

Viking CCS Pipeline

9.45 Applicants Comments on the Submissions made at Deadline 3

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Applicant: Chrysaor Production (U.K.) Limited,
a Harbour Energy Company
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1 Introduction

1.1 Purpose of this Document

- 1.1.1 This document has been prepared for the Viking CCS Pipeline (the 'Proposed Development') on behalf of Chrysaor Production (UK) Limited ('the Applicant'), in relation to an application ('the Application') for a Development Consent Order (DCO) that has been submitted under Section 37 of the Planning Act 2008 (PA 2008) to the Secretary of State (SoS) for Energy Security and Net Zero.
- 1.1.2 This document provides the Applicant's responses to additional submissions from Interested Parties that were made at Deadline 2.

1.2 The DCO Proposed Development

- 1.2.1 The Proposed Development comprises a new onshore pipeline which will transport CO₂ from the Immingham industrial area to the Theddlethorpe area on the Lincolnshire coast, supporting industrial and energy decarbonisation, and contributing to the UK target of Net-Zero by 2050. The details of the Proposed Development can be found within the submitted DCO documentation. In addition to the pipeline, the Proposed Development includes a number of above ground infrastructure, including the Immingham Facility, Theddlethorpe Facility and three Block Valve Stations.
- 1.2.2 A full, detailed description of the Proposed Development is outlined in Environmental Statement (ES) Volume II Chapter 3: Description of the Proposed Development **[APP-045]**.

2 The Applicant's comments on Additional Submissions made at Deadline 3

This section provides the Applicant's comments on additional submissions from Interested Parties made at Deadline 3. Those matters marked as 'accepted' or 'noted' in the document have not been covered in the table.

Table 2-1: East Lindsey District Council – Comments on Deadline 2 submissions [REP3-034]

Ref	Topic	Interested Party's Comment	Applicant's Response (June 2024)
2.1.1	Water Environment	<p>Matter raised in Written Representation: Flood Warning and Evacuation Plans - details on what this would entail, including time to onset and depth of flooding related to evacuation.</p> <p>Applicant's response to Deadline 2 submission: As noted in the FRA [APP-101], a FWEP will be produced following completion of the FEED Stage and will include all relevant information regarding mitigation, site operation, evacuation and safe refuge.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): Accepted that there is a commitment to the production of a FWEP during both construction and operation. This is secured in the draft CEMP for the construction phase. It is not clear how the production of a FWEP is secured within the DCO for the operational phase but appears to be included in the commitments in the CEMP. Please provide further clarification on this point.</p>	<p>Measure Op05 in the Operational Phase Mitigation document [REP2-014] requires a Flood Warning and Evacuation Plan to be provided by the Applicant for the operational phase of the Proposed Development.</p> <p>Requirement 15 of the draft DCO (Revision F) (document reference 2.1) secures the Operational Phase Mitigation, requiring this to be submitted to the planning authority no later than three months prior to the planned completion of commissioning of the authorised development.</p>
2.1.2	Water Environment	<p>Matter raised in Written Representation: The FRA assesses the impact of flooding during the construction and operational phases of the development. However, there is no discussion on the decommissioning phase and reinstatement of land / drainage following completion of the project to ensure there is no long-term impact on flood risk.</p> <p>Applicant's response to Deadline 2 submission: For the decommissioning stage the pipeline will be left in-situ along its entire length, therefore the impacts associated with the decommissioning phase are related to the removal of above-ground facilities. The scale and nature of activities undertaken during decommissioning would be similar to, and significantly lesser, than those previously undertaken for construction. A Decommissioning Environmental Management Plan (DEMP) will be produced prior to the decommissioning phase and will include mitigation for flood risk.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): Clarification noted - However, there is no inclusion of the Applicant's clarification related to decommissioning in the FRA. It would have been advisable to include this explanation / reference in the FRA to confirm there will be no long-term impact.</p> <p>Separately it is noted that commitment F5, G2 and G11 in the CEMP all refer to existing land drainage and its reinstatement following construction. However, there is no cross reference to this mitigation, set out within the CEMP, in the FRA related to the impact of the construction of the pipeline on existing land drainage. The mitigation measures in Section 6.3 of the FRA (which include a reference to Section 5.5) appear to focus on the risk to the pipeline itself not potential off-site impacts. It would have been advisable to include cross reference to the above commitments / mitigation measures</p>	<p>The comments received back from RHDHV are noted and Appendix 11-5 Flood Risk Assessment – Revision B [EN070008/APP/6.4.11.5] has been updated accordingly and submitted at Deadline 4.</p> <p>Section 5 has been updated in relation to decommissioning to confirm there will be no long term impacts on flood risk.</p> <p>Section 6.1 now includes cross references to commitments F5, G2 and G11 for mitigation, as set out within Appendix 3-1: Draft Construction Environmental Management Plan (CEMP) Revision D [EN070008/APP/6.4.3.1], in relation to the impact of the pipeline on existing land drainage, flood risk or drainage either during construction or longer term.</p> <p>Section 6.5 has also been added with regards to flood risk and the decommissioning stage and the applicant response to Deadline 2 submission has been added in the FRA conclusion.</p> <p>This updated version of the FRA has been submitted to the ExA at Deadline 4.</p>

Ref	Topic	Interested Party's Comment	Applicant's Response (June 2024)
		<p>within the FRA to demonstrate no off-site flood risk or drainage impact either during construction or longer-term.</p>	
2.1.3	Noise and Vibration	<p>Matter raised in Written Representation: Inadequate justification of construction noise assessment criteria, disregarding low baseline sound levels in rural areas.</p> <p>Applicant's response to Deadline 2 submission: BS 5228-1 provides examples of how construction noise could be assessed. One of these examples is the ABC method, which has been used as a basis for defining the Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL) for temporary construction noise effects. The LOAEL and SOAEL for construction noise have been tested at DCO examination and accepted as appropriate in other consented major DCO schemes such as High Speed 2, A14 Cambridge to Huntingdon, Thames Tideway, Luton Airport, Gatwick Airport and Manston Airport. As such, the construction noise criteria used are considered suitable for the Proposed Development.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): It should be noted that the majority of the quoted projects submitted their DCO applications prior to the publication of the DMRB LA111 Noise and Vibration (2020), which identifies lower (more onerous) values for the LOAEL and SOAEL than used in the ES. The ABC method states that "A potential significant effect is indicated if the LAeq, T noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level ". The DMRB interprets this to mean that a construction noise equal to threshold value is the SOAEL, this is a robust expert interpretation which supersedes the interpretation made by the applicant. The applicant should justify why they have disregarded the DMRB's interpretation and how the ABC method could be interpreted to mean that effects are only significant if construction noise levels are 10 dB higher than the threshold value (the criteria applied in the ES). This is particularly important for the rural receptors represented by NM10, where measured daytime baseline noise levels are 25 dB below the threshold value and, whilst this is only temporary, such a large noise level change could significantly change the character of the area.</p> <p>The Overarching National Policy Statement for energy (EN-1) requires that the assessment includes "a prediction of how the noise environment will change with the proposed development... in the shorter term, such as during the construction period " and an assessment of the effect of the predicted changes. The construction noise assessment criteria in the DMRB uses the ambient sound level as the LOAEL, thereby ensuring that the potential change in noise level during the short term is considered when assessing the effect. The ES does not predict or assess the change from the baseline noise environment due to the proposed development construction and is therefore considered potentially non-compliant with the NPS.</p>	<p>The approach was detailed in the Preliminary Environmental Information Report that was submitted for Statutory Consultation. No comments were received regarding this method, as detailed in Table 13-5 of Chapter 13 of the ES [APP-055].</p> <p>DMRB LA111 is not directly applicable to the Proposed Development as it relates to the design, assessment and operation of motorway and all-purpose trunk roads in the United Kingdom. BS 5228-1 does not provide an explicit method for assessing construction noise effects. DMRB LA111 is one form of guidance interpreting BS 5228-1, but is not the only guidance that does so. The construction noise assessment methodology applied in the Environmental Statement follows guidance from the Association of Noise Consultant's (ANC) Construction Noise Guide 2021. The Applicant considers the ANC guidance to be more appropriate to the Proposed Development than the DMRB guidance. In the absence of any specific requirements in the East Lindsey Local Plan, the construction noise LOAEL and SOAEL identified in the ANC guide were adopted. This approach represents industry accepted good practice for assessing construction noise.</p> <p>It is not the case that the majority of projects mentioned by the Applicant were submitted before 2020, with the most recent being the Luton Airport (2023) and the Gatwick Airport (2023) DCOs. Noise is a key topic for these projects and the assessments have been subject to intense scrutiny during the examination process, with no doubts raised over the suitability of the methodology and guidance used.</p> <p>Chapter 13 of the ES [APP-055] clearly shows how the acoustic environment would change as a result of construction activities. The measured ambient noise level at each receptor is identified in the construction noise assessment and provision of the level of noise from construction activities in terms of effect. The assessment considers the effect of construction noise, which constitutes an assessment of the effect of the predicted change in the noise environment. The approach followed is fully compliant with the NPS and is considered appropriate for the Proposed Development ensuring a robust assessment was undertaken.</p> <p>A meeting was held with East Lindsey DC and their noise consultant on 11th July 2024 to discuss how the differences could be suitably resolved. It was agreed that the project definition of LOAEL and SOAEL were acceptable for activities that lasted for no longer than a month. The Applicant has agreed to provide additional information by Deadline 4 on the duration of noisy activities as evidence that the definition of LOAEL and SOAEL are appropriate. East Lindsey DC and their noise consultant have agreed this approach. This is included within the document EN070008/EXAM/9.51 submitted to the ExA at Deadline 4.</p>
2.1.4	Noise and Vibration	<p>Matter raised in Written Representation: Construction noise assessment criteria require clarification</p>	<p>Construction noise criteria are addressed in the response to 2.1.3.</p>

Ref	Topic	Interested Party's Comment	Applicant's Response (June 2024)
		<p>Applicant's response to Deadline 2 submission: The construction noise assessment accounts for temporary noise effects and applies appropriate criteria that have been tested and accepted at DCO examinations for numerous high-profile nationally significant infrastructure projects</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): See comments above. It is not the case that the construction noise assessment criteria have been tested through the examination process for each of the projects the applicant refers to, purely because the DCO application was granted. The level of testing applied to the assessment of an issue depends on the extent to which concerns are raised during the examination process. All DCO applications for highways schemes submitted since the publication of the DMRB in 2020 have used the more onerous construction noise assessment criteria in the DMRB. Other (i.e. non-highways) nationally significant infrastructure projects which used the threshold level as the onset of potentially significant effects (as per the 2020 DMRB) include: H2 Teesside, Cory Decarbonisation Project, Byers Gill Solar, Rampion 2 and Bramford to Twinstead (all submitted in 2024).</p>	
2.1.5	Noise and Vibration	<p>Matter raised in Written Representation: In determining whether construction noise effects are potentially significant, it would be helpful to provide information on the duration of potential impacts.</p> <p>Applicant's response to Deadline 2 submission: A detailed, day by day construction methodology is not currently available and would not be prepared until after the scheme was consented and a Principal Contractor appointed. The approach for identifying likely significant effects was considered conservative by identifying likely significant effects regardless of whether the duration of the activity may last for less than a period of 10 or more days of working in any 15 consecutive days or for a total number of days exceeding 40 in any 6 consecutive months.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): Accepted that, disregarding our concerns on the noise assessment criteria, a worst-case assessment has been undertaken by adopting a worst-case location for the works and assuming impact durations would last longer than the stated timeframes. However, BS 5228-1 Section E.3.2 (the ABC Method) is clear that the acceptable exceedance of the threshold value reduces as the impact duration lengthens. The criterion used in the ES (that an exceedance of the threshold value of up to 10 dB is not significant) is considered only appropriate to very short duration impacts. The ES shows that there will be exceedances of the threshold level at many receptors, and at some of these, a very large change from the ambient noise level is predicted. Without any further information, such as the potential duration of any impact, it is considered that assessment of these impacts using the ABC Method in BS5228-1 would conclude a significant effect. Assumptions could have been made, based on the available construction programme, to estimate likely impact durations.</p>	The Applicant has agreed to provide additional information on the duration of noisy activities as per the response to 2.1.3.
2.1.6	Noise and Vibration	<p>Matter raised in Written Representation: The construction noise assessment identifies potentially significant effects but the required attenuation is not known; hence, it cannot be known whether the proposed</p>	The Applicant has agreed to provide additional information on the duration of noisy activities as per the response to 2.1.3. This will include updated construction noise calculations based on the estimated duration of activity to provide more detailed construction noise calculations. The Applicant will engage with East Lindsey DC and their noise consultant after the information is submitted at

Ref	Topic	Interested Party's Comment	Applicant's Response (June 2024)
		<p>mitigation measures are sufficient to mitigate the effects to a non-significant level.</p> <p>Applicant's response to Deadline 2 submission: This comment is addressed in detail in a Supplementary Technical Noise Note presented within Appendix A of this document and which has been submitted at Deadline 2.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): The Noise Technical Note states that the performance of mitigation cannot be defined, and proposes that monitoring will be used to verify whether the mitigation is sufficient to avoid significant effects. It states that "if noise monitoring identified that agreed noise thresholds were exceeded, additional mitigation measures would be explored and immediately implemented ." According to the proposed mitigation hierarchy, screening would already have been erected around the works at which monitoring will be undertaken. The ES and supplementary technical note do not identify the further mitigation measures that would be implementable at such short notice (i.e. whilst the works are being undertaken) in the event that monitoring reveals an exceedance. Without an indication of what additional mitigation could be installed in this scenario, the proposed mitigation hierarchy does not demonstrate that significant effects will not occur. It is also of note that the adopted noise level thresholds for the onset of significant effects (the SOAEL) is approximately equivalent to the threshold at which properties would be eligible for noise insulation according to BS 5228-1. It is apparent that it would not be feasible to install noise insulation whilst the works are ongoing</p>	<p>Deadline 4 to discuss any requirements for additional mitigation. East Lindsey District Council and their noise consultant have accepted this approach.</p>
2.1.7	Noise and Vibration	<p>Matter raised in Written Representation: It is not clear which of the construction works will be included in a section 61 consent application.</p> <p>Applicant's response to Deadline 2 submission: The requirement for a Section 61 application for specific works will be determined once a detailed construction methodology has been prepared. It should be noted that a Section 61 cannot be relied upon as mitigation and specific mitigation measures to avoid likely significant effects are secured through the DCO. However, it allows measures such as noise monitoring and a communication strategy to be agreed with the local authority.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): It is not apparent what criteria will be used to determine which works will require a section 61 consent application. Whilst it is appreciated that the actual works cannot be identified prior to the final construction methodology, it should be feasible to define the criteria that will be applied in this process.</p>	<p>Prior to commencement of noisy work that may cause disturbance or work that is proposed outside of core working hours, the lead contractor will be required to submit an application to the Local Authority for prior consent to carry out noisy work under Section 61 of the Control of Pollution Act 1974. No mitigation is secured in a Section 61 consent and all mitigation would be secured through the Draft Construction Environmental Management Plan [REP3-011]. The Section 61 consent process is voluntary for the Applicant to protect against risks of having to stop work in the event of a complaint. Hence, no specific criteria are considered necessary.</p>
2.1.8	Noise and Vibration	<p>Matter raised in Written Representation: It is not agreed that all reasonable measures have been implemented to control construction noise impacts.</p> <p>Applicant's response to Deadline 2 submission: This comment is addressed in detail in a Supplementary Technical Noise Note presented</p>	<p>Please refer to the response at 2.1.6</p>

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		<p>within Appendix A of this document and which has been submitted at Deadline 2.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): This relates to the comments on the performance of mitigation measures above, see comments regarding that section.</p>	
2.1.9	Noise and Vibration	<p>Matter raised in Written Representation: The construction noise impact assessment methodology set out in the ES Chapter has not been used to analyse the significance of residual effects.</p> <p>Applicant's response to Deadline 2 submission: This comment is addressed in detail in a Supplementary Technical Noise Note presented within Appendix A of this document and which has been submitted at Deadline 2.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): This relates to the comments on the performance of mitigation measures above, see comments regarding that section.</p>	Please refer to the response at 2.1.6
2.1.10	Climate Change	<p>Matter raised in Written Representation: Insufficient information on how the emissions were calculated to assess the robustness and accuracy of the assessment outputs.</p> <p>Applicant's response to Deadline 2 submission: The Applicant has provided details of the activity data and emission factors databases used in the calculations, which as laid out in paragraph 15.4.3 [APP-057] are the core components of a GHG calculation. Paragraph 15.4.4. [APP057] sets out the key emission factor databases used. The key assumptions and limitations used are set out from 15.4.25 to 15.4.27 [APP-057] giving sufficient detail of how the materials were assessed, what materials were included and excluded and how the various life cycle stages were accounted for.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): The updated Chapter 15 Climate Change has been reviewed (APP-057). Whilst a description of the assumptions used is provided in paragraphs 15.4.25 to 15.4.27, no quantitative data are provided to determine whether the approach adopted is suitable or correct. Furthermore, it would be expected that further assumptions and details would be provided to determine the suitability of the assessment and support its conclusions. For example, bullet point 2 of paragraph 15.4.25 states "Estimated plant activity was provided by the project engineers and converted to carbon emissions using emission factors from DESNZ 2023 Emission Factors", yet no data of the type of plant, nor activity is provided to determine if this approach is reasonable.</p> <p>The carbon assessment acknowledges in paragraph 15.7.4 that the highest contribution of emissions is from "embodied carbon in construction materials, mainly the pipeline and pipeline components". The only information provided regarding the approach to calculating emissions from embodied carbon is provided in bullet 3 of paragraph 15.4.25, which advises that material quantities were derived from a bill of quantities, and emissions calculated using emission factors from the ICE and DESNZ databases.</p>	Appendix A of this submission 'Climate 2.1.10 Additional Information on the GHG Calculations' provides a table of quantities detailing material quantities, fuel used for construction activities, the associated emissions factors and their sources.

Ref	Topic	Interested Party's Comment	Applicant's Response (June 2024)
		<p>However, no details are provided on the type of materials used (e.g. specification of concrete etc), which would be expected for an assessment of this nature, particularly if this is the highest emission source for the Proposed Development.</p>	
2.1.11	Climate Change	<p>Matter raised in Written Representation: No information on why climate parameters have been scoped out, nor how these parameters were selected.</p> <p>Applicant's response to Deadline 2 submission: No major climate parameters were scoped out of the climate change or in-combination climate change impact (ICCI) assessments. The climate projections included were taken from UK projections as detailed in paragraphs 15.5.10 to 15.5.15 [APP-057]. Qualitative consideration was given to some impacts where projected data was not available, as detailed in table 15-15.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): The updated Climate Change Chapter has been reviewed APP-057). The Applicant has not provided justification for how the climate change projection data (listed in Table 15-15) can lead to potential impacts on the Proposed Development. Therefore, the potential impacts listed in Table 15-30 are not fully supported, for examples potential impacts of drought conditions have not been considered in Section 15.7 of the assessment.</p>	<p>Chapter 15 of the Environmental Statement: Climate Change Revision B [EN070008/APP/6.2.15] has been updated to provide further justification for the impacts identified in the Climate Change Resilience Assessment (see tables 15-29 and 15-30).</p> <p>This document has been submitted to the ExA at Deadline 4.</p>
2.1.12	Climate Change	<p>Matter raised in Written Representation: CCR impact assessment, there is little data or evidence to support the determination of likelihood and consequences of impacts in Table 15-30, therefore the outcomes of the assessment are unsupported. Furthermore, there is no evidence to determine how the potential impacts on the Viking CCS pipeline in Table 15-30 and 15-31 have been identified.</p> <p>Applicant's response to Deadline 2 submission: The Applicant has set out the projected data used to inform the conclusion in table 15-15 [APP-057], whilst listing the methodology for assigning likelihood and significance in tables 15-8 and 15-9 [APP057]. These present sufficient information to ground the assessment. As a general note, an updated version of the ES Climate Change Chapter (Revision A) has been submitted at Deadline 2.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): The updated Climate Change Chapter has been reviewed (APP-057).</p> <p>It is acknowledged that the climate change projection data is provided in Table 15-15, and that the methodology for assigning likelihood and significance is provided in tables 15-8 and 15-9. However, there is no evidence to support the assignment of likelihood or consequence metrics for each potential climate change or impact in Table 15-30. For example, the likelihood of "Increased frequency and severity of extreme weather events" is classified as "Possible, about as likely as not", and the measure of consequence is determined to be "Medium". There is no justification or narrative for how the assessment has arrived at these conclusions, for example why would the consequence of the impact not be 'Very high'</p>	<p>The Chapter 15 of the Environmental Statement: Climate Change Revision B [EN070008/APP/6.2.15] has been updated to provide justification for the impacts identified in the Climate Change Resilience Assessment (see tables 15-29 and 15-30).</p> <p>This document has been submitted to the ExA at Deadline 4.</p>

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		<p>instead of 'Medium' if there is an increase in the frequency and severity of extreme weather events.</p>	
2.1.13	Health and Wellbeing	<p>Matter raised in Written Representation: Clarification should be sought on the venting composition and commentary made regarding human health.</p> <p>Applicant's response to Deadline 2 submission: As part of the detailed design process for the vent stack, the Applicant will undertake additional atmospheric modelling based on a range of atmospheric criteria and the proposed detailed design of the Proposed Development as a whole. Through compliance with relevant legislation, associated guidance and operational mitigation measures, any potential adverse effects on human (health) and ecological receptors would be avoided.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): We appreciate the Applicant's response and note that Planning Inspectorate's Scoping Opinion accepts the scoping out of operational effects to air quality (noting that a periodic review is undertaken as further information becomes available). Furthermore, Para 14.3.9 of ES Chapter 14 (Air Quality) (APP-056) states that the vents, "only comprise of CO2 emissions which will not directly impact human health". Given the above and the Applicants response received at Deadline 2 we are satisfied that no significant impacts to human health from the venting system are likely. However, we wish to know if the proposed atmospheric modelling following detailed design will be made available for review and acceptance by the Authority to ensure this is confirmed before operations of the venting system.</p>	<p>The applicant has submitted further details on venting at deadline 3 [REP3-029] which addresses the health issues relating to venting.</p>
2.1.14	Health and Wellbeing	<p>Matter raised in Written Representation: ELDC should satisfy themselves that the statement regarding the large number of GP services in the area is correct and the demand placed on them by the resident population is sufficiently low to allow for additional workforce impacts to be non-significant.</p> <p>Applicant's response to Deadline 2 submission: The Applicant notes the comment made. To support ELDC in their consideration, reiteration of the key points of the assessment set within the context of the comment is provided here. As outlined in Section 17.5 of ES Volume II - Chapter 17: Health and Wellbeing [APP-059], there are 16 GP surgeries located within the Study Area. Of these GP surgeries, four are located within East Lindsey District Council. It is inherently difficult to apportion potential demand for GP services arising from construction workers to individual local authority areas across the route as construction activity will not be evenly spread over time, and workers will move locations fluidly. As stated in ES Volume II - Chapter 3: Description of the Proposed Development [APP-045], the peak construction workforce is anticipated to be approximately 720 construction workers. The assessment within ES Volume II - Chapter 16: Socioeconomics [APP-058] notes that of the 720 peak construction workers, a proportion will already live locally (approximated at 30% of the workforce within the socioeconomic assessment), and therefore will already be registered at a local practice, and would not place additional demand on GP services. Potential demand arising in East Lindsey from these construction</p>	<p>This is noted. There are no further comments from the Applicant.</p>

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		<p>workers would be limited to those either residing in the district, or those working in the area and requiring emergency treatment, and therefore only represent a portion of the demand arising from this peak number of construction workers. Furthermore, as stated in Paragraph 16.7.5 of ES Volume II - Chapter 16: Socio-economics [APP-058], the average number of workers on-site across the construction period will be 197 workers; a much lower number than in the peak period of construction. Therefore, any demand arising for GP services from workers overall in the Study Area will typically in all likelihood be much less in number than that during the peak period of construction. Demand arising at ELDC level would be lower still than this given the distribution of construction activities. In summary, a combination of factors reduce the potential for effects on GP services in the area of East Lindsey. Firstly, there are a large number of GP practices within the Study Area relative to both the peak and average number of construction workers. The health and wellbeing assessment in ES Volume II - Chapter 17: Health and Wellbeing [APP059] has been assessed from a worst-case scenario, such that the peak construction workforce will be limited in duration and the average number of construction workers will generally be much lower throughout the construction phase. In addition, any demand arising for services in ELDC would be lower than the average number of construction workers, given that not all construction workers will reside within East Lindsey and require access to services as residents. Finally construction activity will</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): The information provided is clear and helpful. Noting that the population estimate for East Lindsay in 2021 (Office for National Statistics) is approximately 143,000 the overall additional number of the construction workforce utilising health services is considered acceptable.</p>	
2.1.15	Materials and Waste	<p>Matter raised in Written Representation: Additional details on the estimated volumes of waste as a result of construction activities as well as the split of waste types into inert, non-hazardous or hazardous, how specific materials will be recycled and diverted from landfill.</p> <p>Applicant's response to Deadline 2 submission: The material and waste assessment was undertaken on the basis of information available at the time of the assessment and was sufficiently detailed enough to undertake the Environmental Impact Assessment and to assess the significance of impacts. Additional details on the estimated volumes of waste as a result of construction activities as well as the split of waste types into inert, non-hazardous or hazardous, how specific materials will be recycled and diverted from landfill will be provided in the contractor's Site Waste Management Plan (SWMP) as part of their Construction Environmental Management Plan (CEMP). Table 5 of the Outline SWMP (ES Volume IV – Appendix 18-1: Outline Site Waste Management Plan, [APP-113]) sets out how the waste hierarchy will be applied to construction wastes, and Table 2 indicates the potential recovery rates for key waste types. The mitigation presented in the Draft CEMP [REP1-013] is secured through a requirement within the DCO, which requires a CEMP to be submitted for approval by the planning authority prior to commencement of development. As the SWMP</p>	This is noted. There are no further comments from the Applicant.

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		<p>forms part of that, the mitigation measures including waste recovery targets within that are also secured.</p> <p>Comments back from RHDHV (on behalf of East Lindsey District Council): Accepted, noting that the Outline SWMP that will form part of the CEMP will be updated to include revised waste estimates for specific wastes types (aligned to EWC codes) and will be classified as inert, non-hazardous and hazardous and specific routes will be identified to confirm recovery targets are met as part of the mitigation measure commitments. The updated SWMP will be approved by the relevant planning authority.</p>	

Table 2-2: Lincolnshire County Council – Comments on Deadline 2 submissions [REP3-035]

Ref	Topic	Interested Party's Comment	Applicant's Response
2.2.1	Archaeology	<p>For the most part we are pleased with the progression and general direction of the ongoing archaeological work for this scheme.</p> <p>The geophysical survey has been undertaken and along with the desk based assessment has been used as the basis for an adequate programme of trenching which is currently ongoing. The geo-archaeological WSI from Wessex Archaeology is forthcoming. The applicant states that the field evaluation results will be produced during the examination stage. It is to be hoped that this will inform an effective and robust mitigation strategy which can be agreed before the determination.</p> <p>A few of the issues which have been identified in the documentation have been resolved elsewhere. For example the AECOM Outline WSI (REP2-016) states that in their green areas there will not be trenching evaluation for ground truthing so-called 'blank' areas where previous phases of evaluation have not identified archaeological features. This is not acceptable but Wessex WSI which has been appended to the document does include sufficient trenching across these areas.</p>	<p>The Applicant notes LCC's comment on the progression and general direction of the ongoing archaeological work.</p> <p>The Applicant confirms that the archaeological field evaluation commenced in April 2024 and is in progress. The field evaluation results will be used as they become available to inform the Detailed Archaeological Mitigation Strategy (DAMS) and Overarching Written Scheme of Investigation (OWSI) for agreement before the determination. The Applicant will appoint an archaeological contractor to undertake the mitigation works post-consent. The archaeological contractor will prepare site-specific written schemes of investigation (SSWSIs) for the archaeological mitigation work required in relevant areas of the Order Limits, for approval by LCC following consultation with Historic England before archaeological site work commences. The archaeological methods and research objectives proposed in the SSWSIs will take full account of the field evaluation results.</p> <p>The Applicant confirms that the Geoarchaeological WSI will be submitted when available..</p> <p>The Applicant agrees with LCC's comment that the Wessex Archaeology WSI (Annex D to the Environmental Statement Volume IV – Appendix 8-3: WSI for Archaeological Evaluation - Revision A [REP2-016]) does include sufficient trenching across 'blank' areas where previous phases of evaluation have not identified archaeological features.</p>
2.2.2	Archaeology	<p>There are other issues in the Draft CEMP in the Environmental Statement Volume IV – Appendix 3-1 Draft CEMP Revision B (REP2-012).</p> <p>In Table 2: Environmental Control Plans on p15:</p> <p>The Control Plan is '<i>Written Scheme of Investigation (WSI) for archaeological mitigation</i>'</p> <p>The description is :'<i>To be developed by the Contractor post consent based on the Outline WSI (to be provided in the ES) to fully describe the additional mitigation measures to be implemented to preserve in situ and protect, or archaeologically excavate and record heritage assets, including upstanding earthworks and buried archaeological remains. This will be informed by the by the results of the archaeological evaluation surveys.</i>'</p> <p>The answer under the final column headed '<i>Outline version contained within the DCO application</i>' is '<i>Yes (ES Volume IV Appendix 8-3: Outline WSI Trial Trenching (Application Document 6.4.8.3)).</i>' (REP2-016)</p> <p>This is incorrect as that is the evaluation trenching WSI, indeed one of the stated aims of the outline trenching WSI is to '<i>inform the strategy for any required mitigation via recording, preservation and/or management of identified assets.</i>' (section 3.1.2) More importantly while the WSI for archaeological mitigation does not yet exist it will need to be agreed before any groundworks commence, will need to be adhered to throughout the project and should be agreed pre-determination. The National Policy Statement for Renewable Energy Infrastructure (EN-3) states that 'The results of pre-determination archaeological evaluation inform the design of the scheme and related archaeological planning conditions.' (footnote 94)</p>	<p>The Applicant notes LCC's comment on Table 2: Environmental Control Plans in the Draft CEMP Revision B [REP2-012] and acknowledges that the reference to the ES Volume IV Appendix 8-3: Outline WSI Trial Trenching [REP2-016] in column 3 is incorrect, as it refers to the archaeological evaluation and not to the archaeological mitigation strategy. The Outline Archaeological Mitigation Strategy is included in Chapter 8 Historic Environment of the Environmental Statement Volume II [AS-023] (section 8.8). This requires the development of a Detailed Archaeological Mitigation Strategy (DAMS) and accompanying Overarching Written Scheme of Investigation (OWSI) which will set out the scope, guiding principles and methods for the planning and implementation of essential archaeological mitigation for agreement (paragraph 8.8.2). Table 2: Environmental Control Plans has been updated to correct this error in Revision C of the draft CEMP [APP-068] submitted at Deadline 4</p> <p>The Applicant notes LCC's comment regarding agreement of the WSI for archaeological mitigation before the determination. The Applicant confirms that the DAMS and OWSI, that will constitute the WSI for archaeological mitigation in line with ES section 8.8, are currently being drafted and will be agreed with LCC, the other local planning authorities and Historic England, ideally before the end of the examination.</p> <p>The Applicant will appoint an archaeological contractor to undertake the mitigation works post-consent. The archaeological contractor will prepare site-specific written schemes of investigation (SSWSIs) for the archaeological mitigation work required in relevant areas of the Order Limits, for approval by LCC following consultation with Historic England before archaeological site work commences in accordance with Requirement 10 of the draft DCO (Revision F) (document reference 2.1).</p>
2.2.3	Archaeology	<p>In the same document we are for the most part very pleased to see the commitments in Table 3: Draft Mitigation Register (Construction Phase) in terms of the Historic Environment section D (pp37-40). We are however concerned about D3 which states that '<i>Targeted archaeological monitoring would be undertaken in areas where prior</i></p>	<p>The Applicant notes LCC's comment regarding commitment D3 in Table 3: Draft Mitigation Register (Construction Phase) in the Draft CEMP Revision B [REP2-012]. The Applicant notes that targeted archaeological monitoring will form one component of the DAMS and OWSI that will constitute the WSI for archaeological mitigation to be developed in</p>

Ref	Topic	Interested Party's Comment	Applicant's Response
		<p><i>archaeological evaluation indicates this approach is appropriate, and/or in areas where archaeological investigation and recording in advance of construction are not feasible due to safety or logistical considerations, or undesirable due to environmental or engineering constraints. The works contractor's preferred method of working would be controlled as necessary by the supervising archaeologist to allow archaeological recording to take place to the required standard.'</i></p> <p>Targeted archaeological monitoring is part of a suite of standard archaeological mitigation techniques which also include set piece excavation and strip map and record which needs to be undertaken in advance of the commencement of groundworks or any associated activity such as plant movement across these mitigation areas. The use of targeted archaeological monitoring should occur only where that would be a reasonable archaeological mitigation response. This will need to be informed by the results of the trial trenching and an understanding of the developmental impacts along with the above mentioned archaeological fieldwork mitigation techniques and preservation in situ areas will be deployed as part of an agreed appropriate mitigation strategy across the redline boundary.</p>	<p>accordance with commitment D2. Commitment D2 outlines other likely archaeological mitigation measures: surface artefact collection / test pitting / metal detection where required in advance of archaeological excavation and recording; topographic survey of earthworks to allow reinstatement works post-construction; archaeological excavation and recording in advance of construction; targeted archaeological monitoring during construction works; geoarchaeological investigation; and protection of remains within working areas and preservation of archaeological remains in situ. Commitment D3 elaborates on the circumstances in which it is anticipated that targeted archaeological monitoring may be applicable.</p> <p>The Applicant confirms that the DAMS and OWSI will provide for this technique to be applied where that would be a reasonable archaeological mitigation response, taking into account the results of the archaeological field evaluation and with a full understanding of the developmental impacts in the relevant areas of the Order Limits. Please see the Applicant's responses to LCC 2.2.2 with regard to development and agreement of the archaeological mitigation strategy (DAMS and OWSI).</p>
2.2.4	Archaeology	<p>D2 includes the development and implementation of a detailed archaeological mitigation strategy which includes <i>'protection of remains within working areas and preservation of archaeological remains in situ.'</i></p> <p>The Draft CEMP does not include full details of the required measures for preservation in situ mitigation. The full extent of the archaeological areas must be determined and each area must be fenced off and subject to a programme of monitoring throughout the construction, operation and the decommissioning phases, and there will be no ground disturbance whatsoever which may disturb or affect the archaeological remains, including plant movement or storage. The fencing will need to remain in place and be maintained throughout the lifetime of the scheme. They need an Archaeological Clerk of Works and the management strategy for the preservation in situ areas will need to be included in their CEMP to ensure the protection measures stay in place throughout the development including any necessary remedial groundworks throughout the lifetime of the scheme.</p>	<p>The Applicant notes LCC's comments and confirms that the DAMS and OWSI will include suitably detailed measures for preservation in situ mitigation. These will include the fencing of the full extent of the relevant archaeological areas during construction to exclude activities that may cause ground disturbance which may disturb or affect the archaeological remains. The Applicant further confirms that (a) the DAMS will also provide for an Archaeological Clerk of Works (ACoW) who will, inter alia, monitor archaeological site works (including areas of preservation in situ); and (b) that a method statement for the fencing and protection of preservation in situ areas will be developed by the appointed archaeological contractor and included in the final CEMP to be prepared by the appointed Contractor prior to the start of construction.</p> <p>The Applicant does not agree that fencing of archaeological areas where preservation in situ is required will need to remain in place throughout the lifetime of the Proposed Development. Chapter 8 Historic Environment of the ES [AS-023] identifies potential impacts on buried archaeological remains during the construction phase only. Following completion of the construction phase, land outside of the Immingham Facility, Theddlethorpe Facility and the three Block Valve Stations will be returned to agricultural use. Fencing around archaeological areas where preservation in situ is required will remain in place until any remedial groundworks necessary to enable the return of land to agriculture are completed, after which time the fencing will be removed. There would be no impacts on buried archaeological remains during the operational phase. Decommissioning activities will take place in relation to the above ground installations only, as the below-ground pipeline infrastructure would be left in situ once operation ceases. As such there would be no further impacts on archaeology and heritage receptors in relation to decommissioning of the pipeline element of the Proposed Development. [AS-023, Paragraphs 8.3.6 – 8.3.17]. Consequently, there is no need for fencing around areas of preservation in situ to remain in place throughout the lifetime of the Proposed Development.</p>
2.2.5	Archaeology	<p>D12 is <i>'Limiting stripping for construction compounds, laydown, welfare and parking areas, haul roads and other associated works in areas where archaeology is recorded to avoid disturbance, and instead using geotextile and stone over topsoil.'</i></p>	<p>The Applicant notes LCC's comments regarding the suitability of using geotextile and stone over topsoil as a mitigation response. The Applicant confirms that the DAMS and OWSI will provide for this technique to be applied where that would be a reasonable</p>

Ref	Topic	Interested Party's Comment	Applicant's Response
		<p>Again while this is very positive as a commitment it would depend on the nature, significance and depth of archaeology whether this would be an appropriate mitigation measure, for example human skeletal remains may be found at no great depth in agricultural landscapes and they would be damaged and destroyed by this mitigation response. Again the appropriate level and type of mitigation will need to be informed by the trenching results.</p>	<p>archaeological mitigation response, taking into account the results of the archaeological field evaluation in the relevant areas of the Order Limits. Please see the Applicant's responses to LCC 2.2.2 with regard to development and agreement of the archaeological mitigation strategy (DAMS and OWSI).</p>
2.2.6	Archaeology	<p>The provision of sufficient baseline information to identify and assess the impact on known and potential heritage assets is required by Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Regulation 5 (2d)), National Planning Statement Policy EN1 (Section 5.8), and the National Planning Policy Framework.</p> <p>The EIA will need to contain sufficient information on the archaeological potential and must include evidential information on the depth, extent and significance of the archaeological deposits which will be impacted by the development. The results will inform a fit for purpose mitigation strategy which will identify what measures are to be taken to minimise or adequately record the impact of the proposal on archaeological remains.</p> <p>This is in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 which states "The EIA must identify, describe and assess in an appropriate manner...the direct and indirect significant impacts of the proposed development on...material assets, cultural heritage and the landscape." (Regulation 5 (2d))</p>	<p>The Applicant notes LCC's comments regarding the provision in the EIA of sufficient baseline information to identify and assess the impact on known and potential heritage assets. The approach to baseline surveys and development of the mitigation strategy has been informed by comments on the EIA Scoping Report and PEIR and additional consultation with the CCS heritage consultees, including LCC and Historic England. The assessment in the ES [AS-023] has taken account of the baseline information collected for the EIA and presented in ES Volume IV Appendix 8-1 Historic Environment Desk-based Assessment [APP-089] and Appendix 8-2: Aerial Review and Light Detection and Ranging (LiDAR)[APP-090], and in 9.7 Supplementary Environmental Information: Geophysical Survey Report and Assessment Update [REP1-043]. This sufficient baseline information is further supported by archaeological field evaluation which commenced in April 2024 and which is still in progress. The field evaluation results, including evidential information on the depth, extent and significance of archaeological deposits which may be impacted by the development, will be used as they become available to inform the Detailed Archaeological Mitigation Strategy (DAMS) and Overarching Written Scheme of Investigation (OWSI) (please see the Applicant's responses to LCC 2.2.1 and LCC 2.2.2 with regard to development and agreement of the archaeological mitigation strategy (DAMS and OWSI)).</p>
2.2.7	Ecology	<p>Habitats Regulations Assessment Report Revision B (REP2-024) - LCC welcomes the additional consideration of potential in-combination effects. LCC defers to Natural England on matters relating to the Habitats Regulations Assessment and has no further comments to make at this stage.</p>	<p>This is noted. No further comments from the Applicant.</p>
2.2.8	Ecology	<p>Draft Outline Landscape and Ecological Management Plan (OLEMP) Revision A (REP-026) - LCC notes the changes made to the Applicant's and has no further comments to make at this stage.</p>	<p>This is noted. No further comments from the Applicant.</p>
2.2.9	Ecology	<p>LCC welcomes the additional commitment relating to acoustic screening to mitigate disturbance of non-breeding birds included in the updated Draft CEMP (REP2 012 page26).</p>	<p>This is noted. No further comments from the Applicant.</p>
2.2.10	Ecology	<p>LCC notes the Applicant's response to comments relating to Biodiversity Net Gain in the Local Impact Report (REP2-031: 5.49 and 5.58). LCC maintains its opinion that the Applicant should seek to deliver in excess of 10% Biodiversity Net Gain.</p>	<p>This is noted. No further comments from the Applicant.</p>
2.2.11	Traffic and Transport	<p>Chapter 12: Traffic and Transport - Revision A (REP2-006 /007) - The revisions to the chapter amends some of the HGV routings and now no HGVs are predicted along 59 Little Grimsby Lane, 66 Red Leas Lane and 67 Pick Hill Lane. However, HGVs are still forecast to use 35 Thacker Bank and 10 Thoroughfare – both of these are single track and unsuitable for HGVs (Para 12.5.52 of the TA states as much). If HGVs are</p>	<p>A total of 17 two-way HGVs per day are expected to use Thoroughfare (ATC 10), and a total of 46 two-way HGVs per day are expected to use Thacker Bank (ATC 35). Although these are not considered to be significant numbers of HGVs, a review is being undertaken</p>

Ref	Topic	Interested Party's Comment	Applicant's Response
		to use the routes in the numbers predicted then passing places need to be provided – these are not proposed in the mitigation.	of the need for passing places on both Thoroughfare and Thacker Bank, the results off which will be shared with LCC to facilitate further discussion and agreement.
2.2.12	Traffic and Transport	Quantitative Cumulative Assessment for Traffic and Transport (REP2-033) - The assessment includes approved schemes, however it is likely that other NSIP proposals in the area, in particular the National Grid Grimsby to Walpole upgrade proposal would also generate significant traffic on the highway network in this area.	The Quantitative Cumulative Assessment for Traffic and Transport is based on the Cumulative Shortlist set out for the wider project. The National Grid Grimsby to Walpole upgrade did not appear on this shortlist and on further review of this development, there are currently no submitted documents to PINS that would allow for analysis of traffic numbers on the highway network. Additionally, final submission to PINS is expected to be in Q2 of 2027, which means construction of the project would most likely not coincide with the construction of the Proposed Development. Where appropriate, we would expect the cumulative assessment prepared for that scheme to consider the Proposed Development.
2.2.13	Traffic and Transport	The Draft CEMP - Revision B (REP2-012, page 61), states that Thoroughfare will only be used for traffic to the Block Valve Station, however no other mitigation is proposed. LCC consider that passing places will be required.	A maximum of 17 two-way HGVs per day are expected to use Thoroughfare (ATC 10). Although this is not considered to be a significant number of daily HGV movements, passing places could be used to mitigate the impacts on other drivers and grass verges along this road, also providing enhanced accessibility.
2.2.14	Traffic and Transport	Applicant's comments in response to LCC's response to the Examining Authority's First Written Questions (REP2-030) (Q's. 1.7.6, 1.7.11, 1.7.12, 1.7.13, 1.7.14) are noted. However, the answers provided do not address our concerns relating to powers the Draft DCO gives the applicant in the public highway.	The Applicant will continue to engage with LCC as highways authority with a view to addressing their residual concerns.

Table 2-3: Environment Agency – Comments on Deadline 2 submissions [REP3-036]

Ref	Topic	Interested Party's Comments	Applicant's Response
2.3.1	Groundwater, water quality and the Water Framework Directive	<p>We have reviewed the updates made to the following documents in connection with the comments made with respect to groundwater protection:</p> <ul style="list-style-type: none"> • Chapter 11: Water Environment – Revision A (Tracked) [REP2-005]; • Appendix 3-1: Draft Construction Environmental Management Plan (CEMP) – Revision B (Tracked) [REP2-013]; • Appendix 11-4: WFD Assessment – Revision A (Tracked) [REP2-021]; <p>Most of the representations made previously concerning groundwater protection have been addressed, and the documents updated to recognise the issues raised.</p> <p>The only outstanding concern appears to relate to the issue of dewatering (outlined in Table 11-4, page 11-20 of the updated Chapter 11 document) where the Applicant's response is that this was 'Noted and included within the Proposed Development risks.' We cannot locate this in the provided documentation; if the applicant can highlight where this has been addressed it would be appreciated. However, this is not essential as dewatering has been covered in the draft Construction Environmental Management Plan (CEMP) and the proposals for Hydrogeological Impact Appraisals for trench dewatering, so there is confidence that this concern is fully recognised.</p> <p>Therefore, we confirm that we concur with the conclusions of the Revision A WFD Assessment. The proposal should not cause deterioration in status of the water bodies assessed and should not prevent these from achieving Good Ecological Status and Good Ecological Potential. Accordingly, we withdraw our holding objection relating to the WFD and compliance with the River Basin Management Plans made in paragraph 8.24 of our Relevant Representation [RR-034].</p>	<p>The applicant welcomes the latest response and the withdrawal of the Environment Agency's holding objection.</p> <p>In terms of the outstanding concern in terms of ES Volume II: Chapter 11 Water Environment, Table 11-4 - Dewatering, the applicant notes that the specific location within the chapter was not specified, due to dewatering and the requirement for abstraction licences being addressed in various locations, as listed below:</p> <ul style="list-style-type: none"> • ES Volume II: Chapter 11 Water Environment, Table 11-22: Embedded and Standard Mitigation – Secondary consents: <i>"Dewatering of the trench and other excavations may be required in some areas to stabilise the surrounding ground during construction. This activity would be subject to a Water Resources Abstraction Licence (unless the activity is exempt under The Water Abstraction and Impounding (Exemptions) Regulations 2017) and an approved Permit to Pump would be required for all pumping operations (before dewatering or discharges commence)."</i> • ES Volume II: Chapter 11 Water Environment, Table 11-22: Embedded and Standard Mitigation – Construction - General: <i>"Occasionally it may be necessary to remove water from the trench and excavations and this will be carried out using portable pumps. Temporary tanks (typically clay plugs) would be created within the trench prior to undertaking dewatering/drainage activities, to prevent migration of water within the trench. Water will be discharged strictly in accordance with a water management plan prepared by the Pipeline Contractor and will be filtered using a variety of techniques that may include silt netting, straw bale filtration barriers, temporary settlement lagoons, silt socks over pump discharge hoses and silt busters (purpose designed filtration tanks)."</i> • ES Volume II: Chapter 11 Water Environment, Section 11.7, Paragraphs 11.7.1 and 11.7.3. • ES Volume II: Chapter 11 Water Environment, Table 11-3, various locations (Auger bore/HDD crossings) – example: <i>"... impacts to low flows due to dewatering of excavation pits..."</i> • ES Volume II: Chapter 11 Water Environment, Paragraph 11.8.4. • ES Volume II: Chapter 11 Water Environment, Table 11-25. <p>As noted in the interested party's comments, dewatering has been covered in the Draft CEMP, Ref No. E3:</p> <p><i>A more detailed hydrogeological risk assessment will be undertaken at FEED stage, where trenchless techniques or dewatering is required in high sensitivity groundwater environments. Where dewatering is required, a dewatering scheme will be developed prior to construction (in consultation with the Environment Agency and appropriate public water abstraction companies) to demonstrate that there is an effective strategy to manage water arising from the operations and, where required, sufficient proposals to treat the water prior to controlled discharge. Any such assessment will consider the effects of any draw down or impacts on nearby abstractions or resources.</i></p> <p>The timeframe of identifying the requirement for obtaining water abstraction licences is dependent on the results of Ground Investigations (GI) to understand level of the water table at the proposed non-intrusive crossings. It is anticipated that GI and the requirement for abstraction licenced will occur during the FEED Stage.</p>

Ref	Topic	Interested Party's Comments	Applicant's Response
2.3.2	Flood Risk	<p>We have reviewed the updates made to the following documents in connection with the comments made with respect to flood risk:</p> <ul style="list-style-type: none"> • Chapter 11: Water Environment – Revision A (Tracked) [REP2-005]; • Chapter 15: Climate Change – Revision A (Tracked) [REP2-009] • Appendix 3-1: Draft Construction Environmental Management Plan (CEMP) – Revision B (Tracked) [REP2-013]; • Appendix 3-6 Operational Phase Mitigation - Revision B (Tracked) [REP2-015] • Appendix 11-5 Flood Risk Assessment – Revision A (Tracked) [REP2-023] • 9.26 Breach Water Level Depth – Technical Note [REP2-037] <p>The Breach Water Level Depth Technical Note sufficiently explains the use of average breach depths within the Flood Risk Assessment (FRA). It is helpful that breach depths have been used to derive a breach flood level for the Immingham Facility site. This will allow flood mitigation and freeboard to be applied from a level in metres above Ordnance Datum (mAOD) and not be complicated by variation in ground level. It would be equally useful to have a breach flood level derived for the Theddlethorpe Facility sites as well, to allow the application of flood mitigation measures and freeboard allowance in the same way.</p> <p>The use of breach flood levels for both the Immingham and Theddlethorpe Facility sites would allow an update to mitigation measure P3 of the draft CEMP to include a specific raise level for critical electrical equipment. This would then apply to the final site layouts as they are developed and confirmed.</p>	<p>The analysis outlined in 9.26 Breach Water Level Depth – Technical Note Revision A [EN070008/EXAM/9.26] to derive a breach flood level for the Immingham Facility site has been repeated for both Theddlethorpe Site Options and the Technical Note has been updated accordingly. This updated document will be submitted at Deadline 4.</p> <p>The breach flood levels for both the Immingham and Theddlethorpe Facility sites derived in the updated 9.26 Breach Water Level Depth – Technical Note Revision A [EN070008/EXAM/9.26] have been used to update mitigation measure P3 of Appendix 3-1: Draft Construction Environmental Management Plan (CEMP) – Revision B (Tracked) [REP2-013]; to include a specific raise level for critical electrical equipment. An updated version of the draft CEMP [REP3-011] will be submitted at Deadline 4.</p>
2.3.3	Flood Risk	<p>We acknowledge the update within the FRA regarding the storage of materials within Flood Zones 2 and 3. We are satisfied with the wording in the FRA and in Mitigation Measure G20 of the draft CEMP. If additional information can be provided to show the locations of watercourse crossings within the combined tidal and fluvial floodplain, we may be able to offer further guidance on suitable storage setback requirements for these.</p> <p>We are pleased to note the updated FRA confirms the location of and flood risk (fluvial and surface water) to the construction compounds. We have no further concerns with the location of these.</p> <p>We note the updates within the FRA to climate change projections and we are pleased to see that the 97.5% confidence bound has been used for the assessment of 2025 and 2100 extreme sea levels. This is now in line with national guidance and the requirements for FRAs.</p>	<p>This is noted. No further comments from the Applicant.</p>
2.3.4	Flood Risk	<p>Table 15-31 within Chapter 15: Climate Change acknowledges the risk of sea level rise at the Theddlethorpe Facility but does not include the Immingham Facility. This should be updated to reflect the risk at both sites. This is also the case for Table 15-37. Furthermore, within this table, mitigation measure G2 is not particularly relevant to sea level rise.</p>	<p>This has been updated in the updated version of ES Chapter 15 Climate Change [EN070008/APP/6.2.15 Revision C] which will be submitted at Deadline 4.</p>
2.3.5	Flood Risk	<p>In summary, the updated documents have addressed most of the points raised but as there are still some outstanding issues in respect of flood risk, we are not yet able to confirm that all these matters are agreed. However, we do now have sufficient information to confirm that the project has demonstrated compliance with the</p>	<p>This comment is noted and appreciated.</p> <p>The Applicant will provide a further update of the FRA [EN070008/APP/6.4.11.5 Revision B] which addresses the remaining minor issues at Deadline 4.</p>

Ref	Topic	Interested Party's Comments	Applicant's Response
		<p>requirements for the flood risk Exception Test for the issues reviewed by the Environment Agency, i.e. the Development can be made safe without increasing flood risk elsewhere. Accordingly, we withdraw our holding objection relating to flood risk issues within our remit.</p> <p>Please note that our advice has not considered the risk of flooding from ground water, drainage systems, reservoirs, canals or ordinary watercourses. Advice should be sought from the Lead Local Flood Authority and any relevant Drainage Boards in relation to these matters. We will continue to work with the Applicant on the outstanding mitigation details for the project to be secured in the CEMP.</p>	

Table 2-4: Marine Management Organisation – Comments on any submissions received at Deadline 2 [REP3-038]

Ref	Topic	Interested Party's Comment	Applicant's Response
2.4.1	General	The MMO has received no questions or comments regarding submissions made in Deadline 2 and in turn have no comments to provide for Deadline 3. No further information has been requested by the Examining Authority from the MMO for this deadline. We will provide a response in due time if any is required from the MMO.	This is noted. No further comments from the Applicant.

Table 2-5: Natural England – Comments on any submission received at Deadline 2 [REP3-038]

Ref	Topic	Interested Party's Comment	Applicant's Response
2.5.1	General	<p>Natural England had intended to send an updated response with regard to the HRA, Landscape and Soils for D3, however, due to time limitations and to ensure a more cohesive position in response to the additional information provided by the applicant, namely:</p> <ul style="list-style-type: none"> - 'Habitats regulations Assessment Report – Revision B' - provided at D2 (REP2-024) - 'Technical Note in Response to Natural England's Written Representation Regarding the Lincolnshire Wolds National Landscape' - due to be provided at D3 <p>we will instead be providing a full response at Deadline 4.</p> <p>We will continue to engage with the Applicant in the meantime to resolve the issues highlighted in our Written Representations, and we would be happy to respond to further ExA questions, where required</p>	<p>The Applicant has continued to engage with Natural England to seek to address all outstanding comments and issues they have raised. In particular, this has included further discussions and clarifications provided on the HRA, Soils, and landscape issues related to the Lincolnshire Wolds National Landscape.</p> <p>This has included the Applicant preparing updated versions of the Habitat Regulations Report – Revision C and the National Landscape Technical Note EN070008/EXAM9.28_National_Landscape_Technical_Note Rev B and EN070008_EXAM_9.53 Response to Natural England's Recommendations relating to the LWNL regarding the Lincolnshire Wolds National Landscape. These updated documents have been informally shared with Natural England in pursuit of reaching agreement and have been submitted formally to the ExA at Deadline 4.</p>

Table 2-6: Comments on Responses to the ExA's First Written Questions on behalf of the Residents of Corner Farm [REP3-039 and REP3-040]

Ref	Topic	Interested Party's Comment	Applicant's Response
WQ 1.3.10		<p>The applicant's answer to ExQ1 1.3.10 appears to be that the reason for not considering a short connection to the Immingham section of the Northern Endurance network, as opposed to a 55 km pipeline down to Theddlethorpe, was specifically in order to connect emitters to the LOGGS pipeline and thereby use the depleted Viking gas field for storage. Is there a compelling case in the public interest for pursuing that particular objective, distinct from the applicant's commercial interest and sufficient to justify a DCO with powers of compulsory purchase, or does the public interest lie in decarbonisation of the Humber industries? Is there present local (South Humber) demand for carbon storage which Endurance cannot absorb? Is there projected national demand that would actually require the on-shore section of the Viking pipeline?</p> <p>Given that the Endurance reservoir appears to have capacity to accommodate Viking's existing partners and more, and assuming the principle that land take in the public interest should be minimised, is there a public interest case for the Theddlethorpe pipeline? Does the applicant mean to imply that in the absence of the 55 km Theddlethorpe pipeline, emitters on the South Bank of the Humber would be left without options to decarbonise, or would they in fact inevitably be appended to the established Endurance project? The Northern Endurance Partnership appears to be planning with that in mind.</p>	<p>Please refer to the Applicants Response to Relevant Representations (REP1-044), the Applicants Comments on Written Representations (REP2-029) and the Applicants Comments on Responses to the Examining Authority's First Written Questions (REP2-030).</p> <p>The Applicant summarised the approach that it has taken to pipeline routeing and safety at ISH2 and ISH3, confirming that the approach aligns with prevailing legislation and guidance. The Applicant has nothing further to add at this time.</p>
WQ 1.3.11		<p>The applicant's answer to ExQ1 1.3.11 is that "there are no residential properties within the Order Limits", which either misunderstands or disregards the question. The ExA is referred to the answer to ExQ1 1.1.22.</p>	
WQ 1.1.22		<p>The applicant's answer to ExQ1 1.1.22 is yet more PR-speak. We are simply asked to trust to their expertise in a novel industry to which experience in the handling of hydrocarbons is not necessarily applicable, and to adherence to standards which are a work in progress. A technical exposition with relevant figures would be more pertinent.</p> <p>The applicant asserts adherence to BSI PD 8010-1:2015, which, as it applies to dense phase CO2 transport, is described in Cooper et al. (2016). A Minimum Distance to Occupied Buildings (MDOB) and routing corridor are defined at 10 chances per million (cpm) of a dangerous dose and 0.3 cpm, consistent with the HSE's inner and outer zone distances. The pipeline is engineered to keep the predicted risk below the MDOB threshold defined in this standard. Note: this mitigates the chance of an event, but not the consequences. There is, however, considerable uncertainty in the estimation of risk; for instance, Lyons et al. (2019) concluded "that the applicability of the existing failure frequency models to typical dense phase CO2 pipelines may be beyond the known range of applicability for the pipeline failure equations used within existing failure frequency models due to the high wall thickness linepipe requirements of typical CO2 pipelines". Cooper et al. (2016) note that "the distances to 0.3 cpm can be very much smaller than the maximum hazard distance [...]. This indicates that it may not be sufficiently cautious to take the individual risk distance approach to defining the separation distance for the pipeline and a corridor width over which to assess the local population and the use of this approach may result in a route which may not meet the ALARP requirement." They recommend a QRA approach, described in Cooper and Barnett</p>	

Ref	Topic	Interested Party's Comment	Applicant's Response
		<p>(2014). We assume/hope that the applicant has attempted a similar approach. However, as we showed in our Relevant Representation (REP1-137), this approach can still leave the residents of isolated dwellings and small clusters at imminent risk of death in the event of a rupture, with no safe refuge. It is therefore inadequate.</p> <p>The applicant refers to the HSE's "Reducing Risks, Protecting People" framework document to justify its minimalist approach to mitigating the consequences of pipeline rupture, while relying principally on engineered safety to control risk. (This approach is similar to that taken when the brilliantly-engineered Titanic was launched with only half the necessary number of lifeboats.) However, in Reducing Risks, Protecting People (p. 27), the HSE draws attention to the need to mitigate the consequences of a hazard through Inherently Safer Design, particularly where there is uncertainty in risk: "HSE will press for the incorporation of inherently safer design features, where these are possible, to reduce the reliance on engineered safety systems or operational procedures, to control risk." It highlights the need for "defence in depth, redundancy, diversity and segregation [...]", being "fundamental to ensuring safety". In the relevant case, segregation by safe distance would be the simplest practicable measure to control consequences and achieve inherently safer design.</p> <p>The applicant states that "the Health and Safety Executive does not usually require further action to reduce risks in [the] lowest classification [of risk] unless reasonably practicable measures are available, such as developing comprehensive emergency response plans. The Applicant will work with all relevant local authorities to develop such plans." Comprehensive emergency response plans become irrelevant when a pipeline passes so close to isolated dwellings that, in the event of a rupture, occupants could have only seconds to live. This is not remotely an adequate approach to mitigating the consequences of pipeline rupture. Other reasonably practicable measures are readily available, primarily segregation by safe distance. We would regard a distance sufficient to ensure safe refuge in an occupied building to be a bare minimum (see our Relevant Representation (REP1- 137) paragraphs 8 and 12), and, on the ALARP principle, wherever practicable, to control outdoor exposure below the SLOT DTL. Achieving nominal ALARP purely by engineered safety is thoroughly inadequate.</p>	
2.20.1-3		<p>In its response to our Relevant Representation, the applicant repeats the same PR-speak from its answer to ExQ1 1.1.22 in answer to all points concerning safety. It fails to address any of the substantive points, preferring to restate the claim that it has ticked relevant boxes than to demonstrate a serious approach to safety. Please see our response to the applicant's answer to ExQ1 1.1.22 above.</p>	
2.20.4		<p>No further comment. 2.20.5 – The impression of the adequacy of the consultation given by the applicant is not shared by a significant number of those consulted.</p>	
2.20.6		<p>The applicant restates its case, but fails to address the point regarding the inadvisability of the specific use of CCS in this project.</p>	
2.20.8-9		<p>On safety, we are referred to the same inadequate response given to sections 2.20.1-3. Please see our response to the applicant's answer to ExQ1 1.1.22 above.</p>	
2.20.10		<p>We are not sure how the applicant's comments are supposed to be pertinent. They fail to address the points made in relation to the severity and range of the hazards that the project poses to the public.</p>	

Ref	Topic	Interested Party's Comment	Applicant's Response
2.20.11-14		On safety we are again referred to the same inadequate response given to sections 2.20.1-3. Please see our response to the applicant's answer to ExQ1 1.1.22 above. The applicant fails to address the points made in relation to the severity and range of the hazard it poses to the public. It fails to follow the science or relevant industry guidance, preferring to tick the minimum number of boxes to comply with legislation.	
2.20.15-18		<p>Stating that "EN-1 makes it clear that there is no general requirement to consider alternatives or establish whether the proposed project represents the 'best option' from a policy perspective" rather emphasises the applicant's cynical approach to consultation and examination.</p> <p>The applicant quotes: "In determining compliance, HSE expects pipeline operators to apply relevant good practice as a minimum." As we have shown above and in REP1-137, the applicant has failed to apply relevant good practice.</p> <p>The applicant fails to address any of the substantive points relating to routing as a means to mitigate the consequences of pipeline rupture. Please see also our response to the applicant's answer to ExQ1 1.1.22 above</p>	
2.20.19		<p>The applicant fails to say why it would not consider reversing the "minor diversion to the east" on route E-2 in the interests of safety. It has shown only mitigation of risk and not of consequences. Safe distance is intended to mitigate consequences. The applicant's determination not to address the consequences of pipeline rupture shows a somewhat cavalier attitude to public safety.</p> <p>As previously pointed out to the applicant, the marginal incursion into flood zones 2 and 3 along route E-1B is small compared to the great swathe of flood zone encountered after their preferred route crosses the B1200. This argument is specious. If the applicant was so concerned about floodzone incursion, it would not have countenanced the "minor diversion to the east". The "risk to people working within the flood plain" is routinely controlled and will need to be after the route crosses the B1200. This is not a substantive objection.</p>	
2.20.20-21		The slight additional incursion into flood zones 2 and 3 on the suggested blue and green alternatives (REP1-132) is as nothing compared to the great swathe of flood zone encountered after the preferred route crosses the B1200. This objection is specious, as are the rest. An additional incursion has already been accepted by the applicant on its "minor diversion to the east". We can't think where the supposed area of floodplain grazing marsh could be on these routes. The last area or floodplain grazing marsh in the area was drained by our family in the early part of the last century. Could the applicant be relying upon very old maps again?	
2.20.22-24		The applicant simply fails to address any of the substantive points relating to odourisation, venting, or pipeline depth. Again, it appears frankly blasé about public safety.	
2.20.26		Please see our response to 2.20.5 above.	
2.20.27-30		The applicant restates its case, but fails to address any of the substantive points regarding fossil fuel lock-in, economic damage, enhanced recovery, or incompatibility with nuclear GDF at Theddlethorpe.	
2.20.31		The applicant repeats its answer to ExQ1 1.3.10.	

Ref	Topic	Interested Party's Comment	Applicant's Response
		Please see our response above. Overall, the applicant's responses are predictable and inadequate.	

Appendix A - Climate 2.1.10 Additional Information on the GHG Calculations

Category	Material Type	Total Mass	Emission Factor	Source	Emissions
Steel	Steel, plate	444,052.18	2.46	ICE DB V3.0 (2019)	1,093.01
Galvanised Steel	Steel, hot-dipped galvanised	11,103.25	2.76	ICE DB V3.0 (2019)	30.64
In-Situ Concrete C15	Concrete, In-situ C12/15 Mpa	727,482.00	0.097	ICE DB V3.0 (2019)	70.57
In-Situ Concrete C40	Concrete, In-situ C32/40 Mpa	892,518.00	0.138	ICE DB V3.0 (2019)	123.17
Precast Concrete	Concrete, Precast concrete (Ordinary Portland Cement CEM I)	93,842.15	0.148	ICE DB V3.0 (2019)	13.89
Aggregates	Aggregates and sand, from virgin land won resources, bulk, loose	9,747,504.93	0.00438	ICE DB V3.0 (2019)	42.69
Asphalt	Asphalt, 5% binder content	1,208,000.00	0.00532	ICE DB V3.0 (2019)	6.43
GRP	GRP, Plastic	2,000.00	8.1	Ntl. Highways DB	16.20
Cabling	Cable, Armoured cable / Power cable	1,136.50	1.86	Ntl. Highways DB	1.48
Lighting	Road lighting and columns, LED light	21.90	6.67	Ntl. Highways DB	0.15
Camera	Cameras, Camera unit	93.60	3.206	Ntl. Highways DB	0.30
Cabinet	Cabinets, Average roadside cabinet type	212.67	2.76	Ntl. Highways DB	0.59
Steel Pipe	Steel, pipe	2,517.00	3.02	ICE DB V3.0 (2019)	76,002.81

Heavy Plant	Quantity	Average daily on time	Number of days per week	Number of weeks in use	Fuel consumption per hour (ltrs)	Total fuel consumption (ltrs)	Emissions Factor (kg CO2e)	Total emissions (t CO2e)
10 Tonne Dumper Truck	3	10	6	3	18	9,720	3.283461737	31.92
100ton HDD Rig	2	10	6	32	58	222,720	3.283461737	731.29
22-36 Bending Machine	1	10	6	10	25	15,000	3.283461737	49.25
561 Pipelayer	3	10	6	6	8	8,640	3.283461737	28.37
583 Pipelayer	15	10	6	13	8	93,600	3.283461737	307.33
Cat CB10 Tandem Vibratory Roller	3	10	6	26	17.33333333	81,120	3.283461737	266.35
CAT D7 Bulldozer	10	10	6	33	29	574,200	3.283461737	1885.36
CAT Excavator 20-45ton	40	10	6	56	29	3,897,600	3.283461737	12797.62
CAT G14 Grader	7	10	6	5	20	42,000	3.283461737	137.91
LIEBHERR SR714L GP Welding Tractor	7	10	6	6	9	22,680	3.283461737	74.47
Pipe Carrier	2	10	6	3	25.04	9,013	3.283461737	29.59
Rammax 850 Remote control Trench Roller	6	10	6	26	3.1	29,016	3.283461737	95.27
Superior SPD-150 Padding Machine	2	10	6	5	76	45,600	3.283461737	149.73
Light Plant	Quantity	Average daily on time	Number of days per week	Number of weeks in use	Fuel consumption per hour (ltrs)	Total fuel consumption (ltrs)	Emissions Factor (kg CO2e)	Total emissions (t CO2e)
Telehandler (Forklift Truck)	1	4	6	60	5.97	8,596.80	3.283461737	28.23
24/30-150 Auger Boring Machine	4	10	6	25	0.7	10,080.00	3.283461737	33.10
2-inch Pumps	4	2	6	40	0.75	1,440.00	3.283461737	4.73

3.5ton Mini Digger	1	6	6	30	3.9	4,212.00	3.283461737	13.83
300 cfm Air Compressor	2	6	6	60	20	86,400.00	3.283461737	283.69
400 amp Weld Sets	4	10	6	14	4.9	16,464.00	3.283461737	54.06
4-inch Pumps	20	2	6	40	5	48,000.00	3.283461737	157.61
750cfm Atlas Copco XAS750 CD6 Air Comp	2	6	6	60	50.02	216,086.40	3.283461737	709.51
Absorption Dryer (desiccant)	2	12	6	1	0	0	3.283461737	0.00
Atlas Copco CP232 Compressor	3	10	6	40	20	144,000.00	3.283461737	472.82
Dumper 2ton	1	6	6	4	5.97	859.68	3.283461737	2.82
Kubota Tractor with 3 Point Post Hole Borer	1	10	6	10	22.7	13,620.00	3.283461737	44.72
Micro tunnel Boring Machine (MTBM)	1	10	6	12	13.60651174	9,796.69	3.283461737	32.17
Pedestrian Roller - Bomag Single Drum	3	10	6	5	3	2,700.00	3.283461737	8.87
PFM & Hydraulic Power Unit (HPU)	3	10	6	12	4	8,640.00	3.283461737	28.37
Quad Bikes	8	4	6	12	2.294187879	5,285.81	3.283461737	17.36
Tracked Pipe Carrier	2	10	6	5	13.60651174	8,163.91	3.283461737	26.81
45t Excavator with 10t Vacuum Lift-Vacuwork	1	6	6	5	60.5	10,890.00	3.283461737	35.76
50 ton Crane	2	6	6	20	8	11,520.00	3.283461737	37.83

