



Hornsea Project Four

Applicant's comments on other submissions received at Deadline 5

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Revision Summary

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Revision Change Log

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1 Introduction

1.1.1.1 At Deadline 5 the following 35 submissions were received from 24 stakeholders:

- BCLP LLP on behalf of National Grid Electricity Transmission Plc - Responses to the Examining Authority's Further Written Questions (ExQ2) ([REP5-090](#))
- BP Exploration Operating Company Limited - Responses to the Examining Authority's Further Written Questions (ExQ2) ([REP5-091](#))
- Dee Atkinson and Harrison on behalf of Mr C W and Mrs C F Foreman - Withdrawal of Representation ([REP5-092](#))
- CMS Cameron McKenna Nabarro Olswang LLP on behalf of Doggerbank Offshore Wind Farm Project 1 Projco Limited and Doggerbank Offshore Wind Farm Project 2 Projco Limited – Deadline 5 Submission ([REP5-093](#))
- East Riding of Yorkshire Council - Responses to the Examining Authority's Further Written Questions (ExQ2) ([REP5-094](#))
- Doggerbank Offshore Wind Farm Project 1 Projco Limited and Doggerbank Offshore Wind Farm Project 2 Projco Limited - Schedule 9 Part 7 of the draft Development Consent Order (dDCO) (Clean) ([REP5-095](#))
- Doggerbank Offshore Wind Farm Project 1 Projco Limited and Doggerbank Offshore Wind Farm Project 2 Projco Limited - Schedule 9 Part 7 of the draft Development Consent Order (dDCO) (Tracked Changes). ([REP5-096](#))
- Doggerbank Offshore Wind Farm Project 1 Projco Limited and Doggerbank Offshore Wind Farm Project 2 Projco Limited - Schedule 13 of the draft Development Consent Order (dDCO) (Clean) ([REP5-097](#))
- Doggerbank Offshore Wind Farm Project 1 Projco Limited and Doggerbank Offshore Wind Farm Project 2 Projco Limited - Schedule 13 of the draft Development Consent Order (dDCO) (Tracked Changes) ([REP5-098](#))
- Environment Agency - Responses to the Examining Authority's Further Written Questions (ExQ2) ([REP5-099](#))
- Gordons LLP on behalf of Paul and Joanne Dransfield - Responses to the Examining Authority's Further Written Questions (ExQ2) ([REP5-100](#))
- Harbour Energy – Deadline 5 Submission ([REP5-101](#))
- Health and Safety Executive - accepted at the discretion of the Examining Authority ([REP5-102](#))
- Historic England - Responses to the Examining Authority's Further Written Questions (ExQ2) ([REP5-103](#))
- Historical Railways Estate on behalf of the Department for Transport - accepted at the discretion of the Examining Authority ([REP5-104](#))
- Hull City Council - Comments on any submissions received at Deadline 4 and 4a ([REP5-105](#))
- Hull City Council - Responses to Examining Authority's First Written Questions (ExQ1) ([REP5-106](#))
- Marine Management Organisations (MMO) - Deadline 5 comments, Responses to Examining Authority's Further Written Questions (ExQ2), Comments on any submissions received at Deadline 4 and 4a, Further information requested by the Examining Authority under Rule 17 ([REP5-107](#))

- Maritime and Coastguard Agency - Responses to the Examining Authority's Further Written Questions (ExQ2) and comments on any submissions received at Deadline 4 [\(REP5-108\)](#)
 - Ministry of Defence - Responses to the Examining Authority's Further Written Questions (ExQ2) [\(REP5-109\)](#)
 - Natural England Submission – Cover Letter [\(REP5-110\)](#)
 - Natural England -Response to the Examining Authority's Further Written Questions (ExQ2) [\(REP5-111\)](#)
 - Natural England – Risks and Issues Log [\(REP5-112\)](#)
 - Natural England – Response to the Rule 8(3) letter [\(REP5-113\)](#)
 - Natural England – Marine Management Organisation & Cefas review of G4.9 Marine Processes Supplementary Report Revision: 01 [\(REP5-114\)](#)
 - Natural England - Additional guidance on the assessment of guillemot and razorbill displacement impacts for the Hornsea Project Four Offshore Wind Farm [\(REP5-115\)](#)
 - Natural England - Additional guidance on the apportioning of northern gannet and black-legged kittiwake to Flamborough and Filey Coast (FFC) Special Protection Area (SPA) for the Hornsea Project Four Offshore Wind Farm [\(REP5-116\)](#)
 - Network Rail Infrastructure Limited – Responses to the examining Authorities Further Written Questions [\(REP5-117\)](#)
 - Perenco UK Limited - Responses to the Examining Authority's Further Written Questions (ExQ2) [\(REP5-118\)](#)
 - Royal Society for the Protection of Birds (RSPB) - Responses to the Examining Authority's Further Written Questions (ExQ2) [\(REP5-119\)](#)
 - Royal Society for the Protection of Birds (RSPB) - Comments on selected Deadline 3 and Deadline 4 submissions [\(REP5-120\)](#)
 - Savills on behalf of the Hotham Family Trust - Withdrawal of Relevant Representation [RR-034] [\(REP5-121\)](#)
 - The Corporation of Trinity House of Deptford Strond - Responses to the Examining Authority's Further Written Questions (ExQ2) [\(REP5-122\)](#)
 - The Crown Estate - Comments on any submissions received at Deadline 4 and 4a and Further information requested by the Examining Authority under Rule 17 [\(REP5-123\)](#)
 - The Wildlife Trusts - Responses to the Examining Authority's Further Written Questions (ExQ2) [\(REP5-124\)](#)
 - Viking Link – Joint Statement [\(REP5-125\)](#)
- 1.1.1.2 The Applicant has reviewed all Deadline 5 submissions and responded on individual stakeholders' submissions in Tables 2 – 4.
- 1.1.1.3 The following stakeholders are dealt with in separate responses documents, due to their length and/or complexity:
- G5.39 Applicant's comments on DCO submissions received at Deadline 5; and
 - G5.34 Applicant's Response to Natural England's additional guidance on apportioning of seabirds to FFC SPA for Hornsea Four
- 1.1.1.4 Please see the Deadline 5 submission of [G1.1 Overarching Acronyms List](#) and [G1.45 Overarching Glossary](#) for overarching acronym and glossary lists.

2 Applicant’s comments to Gordon’s LLP on behalf of Paul and Joanne Dransfield (REP5-100)

Reference	Stakeholder’s Written Representation	Applicant’s Response
REP5-100	Gordon’s LLP on behalf of Paul and Joanne Dransfield (REP5-100)	<p>The Applicant has reviewed ‘Gordons LLP on behalf of Paul and Joanne Dransfield – Responses to ExQ2’ (REP5-100). The Applicant considers that it has already provided a response to each of the points made in REP5-100. To assist Mr and Mrs Dransfield, the Applicant has provided a summary indicating where respective responses have been provided previously, a number of which were previously discussed with the representatives for Mr and Mrs Dransfield in 2020 in response to the same comments made on behalf of Mr and Mrs Dransfield during statutory pre-application consultation. The Applicant would welcome consultation input made with the Applicant’s responses taken into account for a continued and constructive dialog:</p> <ul style="list-style-type: none"> OnSS access road site selection and justification – please see the Applicant’s responses to Targeted Consultation (in APP-133, and repeated in Appendix A of REP5-074) that explains the OnSS access selection process. Please also see the Applicant’s response to question TT.2.3 in REP5-074, that provides a comprehensive summary of the site selection process, consideration of alternatives and selection of the preferred access off the A1079; Proximity to ancient woodland and ‘Candidate and Designated Local Wildlife Sites’ at Birkhill Wood and Jillywood Lane – please see the Applicant’s responses to Targeted Consultation (in APP-133, and repeated in Appendix A of REP5-074). The Applicant highlights that the 15m separation distance between Birkhill Wood LWS and the OnSS access track has been agreed with National England; Limiting construction works to a single area and reducing overall land take – The justification for taking access off the A1079 (as referenced above) indicates that a consolidation of works into one access off the A164 would not result in lesser impacts. Similarly, the Applicant does not consider that there would necessarily have been an overall reduction in land take during construction by consolidating works into a single area as it is likely that a wider area would have been required so as to be able to accommodate construction of the onshore cable at the same time as construction traffic for the OnSS, due to matters such as the parameters of the road and materials used, space required for soil stabilisation, in addition to logistical and practical requirements for the placement of the road within the onshore ECC to enable construction of both project components;

Reference	Stakeholder's Written Representation	Applicant's Response
		<ul style="list-style-type: none"> Proximity to Mr and Mrs Dransfield's property at Jillywood Farm and adverse amenity impacts – The site selection process for Hornsea Four has considered hundreds of residential properties across the wider study area. No one residential property has been favoured above another and commitments made by the Applicant to locate development works specific minimum distances from residential receptors (Co49, Co134, Co135) were made to minimise the potential for amenity impacts to occur. The Applicant highlights that the habitable buildings and tennis court at Jillywood Farm are all over 150m from the OnSS access track (see REP5-079) and noise and visual impacts at Jillywood Farm during both construction and operation have been assessed as being not significant; Interaction with Flood Zone 3 – please see the Applicant's responses to Targeted Consultation (in APP-133, and repeated in Appendix A of REP5-074); Interaction with existing power lines and high-pressure gas pipeline - please see the Applicant's responses to Targeted Consultation (in APP-133, and repeated in Appendix A of REP5-074); and Consultation adequacy – the Applicant has explained numerous times why it considers its statutory consultation to have been adequate and does not propose to provide a further response on this topic (see REP5-074 for a summary of the Applicant's responses).

3 Applicant's Comments to Marine Management Organisation (REP5-107)

Reference	Stakeholder's Written Representation	Applicant's Response
<i>1.2 Outline Offshore Operations and Maintenance Plan</i>		
1.2.5	<p>In Table 3 (Maximum design parameters for total offshore operation and maintenance activities.) for "Foundation anode replacement", we note that the contents have been interrupted by the row on "Seabed Surveys" and that this is replicated throughout the table where it has crossed onto another page. We advise that this is corrected, we also request that it references its limitations of the replacement to be in line with "like-for-like or as within the project envelope"</p>	<p>The table in G2.7 Outline Offshore Operations and Maintenance Plan has been updated to correct the formatting error.</p> <p>All authorised works must be within the project envelope secured by the DCO and DMLs . As such, the Applicant feels it would be redundant to add this requirement into the table.</p>

Reference	Stakeholder's Written Representation	Applicant's Response
1.2.6	In Table 3 the same issue has occurred for "Cable protection replacement" and this has also been cut off by Seabed Surveys. We also request further detail is added to the description.	The table in G2.7 Outline Offshore Operations and Maintenance Plan has been updated to correct the formatting error.
1.2.7	For "Array cable repairs", we request that for any replacement of all components, limitations are added to be in line with "like-for-like or as within the project envelope".	Please see response to 1.2.5 above.
<i>Comments on Marine Processes Supplementary Report [REP4-043]</i>		
4	REP5-114: Deadline 5 Submission - Marine Management Organisation & Cefas review of G4.9 Marine Processes Supplementary Report - Revision: 01 [REP4-043]	The Applicant's full response is provided in G5.33 Clarification Note on Marine Processes Mitigation and Monitoring submitted at Deadline 5a.
<i>Comments on Clarification Note on Marine Sediment Contaminants - Revision: 02 [REP4-031].</i>		
4.2.3	The results template (document referenced in para 4b) lists the sample depths as ranging from 8 – 65m. It is highly likely that this refers to the water depth of the sample location, rather than the sediment depth below the seabed. The latter depth is what's required. The Applicant should confirm the sediment depth of the sample locations – if samples were only taken from the seabed surface, then the sediment depth is 0m.	<p>The Applicant can confirm that all samples collected for contaminant analysis were acquired from the seabed surface using a mini-Hamon grab.</p> <p>The results template has been updated to reflect sediment sampling depth (0 m) and the Applicant has submitted this to the MMO ahead of Deadline 5a.</p>
4.2.4 & 4.2.5	<p>The report (document referenced in para 4a) now includes the certificate of analysis for PAHs as an appendix. The certificate of analysis is watermarked as being published by SOCOTEC, who are validated by the MMO for PAH analysis. This indicates that the PAH analysis may have been conducted by SOCOTEC, however, document referenced in para 4b still lists the contracting laboratory as "Bibby HydroMap Limited / Benthic Solutions Limited" for all analytes (this/these is/are not validated by the MMO for any analysis).</p> <p>It is essential that methods used to analyse marine sediments are standardised, as different methods and standards can lead to very different results. It may be the case that SOCOTEC have subcontracted the analyses to Bibby HydroMap Limited / Benthic Solutions Limited. If this is the case, the results generated from such an approach would not be acceptable as the MMO laboratory validation process validates not only the methods used, but also the capabilities and standards of the laboratory conducting the analysis.</p>	<p>The Applicant can confirm that SOCOTEC completed the contaminant analyses for both the offshore array and offshore ECC samples. The results template has been updated accordingly.</p> <p>The results template has been updated accordingly and the Applicant has submitted this to the MMO ahead of Deadline 5a.</p>

Reference	Stakeholder's Written Representation	Applicant's Response
	<p>If Bibby HydroMap Limited / Benthic Solutions Limited did not conduct any of the analyses, it is unclear why they have been included on the Results Template (document referenced in para 4b) and clarification should be provided.</p>	
4.2.6	<p>The Applicant should also note that, if SOCOTEC did indeed conduct all listed analyses, the Particle Size Analysis (PSA) data would not be acceptable as SOCOTEC are not validated by the MMO for PSA.</p>	<p>The Applicant can confirm that the Particle Size Analysis (PSA) was completed by Gardline Environmental Ltd for samples collected within the array and by Benthic Solutions Ltd for those samples collected across the export cable corridor - both contractors are validated by the MMO for PSA.</p> <p>The results template has been updated accordingly and the Applicant has submitted this to the MMO ahead of Deadline 5a.</p>
4.2.7	<p>Given the discrepancies now present within the application, the MMO requests written clarification from the Applicant as to which laboratories conducted which analyses. The Results Template should also be updated in this regard. Until this is clarified, the MMO consider the data presented to be inadequate to support any conclusions concerning contaminant levels.</p>	<p>As detailed above, accredited laboratories undertook the analyses for both sediment contaminants and Particle Size Analysis (PSA) and as such, the Applicant considers the data presented in the updated results template to be adequate to support conclusions concerning contaminant levels.</p> <p>The results template has been updated accordingly and the Applicant has submitted this to the MMO ahead of Deadline 5a.</p>
4.2.8	<p>PAH unit comment has now been resolved as the Applicant has given the PAH units within the report proper and in Appendix B (mg/kg). This is corroborated by document referenced in paragraph 4b. However, please note that we have been unable to review the results in terms of the potential risk due to outstanding concerns.</p>	<p>The Applicant welcomes the resolution of the PAH unit comment. With regards to the outstanding concerns, the above responses address these points which should remove the concerns relating to accredited laboratories. As such, the Applicant considers that the MMO should now be able to provide its comments on the results.</p>
4.2.9	<p>Section 4.2.1.3 states: "It should also be noted that contaminants within the seabed sediments are highly likely to be remobilised during storm events, and as such there will not be a novel or acute introduction of contaminants into the environment beyond natural baseline conditions." The MMO believe this comparison of the proposed activities to storm surge is questionable, as the effects of storm surge can vary greatly dependent on water depth, i.e. such effects are likely to be more notable in shallower, coastal waters compared to deeper offshore waters. If this argument is adequately supported by the plume modelling referenced earlier in the paragraph, in that the results show</p>	<p>The Applicant wishes to clarify that paragraph 4.2.1.3 refers to storm events and not storm surges - these are very different phenomena. Storm surges occur during low atmospheric events (including storms) which result in a rise in water level.</p> <p>The Applicant's position is that the surface seabed sediments are likely to be disturbed during low frequency and high energy events (storms). This disturbance is influenced by waves-current interactions on the seabed. Therefore, remobilisation of seabed sediment and so disturbance of the sediment bound contaminants occurs within the natural variation of the baseline.</p>

Reference	Stakeholder's Written Representation	Applicant's Response
	that potential disturbance will be comparable to storm surge effects, then the point is acceptable, but should be better justified.	
4.2.10	Tables 3 and 7 list the Action Levels (ALs) for all PAHs as 0.1 mg/kg. This is not the case for dibenz(a,h)anthracene, the associated AL1 for which is 0.01 mg/kg due its relative higher toxicity at lower concentrations. In Table 7 this affects samples ECC19, ECC20 and ECC21, which should be colour-coded amber/yellow.	The Applicant has utilised the Action Levels displayed on the MMO's website 'Marine Licensing: sediment analysis and sample plans'. Therefore, the Applicant has sought to align the information presented within its DCO Application (and most recently G1.44 Clarification Note on Marine Sediment Contaminants (REP4-032)) with this guidance. This guidance does not include a specific Action Level for dibenz(a,h)anthracene. However, the Applicant agrees that the samples at ECC19, ECC20 and ECC21 are greater than 0.01 mg/kg. Nevertheless, as detailed in paragraph 4.2.1.5 and as demonstrated by applying the Gorham-Test Approach, these stations do not exceed effective range median (ERM) above which probably adverse effects are anticipated to occur. The conclusions that "probable adverse effects are not anticipated at these stations or elsewhere along the ECC" remain valid.
4.2.11	The document references the "Gorham test". The Applicant should note that the correct reference is "Gorham-Test" which is the name of the author of the relevant PAH effect ranges (Gorham-Test et al., 1999). CEFAS typically refers to this as the Gorham-Test approach.	The Applicant notes this reference error. However, this error does not alter the findings of the analysis which remain valid.
4.2.12 & 4.2.13	<p>Summary</p> <p>Of the concerns raised at the previous stage, the Applicant has:</p> <ul style="list-style-type: none"> • Resolved the concern relating to the ambiguity of reporting units for PAH results. • Not resolved the concern relating to sample location depths. • Not resolved the concern relating to contracted laboratories. <p>Both outstanding concerns should be resolved, however, the latter concern is more critical to the application. The MMO recommend that the MMO Results Template (document referenced in para 4b) is updated to reflect the actual laboratories which conducted the analyses, and that written clarification is provided to the MMO to resolve the discrepancies present. The data are not considered adequate to support the application until this is resolved.</p>	The responses presented above and the updates completed to the results template will resolve both the concern relating to sample depth and provide clarity that the contracted laboratories are MMO accredited for both contaminant analyses and PSA.

4 Applicant's Comments to Natural England (REP5-112: Deadline 5 Submission – Risk and Issues Log)

Reference	Stakeholder's Written Representation	Applicant's Response
<i>Summary Tab – Marine Mammals</i>		
Marine Mammals: EIA – CEA (row 22)	The Applicant has provided an illustrative assessment of vessel collision risk from which we are in agreement that there will be no Adverse Effect on Site Integrity on harbour seal in the Wash and North Norfolk Coast SAC in relation to collision effects. However, LSE could not be ruled out and vessel collision risk should therefore not be scoped out of the assessment.	<p>The Applicant confirms that vessel collision risk was not scoped out of the assessment at EIA and was included in the marine mammal impact assessment in A2.4 Marine Mammals (APP-016):</p> <ul style="list-style-type: none"> • Vessel collision risk (MM-C-4) • Vessel collision risk (MM-O-28) <p>The adoption of a vessel management plan during construction (Commitment Co108) will minimise the potential for any impact.</p> <p>Vessel collision risk was not included in the Cumulative Effects Assessment as it is expected that all offshore energy projects will employ a vessel management plan to reduce the already low risk of collisions with marine mammals to negligible. It has been confirmed in Natural England's Deadline 5 submission of their Risks and Issue Log (REP5-112) that Natural England agree with the Applicant's response regarding screening out vessel collision risk from the CEA: <i>"The Applicant has provided written justification on the measures other developers may have in place (in addition to VMPs) and the nature of vessel movements for other developments. Although we consider that the applicant has still only provided an assumption about other industries, it is a reasonable assumption. Therefore the information provided by the applicant is sufficient to address our concerns."</i></p> <p>The Applicant considers this matter to be agreed and closed.</p>
Marine Mammals: HRA Screening (row 24) & HRA Assessment (row 26)	The Applicant has provided an illustrative assessment of vessel collision risk from which we are in agreement that there will be no Adverse Effect on Site Integrity on the Wash and North Norfolk Coast SAC in relation to collision effects. However, LSE could not be ruled out and should be included in the HRA assessment.	The Applicant has provided the necessary information (with conclusion supported by Natural England) within G4.11 Clarification Note on Marine Mammals (REP4-045) . Information is therefore available to the Examining Authority for its RIES, which will ultimately inform the Secretary of State's HRA assessment – therefore addressing Natural England's request.

Reference	Stakeholder's Written Representation	Applicant's Response
Marine Mammals: HRA In-Combination (row 27)	<p>The Applicant has provided a side by side comparison of the tiers in the RIAA and CEA, which we welcome. However, we have comments and clarifications required on the information provided, as outlined in our response to Comment 11 in Appendix D - Marine Mammal, before we can consider whether our concerns have been addressed.</p> <p>NE have provided an updated position on the inclusion of seismic surveys. We maintain that a nominal seismic survey is included in the RIAA in-combination assessment.</p>	<p>The Applicant has provided the necessary information (G5.36 Clarification Note on Seismic Surveys) to the Examination at Deadline 5a to support the current RIAA in-combination conclusion of no adverse effect on integrity. Information is therefore available to the Examining Authority for its RIES, which will ultimately inform the Secretary of State's HRA assessment – therefore addressing Natural England's request.</p>

Tab B - Ornithology

B19	<p>Natural England notes that there has been no assessment of the extent and suitability of habitat for guillemot outside the array plus buffer area, nor of the potential effects of increased densities in this area. Furthermore, additional evidence previously requested by NE during the Evidence Plan Process to address questions regarding the impacts of displacement on guillemot and razorbill in the Hornsea 4 array area has not been presented. This included a request for information about the potential specific importance of the Hornsea 4 array area to guillemot and razorbill compared to the wider surrounding area. Natural England request that further consideration is given now to drivers of seasonal variations in the wider spatial distributions of auks, particularly during August and September, to determine the potential importance of this area.</p>	<p>Please see the further information provided in Section 2.3 of G5.34 Applicant's Response to Natural England's additional guidance on apportioning of seabirds to FFC SPA for Hornsea Four submitted at Deadline 5a.</p>
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Tab D – Marine Mammals

D1	<p>The Applicant has provided examples of density estimates for the CES MU, which are an order of magnitude higher than the GNS MU. The Applicant maintains that there is no evidence to suggest that these density estimates are comparable to the areas of bottlenose dolphin presence along the northeast English coast.</p> <p>Whilst we understand that there is limited evidence, we are still concerned that the GNS MU density estimate is not suitably precautionary as it doesn't</p>	<p>As requested, the Applicant has provided a list of, purely illustrative and highly conservative, impact estimates using different bottlenose dolphin densities in the table below:</p> <table border="1" data-bbox="1120 1173 1825 1361"> <thead> <tr> <th>Density approach</th> <th>Density #/km²</th> </tr> </thead> <tbody> <tr> <td>Uniform density in Greater North Sea (GNS) Management Unit (MU)</td> <td>0.003</td> </tr> <tr> <td>Uniform density in Coastal East Scotland MU</td> <td>0.0104</td> </tr> </tbody> </table>	Density approach	Density #/km ²	Uniform density in Greater North Sea (GNS) Management Unit (MU)	0.003	Uniform density in Coastal East Scotland MU	0.0104
Density approach	Density #/km ²							
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Uniform density in Coastal East Scotland MU	0.0104							

Reference	Stakeholder's Written Representation	Applicant's Response																																			
	<p>account for the known increased presence of bottlenose dolphin at the coast, which have been linked to the CES MU.</p> <p>We would be supportive of the Applicant using a higher density estimate for the portion of habitat along the northeast English coast that meets the typical usage patterns of bottlenose dolphin in the CES MU (i.e. within 2 km, 3 km, and 25 m depth contour). We understand that this assessment would be purely illustrative, and highly conservative, but it would give an indication of the worst-case number of animals impacted should density estimates be similar to the CES MU.</p>	<table border="1" data-bbox="1131 233 1825 454"> <tr> <td>Uniform density within 2 km of the mainland coast within CES MU</td> <td>0.1102</td> </tr> <tr> <td>Uniform density within 3 km of the mainland coast within CES MU</td> <td>0.0803</td> </tr> <tr> <td>Uniform density within 25 m depth contour of the mainland coast within CES MU</td> <td>0.1044</td> </tr> </table> <p>The following is a table of results for the impact of unexploded ordnance (UXO) clearance, assuming different bottlenose dolphin density estimates:</p> <table border="1" data-bbox="1131 598 1825 1364"> <thead> <tr> <th>Density approach</th> <th>Density</th> <th>High order PTS (800 kg)</th> <th>26 km EDR</th> <th>5 km EDR</th> </tr> </thead> <tbody> <tr> <td>Uniform density in GNS MU</td> <td>0.003 (across entire impact area)</td> <td><1 <0.45% CES <0.05% GNS</td> <td>6 2.84% CES 0.32% GNS</td> <td><1 <0.45% CES <0.05% GNS</td> </tr> <tr> <td>Uniform density from CES MU</td> <td>0.0104 (across entire impact area)</td> <td><1 <0.45% CES <0.05% GNS</td> <td>22 9.86% CES 1.09% GNS</td> <td>1 0.45% CES 0.05% GNS</td> </tr> <tr> <td>Uniform density within 2 km of land</td> <td>0.1102 (only out to 2 km)</td> <td><1 <0.45% CES <0.05% GNS</td> <td>7 3.05% CES 0.34% GNS</td> <td>1 0.45% CES 0.05% GNS</td> </tr> <tr> <td>Uniform density within 3 km of land</td> <td>0.0803 (only out to 3 km)</td> <td><1 <0.45% CES</td> <td>8 3.66% CES</td> <td>2 0.75% CES</td> </tr> </tbody> </table>					Uniform density within 2 km of the mainland coast within CES MU	0.1102	Uniform density within 3 km of the mainland coast within CES MU	0.0803	Uniform density within 25 m depth contour of the mainland coast within CES MU	0.1044	Density approach	Density	High order PTS (800 kg)	26 km EDR	5 km EDR	Uniform density in GNS MU	0.003 (across entire impact area)	<1 <0.45% CES <0.05% GNS	6 2.84% CES 0.32% GNS	<1 <0.45% CES <0.05% GNS	Uniform density from CES MU	0.0104 (across entire impact area)	<1 <0.45% CES <0.05% GNS	22 9.86% CES 1.09% GNS	1 0.45% CES 0.05% GNS	Uniform density within 2 km of land	0.1102 (only out to 2 km)	<1 <0.45% CES <0.05% GNS	7 3.05% CES 0.34% GNS	1 0.45% CES 0.05% GNS	Uniform density within 3 km of land	0.0803 (only out to 3 km)	<1 <0.45% CES	8 3.66% CES	2 0.75% CES
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Density approach	Density	High order PTS (800 kg)	26 km EDR	5 km EDR																																	
Uniform density in GNS MU	0.003 (across entire impact area)	<1 <0.45% CES <0.05% GNS	6 2.84% CES 0.32% GNS	<1 <0.45% CES <0.05% GNS																																	
Uniform density from CES MU	0.0104 (across entire impact area)	<1 <0.45% CES <0.05% GNS	22 9.86% CES 1.09% GNS	1 0.45% CES 0.05% GNS																																	
Uniform density within 2 km of land	0.1102 (only out to 2 km)	<1 <0.45% CES <0.05% GNS	7 3.05% CES 0.34% GNS	1 0.45% CES 0.05% GNS																																	
Uniform density within 3 km of land	0.0803 (only out to 3 km)	<1 <0.45% CES	8 3.66% CES	2 0.75% CES																																	

Reference	Stakeholder's Written Representation	Applicant's Response				
				<0.05% GNS	0.41% GNS	0.08% GNS
		Uniform density within 25 m depth contour	0.1044 (only out to 25 m contour)	<1 <0.45% CES <0.05% GNS	39 17.62% CES 1.95% GNS	8 3.66% CES 0.41% GNS
		<p>The following 2 images show the overlap in disturbance contours for high order (26 km Effective Deterrent Range (EDR) and low order (5 km EDR) UXO clearance as an illustration of potential overlap with bottlenose dolphin areas of usage. Image 1: shows 2 km and 3 km buffers from land. Image 2: shows 25 m depth contour.</p>				

Reference	Stakeholder's Written Representation	Applicant's Response
		<p>Irrespective of the density estimate used, the number of bottlenose dolphin predicted to experience PTS from high order UXO clearance (800 kg) is <1 dolphin. This impact is of negligible magnitude and thus not significant.</p> <p>Irrespective of the density estimate used, the number of bottlenose dolphins predicted to experience disturbance from high order UXO clearance (26 km EDR) is low (up to 39 dolphins, even under these worst-case and unrealistic density assumptions). Therefore no significant impact is expected.</p>
D2	<p>The Applicant has provided further information in support of their position to not mitigate the full SELcum PTS zone and only mitigate the SPLpeak PTS zone. NE do not agree that the information provided by the Applicant is sufficient to justify their position, and maintain that the SELcum PTS zone must be taken into account when determining appropriate mitigation measures to reduce the risk of injury.</p> <p>We acknowledge that there are limitations to the assumptions used in modelling of SELcum PTS, however mitigation of solely the SPLpeak distance is insufficient as it will not account for exposure to sound over time which will certainly occur and could lead to PTS onset. At present, the best and most precautionary method available for calculating PTS from cumulative exposure is using the SELcum PTS thresholds and we advise that is what assessments and mitigation should be based on.</p> <p>We acknowledge that there is active research into the area of cumulative PTS. As such, better methods for estimating cumulative PTS distances may become available in the near future. We consider that any such new methods can be taken into account when finalising the mitigation measures in the MMMP post-consent. We understand that the Applicant is also of this position. If so, then this agreed position should be used to inform the principles of the draft MMMP, which need to be agreed at this stage.</p>	<p>The Applicant is in agreement with Natural England that there is ongoing active research into the area of cumulative PTS and as such, better methods for estimating cumulative PTS distances are expected to become available in the near future. The Applicant agrees that any such new methods should be taken into account when finalising the mitigation measures in the final MMMP post-consent. The Applicant is willing to accept that mitigation of cumulative PTS should be based on the latest research and methods available at the time of the final Marine Mammal Mitigation Protocol to best estimate cumulative PTS impact ranges.</p> <p>F2.5 Outline Marine Mammal Mitigation Protocol (APP-240) provides options under consideration that could be used to mitigate the PTS impact ranges, including:</p> <ul style="list-style-type: none"> • Marine Mammal Observers; • Passive Acoustic Monitoring; • Acoustic Deterrent Devices; and • At source mitigation methods including bubble curtains <ul style="list-style-type: none"> o see Table B-6 (monopile) and B-7 (pin pile) of Appendix B of APP-240 for an illustration of how bubble curtains are expected to reduce cumulative PTS impact ranges. <p>In conclusion, the Applicant agrees to commit to mitigating cumulative PTS impact ranges that have been calculated using the latest research and methods available at the time of the final MMMP.</p>

Reference	Stakeholder's Written Representation	Applicant's Response
	<p>We advise that the draft MMMP is updated to clearly set out their position and Natural England's position on the use of SELcum or SPLpeak to determine PTS distances, the areas of ongoing research on this subject, and that the final mitigation will be based on the evidence available at the time (e.g. on modified SELcum PTS distances). Similarly, the ES assessment should also be updated to reflect this change. The assessment of residual risk of PTS, which takes into account mitigation, should clearly state that mitigation of the full PTS zone will be undertaken, noting that the definition of the full PTS zone will be agreed post-consent.</p>	
D10	<p>The Applicant has provided an illustrative assessment of vessel collision risk.</p> <p>The Applicant has presented information on the potential ports for construction and O&M, anticipated vessel transit routes between these ports and the array area, and expected seal densities along these routes. They have also confirmed measures in the Vessel Management Plan ""will serve to minimise the potential for collisions from smaller, faster vessels."" This has resulted in the Applicant concluding no Adverse Effect on Site Integrity on the Wash and North Norfolk Coast SAC in relation to collision effects, which we are supportive of.</p> <p>However, for the avoidance of doubt, our initial request was for the Applicant to demonstrate no LSE to the Wash and North Norfolk Coast in relation to collision effects. The assessment and conclusion presented by the Applicant, alongside the use of mitigation in that conclusion, confirms to us that there is the potential for LSE and so a more detailed assessment (which can take into account mitigation) was required. This should therefore be reflected in the RIAA/HRA.</p> <p>In addition, the assessment presented by the Applicant was illustrative because the port(s) for construction and O&M are not yet known. Once the port(s) have been identified, we advise that the assessment should be revisited to ensure that the conclusions are still valid. The need for this</p>	<p>The Applicant has provided the necessary information (with conclusion supported by Natural England) within G4.11 Clarification Note on Marine Mammals (REP4-045). Information is therefore available to the Examining Authority for its RIES, which will ultimately inform the Secretary of State's HRA assessment – therefore addressing Natural England's request.</p> <p>The Applicant does not agree that a further assessment should be undertaken when the location of ports is known. The illustrative assessment, which Natural England is 'supportive' of, was precautionary and based on a worst-case scenario of likely ports. Furthermore, as Natural England mentions, the Applicant has committed to a Vessel Management Plan to provide further re-assurance that there will be no Adverse Effect on Site Integrity on the Wash and North Norfolk Coast SAC.</p>

Reference	Stakeholder's Written Representation	Applicant's Response
D11	<p>updated assessment prior to the discharge of the O&M plan should therefore be secured.</p> <p>The Applicant has clarified that the previous side-by-side comparison of tiers provided at Deadline 1 was incorrect. They have provided an updated side-by-side comparison, for illustrative purposes, in the response. Whilst we maintain that consistent tiering structure would have been clearer, we are content with the comparison provided (except for seismic surveys - see below).</p> <p>The response by the Applicant and the updated side-by-side comparison does not address our concern over the disparity between including seismic surveys in the CEA, but not in the in-combination assessment in the RIAA. Natural England has recently provided clarification to the Applicant over the inclusion of seismic surveys."</p>	<p>The Applicant has provided the necessary information (G5.36 Clarification Note on Seismic Surveys) at Deadline 5a to support the current RIAA in-combination conclusion of no adverse effect on integrity. Information is therefore available to the Examining Authority for its RIES, which will ultimately inform the Secretary of State's HRA assessment – therefore addressing Natural England's request.</p>

Tab E – Marine Processes

E3	<p>Rock protection on Smithic bank was reduced down to 5% within the REP3-035, however, Natural England still wish to see this reduced to zero, in order to exclude the potential for significant impacts arising both alone and cumulatively/in combination with other plans/projects.</p> <p>Similarly we would welcome consideration of further measures to reduce the over all impact of the proposal, particularly in the nearshore area, for example, the bundling of cables to reduce the number of installations through smithic bank and the number of cable crossings required.</p> <p>The Marine Process Supplementary works report REP4-043 suggests that bedform clearance for sandwaves will not occur across Smithic Bank (2.4.1.2) but this was not discussed in the MDS paper. Natural England would welcome clarification on this point and further information as to how this is secured within the DCO. (See ExQ2, PDS2.2)</p>	<p>The Applicant's full response is provided in G5.33 Clarification Note on Marine Processes Mitigation and Monitoring submitted at Deadline 5a.</p>
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Tab F – Benthic & Intertidal Ecology

F6	<p>Whilst there is no change with regard to the proposal Natural England put forward at deadline 4, we wish to provide this additional statement.</p>	<p>The Applicant can confirm that the pre-construction monitoring plan (secured under Condition 17 of Schedules 11 and 12 of the DCO (REP5-088)) will consider the latest guidance in relation to the identification of stony reef. The Applicant highlights that Natural</p>
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Reference	Stakeholder's Written Representation	Applicant's Response
	<p>With regard to our comment at deadline 4 Re 'ensure up to date guidance is being followed when identifying examples of stony reef' Natural England would like to highlight the 2022 JNCC paper on 'Refining the criteria for defining areas with a 'low resemblance' to Annex I stony reef' in particular section 8 (refinement of guidance) which should be considered alongside Irvine 2009 paper. The work includes biota as an important characteristic to be assessed in any stony reef surveys.</p> <p>This paper also states 'if the majority of the four criteria exceed 'low', then this strong justification could result in classifying the area as having a 'medium resemblance' to Annex I stony reef'.</p>	<p>England will be consulted on that plan prior to the pre-construction surveys and as part of the approval process and as such, the Applicant considers that this should provide comfort that there will be opportunity to incorporate the latest guidance prior to these surveys taking place.</p>
F29	<p>See Natural England's response to F2 at deadline 5 above. The Applicant has further reviewed the data and suggests there is little evidence from statistical analyses of any impact to the faunal community at the export cable corridor stations where hydrocarbons including PAHs and the metals (arsenic, nickel and lead) exceed CEFAS ALs and/or the Canadian ISQGs.</p> <p>However, Natural England notes that these conclusions relate only to the impact on the faunal assemblage where the contaminants are currently located and does not account for the potential impacts to different faunal assemblages should the sediment be deposited in alternate locations. We acknowledge F28 above that the Applicant is proposing best practice to deposit spoil material as close to the site of production. This will clearly minimise the potential for faunal impacts as a result of the presence of elevated contaminants. We therefore suggest that this best practice be secured in the DCO.</p>	<p>The Applicant has highlighted within the disposal report that the project will deposit spoil material as close to the site of production where possible following best practice guidance. As detailed within G1.44 Clarification Note on Marine Sediment Contaminants (REP4-032), it should also be noted that the results from the project specific modelling can be used to infer the number and rate of dilutions which would be achieved by any released contaminants as a result of the proposed activities. The release of contaminants, such as arsenic and PAHs, are likely to be rapidly dispersed with the tide and/ or currents and therefore increased bioavailability resulting in adverse eco-toxicological effects is not expected. As such, the Applicant considers that securing this commitment in the DCO is unnecessary.</p>

5 Perenco UK Limited - Responses to the Examining Authority's Further Written Questions (ExQ2) (REP5-118)

Reference	Stakeholder's Written Representation	Applicant's Response
REP5-118	Perenco UK Limited - Responses to the Examining Authority's Further Written Questions (ExQ2) (REP5-118)	The Applicant and Perenco are pleased to confirm that the parties are in the process of finalising the commercial terms. The Parties are confident that the agreement will be entered into prior to the hearings scheduled week commencing 18th July. The Parties will

Reference	Stakeholder's Written Representation	Applicant's Response
		notify the Examiners once the agreement is complete in the hope that the relevant representation can be withdrawn and any proposed hearing agenda item dispensed with.

6 Applicant's Comments to RSPB (REP5-119)

Reference	Stakeholder's Written Representation	Applicant's Response
<i>Deadline 5 Submission – Responses to the Examining Authority's Further Written Questions (ExQ2)</i>		
HRA	<p>The Applicant's response to ExQ1 HRA.1.33 (REP2-038) summarised in question HRA 2.3 relates to the issue of lead-in times such that the compensation measure is fully implemented and functioning before the relevant impact occurs.</p> <p>The RSPB addressed this issue in paragraphs 5.26-5.27 of its main Written Representation (REP2-089) and repeated below.</p>	<p>The Applicant refers the RSPB and ExA to our previous response on lead-in times for example 6.15 -Timings in G3.3 Applicant's Comment on Applicant's comments on other submissions received at Deadline 2 (REP3-031) submitted at Deadline 3, responses HRA.1.26 and C1 - 1,12,38,43 in G3.17 Applicant's comments on Natural England's Comments received at Deadline 2 (REP3-046) submitted at Deadline 3.</p>
<i>2.2 Deadline 5 Submission - Comments on selected Deadline 3 and Deadline 4 submissions</i>		
4.18 and 4.20	<p>We are concerned that the securing of such important issues is merely through an MoU at this late stage. Whilst we appreciate the helpfulness of such documents, it is our understanding that they are not enforceable and one party could easily be change its position. We are also concerned that even the offered MoU is not before the Examination nor any details of what the terms of any formal agreement with the Guernsey authorities may be. For the Examining Authority and Secretary of State to have confidence and be able to rely on the measures we would strongly suggest more information is needed with better legal protection before such reliance can be had...</p> <p>...Therefore, in order to verify that comparable protection is available for Ramsar sites in Guernsey, it would be necessary to:</p> <ul style="list-style-type: none"> Confirm with the Guernsey authorities that they have ratified and implemented the Ramsar Convention requirements and request a description of their legal and policy framework for the protection of Ramsar sites; and <p>Set out how that legal and policy protection framework is comparable to that provided to Ramsar sites in England.</p>	<p>The Applicant refers the RSPB to Revision 4 of B2.8.4 Compensation measures for FFC SPA: Predator Eradication: Roadmap (REP5-030) submitted at Deadline 5.</p> <p>The MoU (which is in part legally binding) has been agreed by the States of Guernsey (dated 10th June 2022) providing a framework to ensure support and long term security of the compensation measure. Permission has been granted to undertake the implementation study by States of Guernsey and tenants, including the necessary permission from the States of Guernsey Veterinary Officer required due to the Ramsar site designation protection. The Applicant is confident the necessary permissions and consents can be secured. In addition to this level of protection, the Ramsar site is also legally protected by The Land Planning and Development (Environmental Impact Assessment) Ordinance, 2007. In addition, cliffs are also protected as Sites of Special Significance and are protected under The Land Planning and Development (General Provisions) Ordinance, 2007. The Strategy for Nature document has been formally adopted as Supplementary Planning Guidance by the Planning Service. Guernsey's Strategy for Nature coordinates the delivery of Guernsey's commitments to the Convention on Biological Diversity and other international agreements including the Ramsar Convention on Wetlands and the Convention on Migratory Species. Therefore, the legal protection afforded to Ramsar sites in Guernsey is on parity with that provided in England</p>

Reference	Stakeholder's Written Representation	Applicant's Response
4.28	<p>OSPAR is an international convention and therefore, technically, it is the UK Government that is subject to OSPAR rather than private companies. To assist Interested Parties and the Examining Authority, we would welcome further clarification from the Applicant on:</p> <ul style="list-style-type: none"> • how it envisages it will be subject to OSPAR in respect of an offshore nesting structure; • how the relevant regulators view the proposal to extend the lifetime of a structure due to be decommissioned; and <p>the implications of this in respect of the lifetime of the offshore nesting structure compensation measure.</p>	<p>and sufficient to protect the compensation measure. The Applicant is confident the compensation measure will be effective and can be secured.</p> <p>The Applicant refers the RSPB to Section 10 of B2.7.2 Compensation measures for FFC SPA: Kittiwake Offshore Artificial Nesting Roadmap (REP5-018) submitted at Deadline 5. A derogation from OSPAR Decision 98/3 would not be required as Orsted is not seeking to retain the artificial nesting structure in situ in perpetuity. Nonetheless, the Applicant will continue to engage with OSPAR.</p>

