation.5.c. The Applicant is looking to remove plot 5/94 as part of a planned Change Application as set out in the Change Notification (PDA-019) which is currently under consultation.

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
c. SABIC was not aware that the Applicant would seek permanent acquisition of Plot 5/94 and will need to give this proposed acquisition further consideration. d. Plot 6.3 is very close to an existing borehole. SABIC needs to understand better the Applicant's plans in relation to this plot.	5.d. Plot 6/3 is planned to be used for Right of Way for construction of the buried pipeline. Above ground or buried assets, such as existing boreholes, will be picked up as part of the topographic survey and will be avoided where possible. If it is not possible to avoid the borehole then The Applicant will liaise with Sabic to determine a method of construction. The Applicant is looking to agree appropriate Protective Provisions with SABIC to address this concern.
6. The Wilton to Grangemouth Ethylene Pipeline (WGEP) a. SABIC was not aware of the proposed installation of above ground equipment in Plot 5/21 and will need to consider this issue further. b. Any excavations or heavy loads in the vicinity of the WGEP would be of concern to SABIC.	6.a. The Applicant proposes an Above Ground Installation at this location for the start of the segment heading north. The Applicant is looking forward to feedback from SABIC and agreeing appropriate Protective Provisions. 6.b. The Applicant notes SABIC's concern. Crossings of any existing assets will be considered, and, if traffic loads are deemed too high, then mitigations like slabs will be used to distribute the loads. The Applicant is looking to agree appropriate Protective Provisions with SABIC on this.
More generally, SABIC is concerned in relation to the proposed powers in the draft DCO, including: 1. Powers of compulsory acquisition and temporary possession in the draft DCO, including the powers to override SABIC's existing rights and create	The Applicant has reviewed SABIC's Protective Provisions with its technical and legal teams and is currently preparing a detailed response which takes account of the latest Change Notification (PDA-019) in so far as relevant to the known SABIC interests.

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
rights which are not compatible with its existing rights. The draft Order includes powers to exclude SABIC from some of its key facilities as well as to extinguish the rights on which its existing operations depend and prevent access along the access roads within Wilton International, the North Tees Site and in respect of the Link Line Corridors. It is unclear how the integrity of the North Tees site as a top tier COMAH site can be maintained.	The Applicant believes that this concern will be resolved via the inclusion of appropriate Protective Provisions and anticipates that the parties will be able to agree the same during the course of the examination.
Powers to prohibit passage over streets. It is unclear whether the Applicant intends these powers to apply in relation to access roads at Wilton International, the North Tees Site and in respect of the Link Line Corridors, or whether they are intended to be limited to streets outside these sites. SABIC would question whether traffic regulation provided for in Article 16(1) and shown on the Traffic Regulation Measures Plan should be shown outside the Order limits. SABIC also notes that the power to regulate traffic under Article 16(2) and is concerned that it does not include a geographical limit, is not subject to the consent of the traffic authority and is not subject to the usual duties under Section 122 of the Road Traffic Regulation Act 1984. SABIC is concerned about the maintenance of access to its operational sites.	The Applicant has noted SABIC's concerns about the maintenance of access to its operational sites and will continue to engage with SABIC to ensure that its concerns are addressed. The Applicant has reviewed SABIC's proposed Protective Provisions with its technical and legal teams and is currently preparing a detailed response which takes account of the Change Notification (PDA-019) in so far as relevant to the known SABIC interests. R

SABIC RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
The Applicant provided its Protective Provisions to the Applicant as part of the consultation process, and it is disappointing that they have not been included in the draft DCO. It is essential that SABIC's protective provisions are included in any made DCO.	The Applicant understands this statement to mean that SABIC has provided a draft of its proposed Protective Provisions to the Applicant. The Applicant has reviewed these with its technical and legal teams and is currently preparing a detailed response which takes account of the latest Change Notification (PDA-019) in so far as relevant to the known SABIC interests.

3.25 RR-036 H2North East Ltd

3.25.1 H2North East Ltd's RR and the Applicant's response are set out in Table 3.25 below.

Table 3.25 H2North East Ltd RR and Applicant's Response

H2NORTH EAST LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Excessive Land Requirements - The Land Plans [AS-003] submitted with the DCO application show significant areas of land within the site boundary identified by H2Teesside for the Hydrogen Pipeline Corridor that have also been identified by H2NorthEast for the development of its hydrogen production facility and associated primary utilities corridor (hydrogen distribution, CO2 export pipeline, HV power supply, raw water pipeline, waste water pipeline). Overall, the land identified by H2Teesside is considered to be in excess of that required for the proposed development and directly impacts land identified for use by H2NorthEast. As such, the DCO proposals in their current form have the potential to prejudice the deliverability of H2NorthEast.	The Applicant has looked to minimise land take across the entirety of the Order Limits by working with the Interested Parties and progressing its design and also taking into account any precedents available. In the absence of a planning application submitted by H2NorthEast, it's the Applicants understanding that the proposed H2NorthEast low carbon hydrogen production plant is to be located on the east of the CATS Terminal. H2Teesside Order Limits at this location are identical to that of the made NZT DCO as such the Applicant has used an established precedent in this area to minimise impact to any Interested Parties.
Construction schedule overlap - Environmental Statement Chapter 5 – Construction Programme and Management states that Phase 1 construction is expected to commence in Q3 of 2025 for a period of 32-36 months with completion in Q2 2028. Phase 2 is expected to commence Q2 2028 and complete by end 2030. These dates overlap with the current H2NorthEast construction schedule.H2NorthEast considers it likely, based upon the information provided, that H2Teesside	The Applicant is looking forward to the meeting organised between the H2Teesside and H2NorthEast project teams to discuss and agree the interfaces between the projects, including a cooperation agreement.

H2NORTH EAST LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
construction activities will significantly impede those of H2NorthEast without further detailed engagement and consultation. H2NE request that a cooperation agreement is put in place to establish a formal process to manage this interaction and avoid conflict between the respective projects, so far as possible.	

H2NORTH EAST LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
Insufficient design and programme detail – The additional design detail that is provided in the DCO application compared to that presented for the statutory consultation is welcomed. However, there remain areas of concern, particularly within the areas included in the Indicative Hydrogen Distribution Network Plan [AS-008]. H2NE is concerned about how simultaneous operations in certain areas would be managed in a safe manner. This includes: (i) River Tees crossing and adjacent land. There is potential for overlap with the H2NorthEast pipeline route and construction activities. (ii) Sembcorp linkline corridor adjacent to Salthholme 275kV GSP. There is potential for overlap with the H2NorthEast pipeline route and construction activities. (iii) Sembcorp linkline corridor adjacent to Dabholme Cut. There is potential for overlap with the H2NorthEast pipeline route and construction activities. (iv) Routing on Wilton international. There is potential for overlap with the H2NorthEast pipeline route and construction activities. River Tees Crossing – Environmental Statement Chapter 4 Proposed Development states that Trenchless crossings (either HDD / MBT) are proposed for all of the River Tees	It is the Applicant's understanding that H2NorthEast is yet to submit its planning application for its low carbon hydrogen production and distribution facility and associated pipeline distribution network. To enable meaningful discussions, the Applicant would expect and hope that H2NorthEast would share similar level of design and programme detail to that shared in the Applicant's DCO application to enable the interactions to be analysed and understood.

H2NORTH EAST LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
crossing options. H2NE seek additional clarity on how the crossing interacts/clashes with the proposed H2NorthEast pipeline route.	
Lack of engagement – In its response to the statutory consultation, H2NE requested that regular meetings between H2NE and H2Teesside be arranged to manage potential conflicts.	The Applicant has been engaging with the parent company of H2NorthEast (Kellas Midstream Limited). Upon being notified that H2NorthEast has a dedicated team, the Applicant has reached out to H2NorthEast and organised an interface meeting between the projects.

H2NORTH EAST LTD RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
To date, no meetings have been arranged or have been offered by the H2Teeside project team.	
H2NE recognises the importance of coming to a mutually agreeable solution with H2Teesside to ensure that both H2NorthEast and the Project can be brought forward. It is H2NE's opinion that it would be possible to address these concerns through the use of a cooperation agreement. H2NE would welcome engagement from H2Teesside on the possibility of progressing such an agreement.	The Applicant is looking forward to the meeting organised between the H2Teesside and H2NorthEast project teams to discuss and agree the interfaces between the projects, including a cooperation agreement.

3.26 RR-037 Kellas Midstream Limited and CATS North Sea Ltd

3.26.1 Kellas Midstream Limited and CATS North Sea Ltd's RR and the Applicant's response are set out in Table 3.26 below.

Table 3.26 Kellas Midstream Ltd and CATS North Sea Ltd RR and Applicant's Response

KELLAS AND CATS RELEVANT REPRESENTATION ISSUE	APPLICANT'S RESPONSES
The draft DCO does not include sufficient protection for CATS operational infrastructure given the works which will be required in close proximity. This could be addressed by the inclusion of CNSL's standard Protective Provisions.	The Applicant is engaged with Kellas Midstream on a number of matters including that of Protective Provisions where the Applicant's solicitors are in bilateral discussions with the solicitors for Kellas Midstream Limited and CATS North Sea Ltd. Kellas Midstream Limited and CATS North Sea Ltd provided a set of draft Protective Provisions as part of an earlier consultation response. These differ in certain respects from the equivalent Protective Provisions in the NZT DCO. The Applicant is reviewing whether there has been any material change in terms of the physical or technical interactions compared to the NZT DCO in order to establish whether the revised approach now proposed by Kellas is appropriate and justified. However, the Applicant is confident that suitable Protective Provisions will be capable of being agreed between the parties during the course of the examination.
There is currently insufficient communication in place between Kellas and H2Teesside in relation to the Project and its interaction with CATS operational infrastructure. Kellas would welcome further engagement by H2Teesside through the monthly meetings requested as part of its response to the second statutory consultation for the Project.	The Applicant welcomes a regular meeting with Kellas Midstream to discuss the interaction between projects and the voluntary agreements. Since the submission of this representation, the Applicant has arranged regular meetings with Kellas Midstream to continue the previous constructive discussions to date.

3.27 AS-023 Net Zero North Sea Storage Ltd

3.27.1 Net Zero North Sea Storage Ltd's (NZNSS) AS and the Applicant's response are set out in Table 3.27 below.

Table 3.27 NZNSS AS and Applicant's Response

NZNSS ADDITIONAL SUBMISSION ISSUE	APPLICANT'S RESPONSES
Certain land, programme and engineering interaction concerns which are under discussion for mutual resolution. Wish to reach agreement, if not require that appropriate protective provisions are included in H2T DCO.	The Applicant welcomes support for the project from NZNSS and remains confident that through continued negotiations between the parties and relevant technical and commercial contacts that suitable voluntary agreements can be reached.

3.28 AS-024 Net Zero Teesside Power Ltd

3.28.1 Net Zero Teesside Power Ltd's (NZT Power) AS and the Applicant's response are set out in Table 3.28 below.

Table 3.28 NZT Power AS and Applicant's Response

NZT POWER ADDITIONAL SUBMISSION ISSUE	APPLICANT'S RESPONSES
Certain land, programme and engineering interaction concerns which are under discussion for mutual resolution. Wish to reach agreement, if not require that appropriate protective provisions are included in H2T DCO.	The Applicant welcomes support for the project from NZT Power and remains confident that through continued negotiations between the parties and relevant technical and commercial contacts that suitable voluntary agreements can be reached.

APPENDIX 1 LOW CARBON HYDROGEN STANDARD V3, ANNEX D

Annex D: Fossil Gas Supply

Overview

D. 1. Fossil gas – as a feedstock or fuel – is a likely input to several Hydrogen Production Facilities. Any Hydrogen Production Facility using input fossil gas shall follow the requirements set out in this Annex, as relevant to the input fossil gas in question, in helping to determine the appropriate GHG Emission Intensity associated with the Input fossil gas for the Hydrogen Production Facility. Similarly, energy generation assets that consume fossil gas and supply energy to the Hydrogen Production Facility shall follow the requirements set out in this Annex.

Natural gas supply

D. 2. Natural gas supply configurations shall be assessed in accordance with the three configurations listed below. Hydrogen Production Facilities may source natural gas from any combination of these three natural gas supply configurations in a Reporting Unit.

- Natural gas sourced from the UK Gas Network (either Transmission or Distribution Network), and not linked to a specific source.
- Natural gas sourced from the UK Gas Network (either Transmission or Distribution Network) and linked to a specific source.
- Natural gas not sourced from the UK Gas Network.

Natural gas from the UK Gas Network not linked to a specific source

D. 3. Hydrogen Production Facilities receiving natural gas that has only transited via the UK gas Transmission Network (and not the UK gas Distribution Network) shall use the UK Gas Transmission Network value provided in Table 9 of the Data Annex to account for emissions associated with this natural gas supply. A contract with a licenced supplier for physical delivery of natural gas shall be evidenced, with invoices or statements to match the Facility's gas consumption meter data each month.

D. 4. Hydrogen Production Facilities receiving natural gas that has transited via the UK Gas Distribution Network shall use the UK Gas Distribution Network value provided in Table 9 of the Data Annex that is the most appropriate to the pressure at which the Facility withdraws gas from the Distribution Network. A contract with a licenced supplier for physical delivery of natural gas shall be evidenced, with invoices or statements to match the Facility's gas consumption meter data each month.

Natural gas from the UK Gas Network linked to a specific source

D. 5. Natural gas sourced from a specific gas field, where this gas has transited via the UK Gas Network, cannot currently be claimed at the delivered GHG Emission Intensity per Reporting Unit specific to this upstream source. This is due to a lack of an established GHG Emission Intensity accounting methodology and evidence framework within the fossil gas supply industry.

D. 6. DESNZ will investigate the potential for an evidence framework to allow linkage to specific gas sources in a future version of the Standard. This may include contractual evidence detailing the specific sources and the delivered GHG Emission Intensity.

Natural gas not from the UK Gas Network

D. 7. Where Hydrogen Production Facilities are receiving natural gas that has not transited via the UK Gas Network (for example through direct pipeline connection with a UK gas field, or direct use of imported liquified natural gas via ship), they may claim the delivered GHG Emission Intensity for the production and supply of natural gas from this specific source, if the following evidence is provided:

- A supply contract signed with the Hydrogen Production Facility ahead of the physical delivery of natural gas;
- Invoicing evidence to match the Facility's gas consumption meter data each month;
- The location of the natural gas production;
- The planned route and modes of delivery and storage between the point of natural gas production and the Hydrogen Production Facility;
- The Projected, Estimated or Measured Data specific to the supply chain, along with any Typical or Non Typical Data used.

D. 8. Hydrogen Production Facilities providing their own data shall account for all GHG emissions associated with natural gas exploration, drilling, extraction, flaring, venting, processing, compression, any liquefaction and regasification, and transport from the extraction point to the Hydrogen Production Facility. These emissions can be incurred anywhere globally and are not restricted to only the UK. This includes the use of electricity, heat/steam, fuels, chemicals, and other Input Materials to the natural gas supply chain, along with losses and fugitive CO_2, methane and other GHG emissions.

D. 9. Further details for undertaking the extraction and processing emission calculations can be found in Section 9 and Annex F of the Atmospheric Emissions Calculations

document[17].

D. 10. Where facilities within the supply chain produce multiple Products and/or Co-Products, for example, crude oil and natural gas, an LHV Energy Allocation Method (as described in Chapter 5, Paragraphs 5.12 – 5.19) shall be used to allocate GHG emissions between the Products and Co-Products.

Refinery Off-Gas supply

D. 11. Some Hydrogen Production Facilities may choose to use Refinery Off-Gases (ROG) as a fuel and/or feedstock (see Chapter 2 for a definition), or to generate Input energy. In UK refineries, ROG is typically combusted on-site to provide heat (and in some cases power) for the refinery. Globally, ROG is also commonly known as refinery fuel gas or refinery still gas.

D. 12. Any ROG sourced shall be supplied to the Hydrogen Production Facility by dedicated transport mode and shall not be mixed with fossil natural gas or other feedstocks during transport. A contract with a refinery for physical delivery of ROG shall be evidenced, with invoices or statements to match the Facility's ROG consumption meter data each month.

D. 13. Before the commencement of commercial operations, an upfront assessment of the material classification of ROG shall be carried out by DESNZ on a Facility-by-Facility basis, using current and historical evidence provided from the Hydrogen Production Facility and the refinery supplying the ROG. This will follow Paragraphs 5.10-5.11.

- If ROG is classified as a Residue following Paragraphs 5.10-5.11, the GHG emissions up to the point of collection of the ROG at the refinery shall be taken as zero. The ROG shall also be assigned Fossil Waste/Residue Counterfactual emissions from its replacement with an alternative source, as specified in the Data Annex Paragraphs DA.70 – DA.71.

- If ROG is classified as a Co-Product following Paragraphs 5.10-5.11, the System Boundary extends back to the production of crude oil as the original feedstock at the start of the supply chain. The LHV Energy Allocation Method given in Chapter 5 shall be used to partition the crude oil supply emissions and refinery processing emissions, by apportioning these GHG emissions between the ROG and other refinery Co-Products. The GHG Emission Intensity of the crude oil shall be either based on field-level data (which shall be evidenced by contracted supplies and supply chain calculations) or Table 3 of the Data Annex for the country of production. Where the refinery uses multiple crude oil inputs, a weighted average mix of these crude oils based on

[17] https://www.gov.uk/guidance/oil-and-gas-eems-database

their LHV energy content shall be used to calculate the overall Feedstock Supply emissions.

D. 14. In the case that Paragraph D.13 leads to classification of a ROG feedstock as a Residue, there are additional checks which shall be applied on an ongoing basis during operations, that ensure any Residue classification and any counterfactual remains appropriate for this ROG source. If Hydrogen Product can be evidenced as the counterfactual fuel used at the refinery and any checks required in Paragraph D.15 are met, this diverted Residue ROG may, as agreed with the Delivery Partner, disregard the Fossil Waste/Residue Counterfactual given in the Data Annex Paragraph DA.71.

D. 15. The Delivery Partner shall confirm how these ongoing checks shall be implemented and their frequency, including agreeing any relevant Facility or refinery thresholds, in addition to any material classification evidencing requirements from Paragraphs 5.10-5.11. These checks may require the Facility to provide metering data, composition data, diagrams, contracts, invoices or other evidence as to:

- Whether ROG production and/or consumption increases or stays unchanged as a result of hydrogen production.
- Whether the refinery continues to separate out valuable hydrocarbon products from the ROG streams (e.g. three-carbon chain molecules and above).
- Whether any fuels or other feedstocks are added to the ROG prior to hydrogen production.
- How much extra fuel use occurs at the refinery as a result of ROG being diverted for hydrogen production.
- How much Hydrogen Product displaces previous uses of the ROG within the refinery, or is otherwise sold externally.
- Any other use, quality or production requirements set by the Delivery Partner.

If agreed Facility or refinery thresholds are not met, the quantity of ROG which does not meet a threshold may be re-classified as a Co-Product of the refinery or may have a different Fossil Waste/Residue Counterfactual applied, as specified by the Delivery Partner.

D. 16. Regardless of whether ROG is classified as a Residue or Co-Product, the Hydrogen Production Facility shall account for any emissions arising from ROG clean-up/processing, compression, and transport to the Hydrogen Production Facility within Feedstock Supply.

Other fossil gas supply

D. 17. Hydrogen Production Facilities may choose to use other fossil gas feedstocks from other fossil fuel production processes. The same principles as for ROG will apply, with the material classification to be determined on a Facility-by-Facility basis by DESNZ. Any Waste/Residue classification shall result in the fossil material being assigned Fossil Waste/Residue Counterfactual emissions, or alternatively, a Co-Product classification which will require use of LHV Energy Allocation Method to partition the Upstream and Step emissions. A contract with a supplier for physical delivery of the gas shall be evidenced, with invoices or statements to match the Facility's gas consumption meter data each month.

APPENDIX 2: TECHNICAL NOTE IN RESPONSE TO NATURAL ENGLAND'S RELEVANT REPRESENTATION (NE26)

H2Teesside Project

Planning Inspectorate Reference: EN070009

Land within the boroughs of Redcar and Cleveland and Stockton-on-Tees, Teesside and within the borough of Hartlepool, County Durham

Appendix 2 Technical Note in response to Natural England's Relevant Representation NE26

Applicant: H2 Teesside Ltd

Date: September 2024

Rev: 0

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1.0 INTRODUCTION

1.1 Overview

1.1.1 A detailed response has been prepared to NE26 of Natural England's Relevant Representation. Please see the detailed response in Section 2 below. This document forms an appendix to the Applicant's Responses to Relevant Representations (Document Reference 8.4, this document).

1.1.2 For reference, NE26 of Natural England's Relevant Representation is presented in full, as follows:

"Report to inform HRA - Section 6.5.20

The report notes that Permanent Threshold Shifts (PTS) and Temporary Threshold Shifts (TTS) are 134 and 154 dB in air. NE confirms that TTS for seals is 134 dB and PTS is 154. Furthermore, NE advise that these are injury thresholds and that disturbance can occur at levels lower than these. Table 6-7At model locations 1 and 2 (south-east and south-west corners of seal sands intertidal area) SEL totals are expected to be 127 dB and 125 dB respectively. These levels are close to the TTS threshold. NE require the cumulative noise level from ambient noise plus main site construction and compound plus pipeline construction at model location 1. NE advise that even if the TTS threshold is not reached, there may still be a disturbance effect from the noise.

6.5.23 The document states that HDD works at Greatham Creek may affect seal movement NE advise that further mitigation is required to further reduce the disturbance effect and impacts on seal movements.

6.5.24 The document states that during the 10 weeks of HDD works at Greathem Creek, seals disturbed from Greatham Creek are expected to haul-out on Seal Sands. NE queries the justification for this on two counts:

- *Will there be enough space on Seal Sands – that area is used by other individuals?*
- *Will the seals from upstream of Greatham Creek be able to get to Seal Sands?*

NE is concerned that the noise from the HDD works will present a barrier to seals moving down the creek and out to sea and the Seal Sands haul-out.

The applicant needs to consider any barrier effect as that would seriously impact any individual that are "trapped" upstream of the HDD works.

NE advise that further mitigation is required to ensure there is no barrier effect from the noise of HDD at Greatham Creek.

6.5.27 The document recognises that disturbance may occur at Greatham Creek during the important moulting and breeding season.

6.5.28 The applicant has committed to using noise abatement barriers at Greatham Creek. NE welcome this commitment but require further confidence that these will be a suitable and sufficient mitigation.

NE advise that pre-construction monitoring is carried out to assess the behaviour of seals in the area under "normal" conditions. Further monitoring should be carried out during construction to assess the efficacy of mitigation measures. If behaviour indicating disturbance is noted, further mitigation must be put in place. This may include more effective sound barriers, further muffling of machinery. If monitoring shows that disturbance is not occurring, further mitigation is unlikely to be necessary."

2.0 THE APPLICANT'S DETAILED RESPONSE

2.1.1 Natural England have raised concerns regarding the potential for a barrier effect to seals moving between Greatham Creek and Seal Sands, due to noise produced by HDD 4 at the Venator Site. During the baseline monitoring for the Environmental Statement (ES), noise values were provided for location 1 and location 2, shown on Figure 1 below.

2.1.2 However, to further assess the effect of airborne noise, an additional noise modelling location has been added, which is positioned at the mouth of Greatham Creek channel, closer to the potential location of seals (Figure 1).

2.1.3 Through a review of the noise modelling conducted for the ES, it was determined that the airborne noise modelling 'location 2', as presented in Figure 14-7 in Chapter 14: Marine Ecology of the ES, and shown on Figure 1, was not the most appropriate location, compared to where the noise modelling had actually been conducted (based on the locations of the baseline noise surveys). The updated location 2, now referred to as Eb3, is presented in Figure 1, which shows a comparison between these two locations. Location 1 has remained in a similar position and is now referred to as Eb6 (Figure 1). Due to the changes in locations, there have been minor updates to the predicted sound levels used for the assessment of the proposed construction and operation activities and these have been reflected in our calculations.

2.1.4 Ambient noise levels are only available at the baseline noise monitoring locations, the closest to Greatham Creek being Eb3 and Eb6 (Figure 1). It is not possible to provide ambient noise levels across the whole area due to the complex noise environment, which would be impractical to model. Therefore, for the purpose of this assessment the ambient noise levels at the mouth of Greatham Creek have been assumed to be the same as Eb3. This is considered to be a robust, conservative approach given that this location is close to Seaton Carew Road crossing and other industry and so is anticipated to have a higher ambient noise level in practice.

2.1.5 The updated noise predictions based on the updated modelling locations are provided in Table 1.

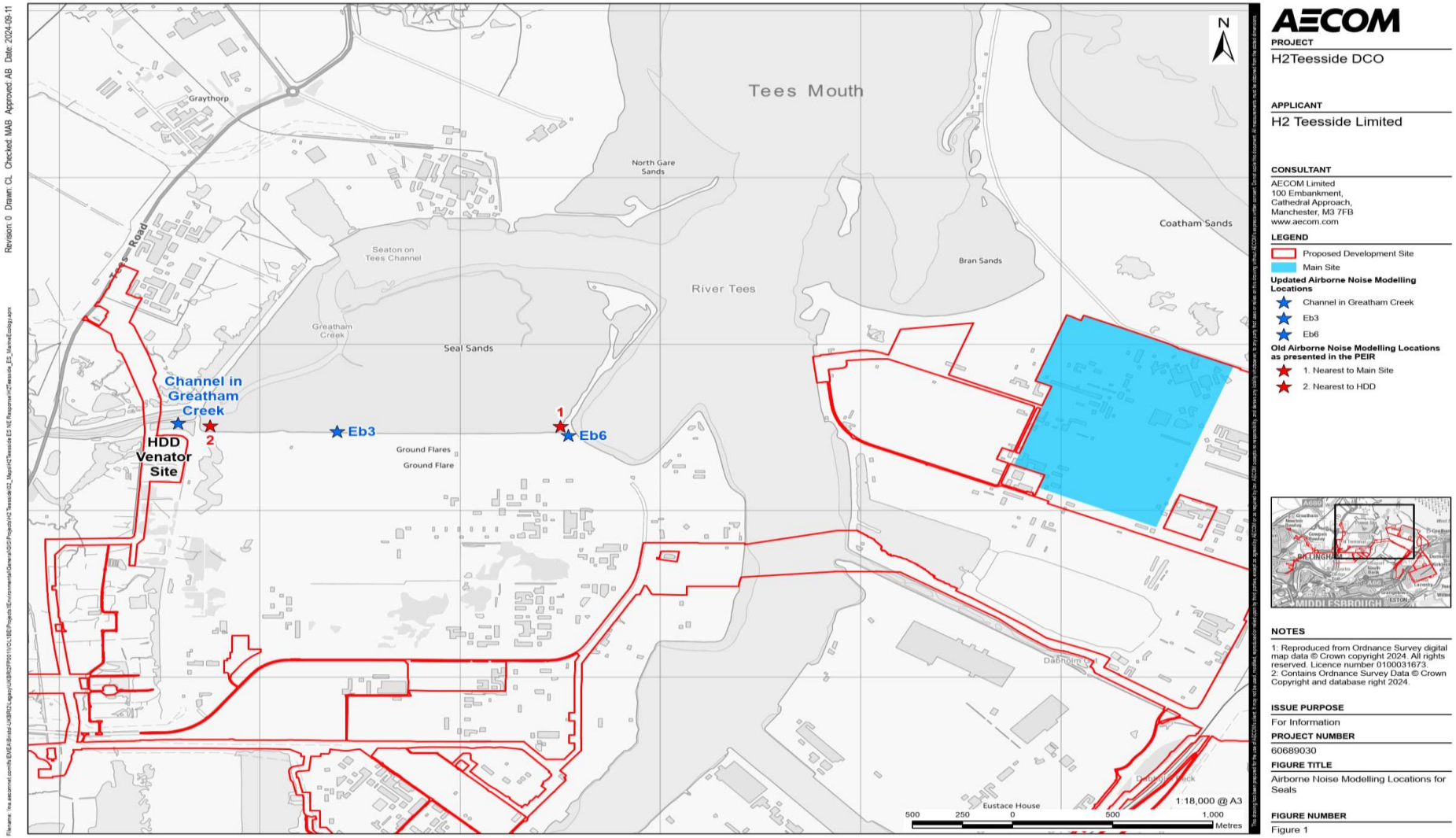

Figure 1: Updated airborne sound modelling locations

Table 1: Updated predictions of airborne sound levels (unweighted) associated with the main site and HDD site during construction

LOCATION	ACTIVITY	PREDICTED FREE-FIELD SOUND LEVEL L_{eq} (dB)	SOUND EXPOSURE LEVEL (SEL) FOR PROPOSED DEVELOPMENT ONLY (dB)	AMBIENT DAYTIME SOUND LEVEL L_{eq} (dB)	SOUND EXPOSURE LEVEL (SEL) DUE TO AMBIENT ONLY (dB)	SOUND EXPOSURE LEVEL (SEL) TOTAL (AMBIENT + PROPOSED DEVELOPMENT) (dB)
12 HOUR DAY						
Eb6 - Nearest to Main Site	Main Site Construction and Compounds	63	109	80	127	127
24 HOUR DAY						
Eb6 - Nearest to Main Site	Pipelines Construction	58	108	77	126	126
Eb3 - Nearest to HDD 4	Pipelines Construction	61	110	74	123	124
Greatham Creek - Nearest to HDD 4	Pipelines Construction	71	121	74	123	125

2.1.6 The activities assessed at location Eb6 do not produce noise levels that go above ambient and therefore there is not considered to be a risk to seal individuals close to Eb6, such as on Seals Sands (Table 1). At location Eb3 and 'Greatham Creek' modelling locations, the updated unweighted sound exposure levels (SEL) are only predicted to be 1 dB and 2 dB respectively above the existing ambient sound level of 123 dB. The revised sound levels at Eb3 and Greatham Creek due to corrections in the modelling are low and are not considered to represent a significant change from existing ambient sound levels. Therefore, noise generated by construction activities at HDD 4 (at the Venator site) is not considered to cause a barrier effect to seals moving between Greatham Creek and Seal Sands.

2.1.7 Based on the updated noise modelling, further comparison has been made to the injury thresholds for seals from Southall et al. (2019). NE have stated that the noise levels reported within the ES chapter are close to TTS. The TTS and PTS levels for seals are considered to be a weighted SEL of 134 and 154 decibels (dB) re (20 µPa) in air, respectively (Southall et al., 2019).

2.1.8 The unweighted ambient noise SELs recorded at Seal Sands were 127 dB at measurement location Eb6 (closest to the River Tees) and 123 dB at Eb3, which is closest to Greatham Creek and the HDD 4 activity at the Venator Site. The SEL values at Eb6 and Eb3 are 7 and 11 dB respectively below the TTS values, and more than 20 dB below the PTS values. On this basis, the predicted SELs are not considered close to the TTS and PTS values.

2.1.9 The threshold values provided by Southall et al. (2019) are based on a weighting specific to phocid seal groups. The assessment provided within the ES chapter is based on unweighted values. This approach is conservative as low frequency sound, which is outside of the phocid hearing frequency range is given greater weighting in the overall value (L_{eq} or SEL). Thus, the calculated distances to which threshold are met are over-estimates and therefore conservative.

2.1.10 In air, the estimated auditory bandwidth for pinnipeds is 75 Hz to 30 kHz (Southall et al., 2007). This is comparable to the auditory bandwidth for humans which is 20 Hz to 20 kHz. The weighting used by Southall et al. (2019) reflects the peak sensitivity of the receptor group, which occurs around 10 kHz. This differs slightly from the A-weighting typically used for human receptors, which reflect peak sensitivity around 1 to 4 kHz (i.e. seals are more sensitive to high frequency sound than humans). However, the sensitivity curves for humans and seals are similar enough that it is considered reasonable to assume that the predicted human A-weighted sound pressure level (L_{Aeq}) is equivalent (and a likely worst-case) to phocid-weighted sound pressure level, particularly because the upper frequency sound range seals can hear will not be a key component of construction noise. Construction activities are expected to be dominated by low- or mid-frequency sound (see Table 14-12 in Chapter 14: Marine Ecology).

2.1.11 On the basis of the above, the updated modelling calculations have been presented using A-weighting (Table 2), to allow a better comparison with the auditory injury thresholds provided by Southall et al. (2019).

2.1.12 The updated results in Table 2 show that the A-weighted SELs produced at all modelling locations (both due to main site construction and HDD), are above the existing ambient sound level. The highest exceedances of sound levels above ambient occur at Eb6 main site construction, and at the Greatham Creek location, which are predicted to result in SELs of 5 dB and 9 dB above the existing ambient sound levels respectively. However, all A-weighted values are still considerably lower than the TTS and PTS threshold levels for seals. At Greatham Creek, the A-weighted SEL values are 28 dB below the TTS threshold for seals.

Table 2: Updated predictions of airborne sound levels using a A-weighting

LOCATION	ACTIVITY	PREDICTED FREE-FIELD SOUND LEVEL L_{Aeq} (dB)	A-WEIGHTED SOUND EXPOSURE LEVEL FOR PROPOSED DEVELOPMENT ONLY (dB)	AMBIENT DAYTIME SOUND LEVEL L_{Aeq} (dB)	A-WEIGHTED SOUND EXPOSURE LEVEL DUE TO AMBIENT ONLY (dB)	A-WEIGHTED SOUND EXPOSURE LEVEL TOTAL (AMBIENT + PROPOSED DEVELOPMENT) (dB)
12 HOUR DAY						
Eb6 - Nearest to Main Site	Main Site Construction and Compounds	56	103	54	100	105
24 HOUR DAY						
Eb6 - Nearest to Main Site	Pipelines Construction	44	93	53	102	103
Eb3 - Nearest to HDD 4	Pipelines Construction	43	93	48	98	99
Greatham Creek - Nearest to HDD 4	Pipelines Construction	56	106	48	97	106

2.1.13 The results presented in the final column of Table 1 and Table 2 represent the cumulative effect from the ambient noise and the construction noise levels combined.

2.1.14 The ambient levels of noise at Seal Sands and the River Tees have been used as a baseline level of potential disturbance to seals, assuming that individuals at this location are habituated to the ambient noise levels. Based on the updated assessment provided above, the potential for an effect (i.e. injury) to seals located at Seal Sands or Greatham Creek is considered to be negligible.

2.1.15 However, to further prevent any effects from the 2 dB (unweighted) and the maximum 9 dB (A-weighted) cumulative increases in SEL above ambient at the mouth of Greatham Creek (as well as the increases above ambient at Eb3 and Eb6), noise abatement barriers (such as close-board acoustic fencing or other barriers) are proposed to be placed around the area of HDD 4 at the Venator Site to reduce the change in airborne sound above ambient (this is consistent with the mitigation proposed in Chapter 14: Marine Ecology [APP-067]).

2.1.16 As described in the Report to Inform Appropriate Assessment [APP-041], the placement of noise abatement barriers around the works is expected to reduce the noise levels produced by HDD by 10 dB if placed accurately and providing full coverage of the HDD plant. Where it is not possible to include complete screening the reduction in sound is considered to be around 5 dB. Thus, with accurate placement of abatement barriers (and therefore a 10 dB reduction), this would result in an unweighted SEL of 115 dB in the mouth of Greatham Creek, and A-weighted SELs of 96 dB, 89 dB and 93 dB at the noise modelling locations in the mouth of Greatham Creek, Eb3 and Eb6 respectively. There is therefore, predicted to be a considerable reduction in the noise level produced by the HDD, with noise levels to be reduced to ambient noise level.

2.1.17 Noise abatement barriers will also be present along the River Tees close to the Main Site works, further reducing overall noise propagation. The abatement barriers will be designed and constructed to meet the required standards and specifications, which are to be determined at a later stage in the design process, to ensure suitable noise reduction. In addition, the elements of HDD construction which dominate the noise emissions i.e. the mud pump, will be specifically targeted with individual barriers. Therefore, the A-weighted SEL of 105 dB produced by Main Site construction at Eb6 will also be reduced below ambient if barriers are placed correctly.

2.1.18 Surveys as part of the Proposed Development, have highlighted that there is also a natural mound present between the HDD 4 location (Venator Site) and Greatham Creek. This has not been accounted for within the noise modelling but is expected to form a natural barrier to the noise produced by the HDD and thus provide further reduction in sound dispersion, providing added protection.

2.1.19 Furthermore, as part of the mitigation proposed to prevent effects to ornithological features present in the Study Area, works will be restricted to only occur between September and November. This seasonal restriction is in place to avoid the most

sensitive periods for breeding and wintering birds but has the added benefit that it will also avoid the peak pupping and moulting season for seals of mid-June to end of August (INCA, 2023). It is acknowledged that although peak pupping and moulting occurs in June to August, on rare occasions some moulting can continue into early September (INCA, 2023). However, as the works will be producing sound levels below ambient (with the addition of the noise abatement barriers), the inclusion of a shoulder month around either side of the restricted periods is not considered necessary. HDD works are expected to run for a maximum of 10 weeks, which includes mobilisation and demobilisation. Therefore, the works in September which could overlap with the end of the moulting season are expected to largely consist of mobilisation rather than the HDD drilling itself, which is expected to commence in October.

2.1.20 Considering the very limited potential for disturbance to seals during the works, the noise from the pipeline construction is not considered to result in a barrier to seal movement between Greatham Creek and Seal Sands. Therefore, a pre-construction monitoring plan is not considered appropriate. The mitigation recommended is considered sufficient to reducing any noise produced during construction to below ambient (as per the updated noise modelling), even without considering the avoidance of the most sensitive period for seals at Seal Sands.

3.0 REFERENCES

- Industry Nature Conservation Association (INCA) (2023). Tees Seals Research Programme. Monitoring Report No. 33 (2023). 14 pp.
- Southall, B. L., Bowles, A. E., Ellison, W. T., Finneran, J. J., Gentry, R. J., Greene Jr, C. R., Kastak, D., Ketten, D.R., Miller, J.H., Nachtigall, P.E., Richardson, J.W., Thomas, J.A, and Tyack P.L. (2007). Marine mammal noise exposure criteria: initial scientific recommendations. Aquatic Mammals. 33. 411 – 522.
- Southall, B.L., Finneran, J.J., Reichmuth, C., Nachtigall, P.E., Ketten, D.R., Bowles, A.E., Ellison, W.T., Nowacek D.P. and Tyack, P.L. (2019). Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. Aquatic Mammals. 45(2), 125 – 232.