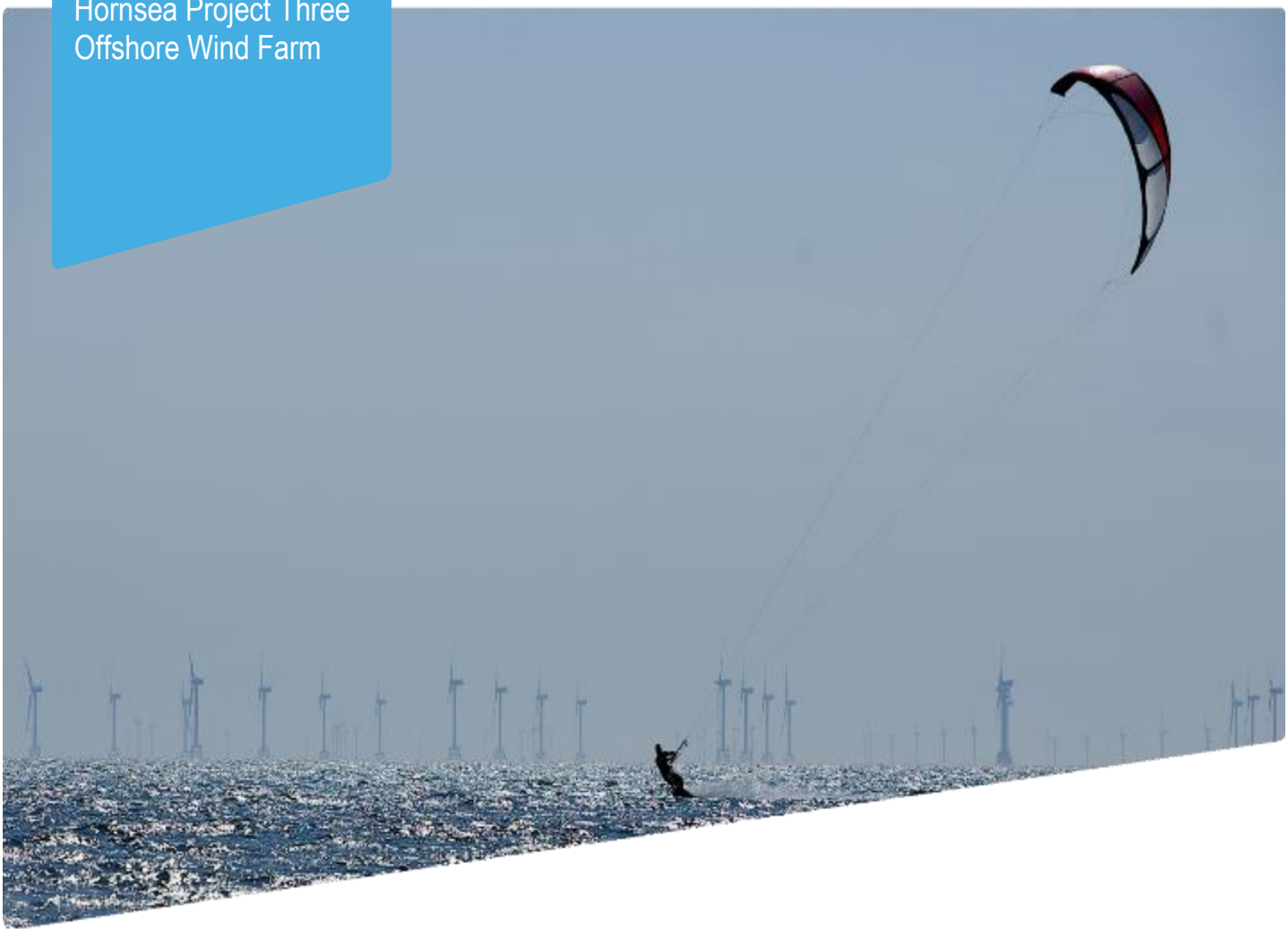
Hornsea Project Three
Offshore Wind Farm



Hornsea Project Three

Offshore Wind Farm

Applicant's comments on Written Representations and Responses submitted by Interested Parties at Deadline 6

Date: 14th March 2019

Hornsea 3
Offshore Wind Farm

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1. Introduction

1.1 Following further submissions of Written Representations by Interested Parties at Deadline 6, the Applicant has taken the opportunity to review each of the Written Representations received by the Planning Inspectorate. Details of the Applicant's responses to those representations that required response are set out within this document in subsequent sections below.

2. Applicant's Comments on Written Representations

Natural England Written Representation (REP6-047 to 058)

Summary

Natural England's response at Deadline 6 comprised of the following:

- **REP6-047**: ISH5 Annex A - Natural England's Comments on REP 4-097 Biotope Clarification paper as requested at ISH 5
- **REP6-048**: ISH 5 Annex B - Natural England's comments on REP5 – 010 Preliminary Trenching Assessment (PTA)
- **REP6-049**: ISH 5 Appendix C - Natural England Comments on REP5 – 011- Appendix 3 Cable Specification Installation Plan (CSIP)
- **REP6-050:** ISH 5 Annex D- Natural England Comments on REP4-012 page 43 onwards Applicants response to ExA Q2.2.46 in relation to MEEB
- **REP6-051:** ISH 5 Annex E- Natural England's comments on REP3 – 024 Appendix 15 The Wash and North Norfolk Coast (W&NNC) SAC In-combination
- **REP6-052:** ISH5 Annex F - Natural England's Response to the Applicant's response to ExA Q2.2.25
- **REP6-053:** ISH5 Annex G- Natural England's Comments on the Applicant's response to ExA Q2.2.38
- **REP6-054:** ISH 5 Annex H - Natural England's Response to REP5-014
- **REP6-055:** Written Submission of Representations at Issue Specific Hearing 5 - Offshore Ecology
- **REP6-056:** ISH6 Annex A - Natural England's Comments on the Applicant's Proposed DML appeal conditions
- **REP6-058:** Written summary of Representations made at ISH6 DCO Hearing
- **REP6-057:** ISH6 Annex B - Natural England's Comments on REP4-023 Code of Construction Practice Rev.2

Response

Written Submission of ISH5 – Offshore Ecology

Interested Party Written Representation	Applicant's Response
1. Natural England highlighted that there are now a huge number of documents associated with this application. The applicant has provided a number of annexes at each deadline, some of which include revised analyses, and in some cases there are subsequent revisions to revisions. As such it is no longer clear what the applicant's current position is, and how far this departs from their original ES. Natural England stressed that point is not only important for this examination, but will also be important for current and future applications which need to take account of this one in their cumulative and incombination assessments. [NB: It would also aid clarity on requirements of post consent/pre construction design parameters and commitment]. Natural England therefore requested clarification of the applicants' current position, with signposting to the relevant supporting documentation.	As noted by the Applicant at ISH 5, much of the documentation has been provided either in direct response to requests by Natural England for more information or to provide supplementary evidence and/or analysis which supports (but does not change) the Applicant's conclusions in order to counter concerns raised by Natural England. The Applicant can confirm that with the exception of points specifically noted below, the Applicant's position with regard to benthic ecology (including effects on features of Marine Conservation Zones (MCZs) and on Annex I habitat features of SACs) is unchanged from the maximum design scenario assessed in Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement (APP-062) the Volume 5, Annex 2.3: Marine Conservation Zone (MCZ) Assessment (APP-104) and the RIAA (APP-051 and AS-002). As noted above, all other information submitted into Examination has been provided in order to either clarify the Applicant's position or provide additional evidence or analysis to support the conclusions of the Environmental Statement and the RIAA and demonstrate they are robust and precautionary. The only exceptions to this (i.e. where the Applicant's position has changed) are as follows: Decommissioning cable and scour protection within designated sites (see REP4-012 and REP6-018) – This has resulted in a reduction from the maximum design scenario considered in the Environmental Statement and RIAA, which assumed cable and scour protection would be left in situ post

	decommissioning (i.e. a permanent impact). Markham's Triangle rMCZ reduction in maximum array infrastructure footprint within the rMCZ from 24% to 10.5% (see REP3-023) – Reduction in the maximum design scenario assessed within the Environmental Statement and the MCZ Assessment. Wash and North Norfolk Coast In combination assessment (REP3-024) – Updated in-combination assessment including full consideration of the most up to date information on effects on the Wash and North Norfolk Coast SAC from Hornsea Three, in combination with other projects, using information from other projects (e.g. Race Bank) which was not available at the time of the DCO application. Regarding Ornithology, subsequent to the submission of the Hornsea Three Application there has been extensive discussion of the assumptions underpinning collision risk modelling and the publication of new evidence to inform those assumptions. The Applicant's position in relation to the parameters used in collision risk modelling and other aspects of analyses used for assessment purposes is therefore presented in REP6-042.
8 Natural England stated that although there were discussions on the original cable route and survey methodology an alternative cable route was submitted in December 2017. Natural England also highlighted that throughout the Evidence Plan Process only snap shots of data were presentment and the applicant's complete benthic data set along the export cable was only available with the finalised application.	The Applicant would like to clarify that the complete benthic ecology dataset, including data collected along the final offshore cable corridor, was provided to the Marine Processes, Benthic Ecology and Fish and Shellfish Ecology Expert Working Group on 23 February 2018. This included responses to JNCC queries raised in relation to data analysis and biotope classification methodology presented at Section 42 consultation in the Preliminary Environmental Information Report. As stated during Issue Specific Hearing 7, the decision to re-route the offshore cable corridor in the nearshore area was driven by section 42 feedback from Natural England on the Preliminary Environmental Information Report (PEIR) which suggested that interest features in the

	Wash and North Norfolk Coast SAC, near to Weybourne, are less sensitive than those within the Cromer Shoal Chalk Beds MCZ (letter dated 20 September 2017). Following this feedback, the Applicant investigated the relative merits of this suggestion, including the sensitivity of the features within the different cable corridors and financial commitments associated with the re-route. The ultimate decision was to re-route the nearshore cable corridor as suggested by Natural England.
Agenda Item 3: Benthic Ecology	
18 Natural England also notes that attempts to remove cable protection at Thanet OWF have failed and resulted in additional cable protection to that envisaged at the time of the original consent and having to install a replacement section of cable around the existing protection.	It is the Applicant's understanding that cable protection decommissioning work at Thanet offshore wind farm was attempted using a Remotely Operated Vehicle (ROV) to relocate the rocks from the existing rock berm and relay these on top of the newly laid replacement cable. This methodology was not effective due to problems with local currents and visibility which affected ability to navigate and orientate the equipment to remove rock protection. This methodology is different to the methodologies outlined in the Applicant's Deadline 6 submission (REP6-018) for decommissioning of cable protection, which involve complete removal, via dredging, of the rock protection from the seabed to the vessel or barge and appropriate disposal. These methods would not be subject to the same limitations as the ROV used at Thanet.
34 Natural England sought to clarify their understanding that 10% of the entire cable would require cable protection over the lifetime of the project. 25% of that 10% may require replenishment over the lifetime of the project. Natural England then questioned why the 25% had been separated out rather than added to the 10% figure to provide an overarching volume of rock, albeit without a definite location for its use. Natural England highlighted that the rock armour figures in the DCO are not based on area, they are based on volume. Natural England went on to highlight that the Applicant needed to clarify the details	The Applicant confirms that the description provided in the first two sentences of this paragraph is correct. The Applicant can confirm that the 25% replenishment volume has not been separated out from the total cable protection volume within the draft DCO. The volumes within the DCO include the 25% replenishment, to provide an overarching volume of rock for each of the dMLs. The Applicant notes the comments made in relation to how the maximum

of the 25%, to ensure it is dealt with appropriately within the HRA and that the volume and location of the cable protection needs to be more defined within the DCO/DML.	design scenario was defined within the dDCO/dML. As outlined below in response to Natural England's comments on the outline Cable Specification and Installation Plan (CSIP), the Applicant will fully detail the maximum design scenarios for cable protection, in terms of total area and total volume, per designation within an updated outline CSIP to be submitted at Deadline 7.
36. Natural England's further highlighted a further concern that the scenario described by the applicant [within the hearing] appears to be different to the scenario described in the HRA.	The Applicant is able to confirm that the scenario described in the hearing is not different to that assessed within the RIAA.
45. Natural England stated that if it could be demonstrated that Dudgeon and Sheringham Shoal were shown to have similar habitat to Hornsea 3 then this can be considered. However, the DDV video snapshots that had been presented as part of The Wash and North Norfolk Clarification note showed that consolidated mixed sediment was present that was comparable to Race Bank. Natural England highlighted concerns about the location, quantity and quality of the Dudgeon and Sheringham Shoal pre-construction survey data. [In addition NE would also highlight that different installation tools where used for these projects with Sheringham cutting into chalk.].	The Applicant's comparison with Sheringham Shoal and Dudgeon export cables was in relation to the ability to install cables as set out in the Preliminary Trenching Assessment (see comments on Preliminary Trenching Assessment below), rather than the habitats/communities present. As outlined in the Applicant's response to Natural England comments on the Preliminary Trenching Assessment (REP5-010) below, it is not expected that the coarse or mixed sediments will represent a significant challenge to cable installation. It should be noted, however, that seabed imagery data (e.g. DDV) are used for the benthic ecology characterisation (i.e. as they describe the habitats/communities present), but these data are of little use in informing the ground model. The reason for this is that seabed imagery data only provide information on the surface sediments, rather than the subsurface geology, which is provided by geophysical and geotechnical datasets, as described in the Preliminary Trenching Assessment. However, the Applicant agrees that the DDV snapshots presented in the Wash and North Norfolk Coast SAC clarification note (REP1-140) showed mixed sediment communities that are comparable to those recorded at Race Bank. The Applicant would note that this is not unusual, as mixed sediment communities are not uncommon in this part of the southern North

	Sea, being present across significant proportions of the Cromer Shoal Chalk Beds MCZ (see Table 3.2 of Volume 5, Annex 2.1: Benthic Ecology Technical Report; APP-102) and the wider southern North Sea (e.g. see Figure 3.4 of Volume 5, Annex 2.1: Benthic Ecology Technical Report and Figure 2.4 and Figure 2.5 of Volume 2, Chapter 2: Benthic Ecology; APP-062). Similarly, the species recorded in this part of the Hornsea Three offshore cable corridor (as outlined in the Wash and North Norfolk Coast SAC clarification note) are all common species which are recorded throughout the southern North Sea. As such, it would be expected that the communities recorded in association with mixed and/or coarse sediments at Race Bank would be similar to those recorded in association with similar sediments at Hornsea Three, given they are common and widespread species throughout the southern North Sea. With respect to the similarities of habitats along the Dudgeon and Sheringham Shoal export cables, paragraph 4.1.4.85 of Volume 5, Annex 2.1: Benthic Ecology Technical Report describes the habitats and communities recorded along the Sheringham and Dudgeon offshore cable corridors and Figure 4.28 of Volume 5, Annex 2.1: Benthic Ecology Technical Report shows similar habitats (including mixed sediment communities) recorded both in the Cromer Shoal Chalk Beds MCZ (i.e. in the vicinity of the Dudgeon and Sheringham cables) and within the Wash and North Norfolk Coast SAC. This was validated by the additional survey data presented in the Wash and North Norfolk Coast SAC clarification note. Therefore there is evidence that the habitats/communities within the Hornsea Three offshore cable corridor are similar to those present in the Sheringham Shoal and Dudgeon offshore cable corridors.
54. Natural England stated that their overarching position was that there is insufficient evidence to enable the applicant to demonstrate that the impacts on	The Applicant notes the comments made by Natural England but would reiterate that the Applicant has provided sufficient evidence and mitigation

designated site features can reduced to an acceptable level. In the case of both the Wash and North Norfolk Coast and North Norfolk Sand Banks and Saturn Reef the sites are all annex 1 feature [i.e. there is no site fabric] with a mosaic of designated features. Whilst it is possible to identify potential mitigation options for an individual feature (e.g. avoiding reef features) may impact on other features.	to enable a conclusion of no adverse effect on integrity to be reached with confidence. With respect to the final point on mitigation, the Applicant accepts that within the Wash and North Norfolk Coast and North Norfolk Sand Banks and Saturn Reef SACs, avoidance of one feature (e.g. Annex I reefs) could result in impacts on another Annex I feature (e.g. Annex I sandbank feature, or associated sub-features). Without avoiding the SAC entirely, it is not feasible to avoid impacts on all features. The Applicant would highlight that there is a clear rationale for the Applicant's approach, in that Annex I reefs are avoided as these are spatially restricted, discrete habitat features with lower recovery potential following cable installation (especially Annex I stony reefs), while sub-features of Annex I sandbank habitats are broadscale habitats with greater recovery potential following impacts related to cable installation. As such, it is logical to design mitigation which prioritises avoidance of one Annex I habitat over another.
73. Natural England stated that their previous response needed to be clarified as it was poorly worded. Under the terms of the EIA they are satisfied, however under the terms of the HRA they are not satisfied. [i.e. if the development area did not overlap any SACs or MCZs the level of coverage would be considered to be adequate]. 74. The Examiner asked if Natural England's position also pertained to North Norfolk sandbanks and Saturn Reef SAC.	The Applicant would welcome further feedback from Natural England as to what would be required to satisfy the requirements of the Habitats Regulations. The Applicant would note that the main purpose of the Evidence Plan was to agree the what information and evidence the Applicant should submit in support of the DCO application with a specific focus on Habitat Regulations Assessment matters (see section 1.1 of the Annex 1: Evidence Plan; APP-035)

ISH5 Annex A- NE Comments on REP4-097 (Clarification of Biotope Classification within North Norfolk Sandbanks and Saturn Reef SAC)

Interested Party Written Representation	Applicant's Response
Natural England's Comments on REP 4 097 Biotope Clarification paper as requested at ISH 5. Natural England have reviewed this clarification paper in consultation with JNCC, and we do not consider that it sufficiently addresses our concerns. The issue remains that SNCBs (NE & JNCC) do not consider that the processes the applicant took to reach their biotope results to be scientifically rigorous. Whilst we accept that the conclusions appear consistent with the JNCC/Cefas biotopes, this does not necessarily indicate that they are correct. For example, JNCC could have found ApriBatPo, and the Applicant could have found the same in a similar area. To get these results, there could be several things happening: 1) Both sets of survey methodologies and accuracies allowed analyses to show the same conclusion 2) One set of survey methodologies and accuracies was as above, and the other set could show the same result, albeit artefactually from incorrect analyses or poor evidence. Within our submissions to date, we've maintained that we can't tell which situation is occurring. The Applicant's habitat mapping could be correct, but because the processes through which they analysed their data is somewhat different to the standard set of analyses undertaken with survey evidence we are unable to establish this. Consequently, as per our response to The Examiner's Question in ISH 5, we are unable to confirm that the assessment of the baseline for North Norfolk Sandbanks and Saturn Reef SAC is appropriate.	The Applicant would reiterate that the site specific survey data has been used to inform the characterisation, alongside other data sources. The Applicant's position is that the characterisation is robust as it uses historic JNCC and Cefas data for the NNSSR and the wider southern North Sea, with site specific survey data used to supplement these data sources. All data sources used to inform the characterisation (including site specific survey data) indicate that biotopes which are characteristic of this part of the southern North Sea are also present within the Hornsea Three offshore cable corridor. There is no single, established or standard method for data analysis as has been suggested by NE. Furthermore, as set out in REP4-097 (and for Markham's Triangle, the Applicant's response to Q2.2.56 at Deadline 5; REP5-008), any small changes to the biotope classifications would not result in a change to the overall significance levels of the Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement (APP-062) or changes to the conclusions of adverse effect on integrity of the RIAA (APP-051). The Applicant therefore submits that the NE position that this is a material concern for the RIAA is groundless, not least because such minor differences in biotope classification would not have a bearing on the overall conclusions of adverse effect on integrity.

ISH 5 Annex B – NE Comments on REP5-010 (Preliminary Trenching Assessment)

Interested Party Written Representation	Applicant's Response
1. Whilst these comments are provided in the spirit of trying to find common ground; it should be noted, that it may not be possible, even with the potential provision of further information, to satisfactorily address all of our nature conservation concerns and thus change our advice/position as set out in our Written Representations at Deadline 1. However, this is not to say that any further information and/or revisions wouldn't help inform any risk based decisions made by the competent authorities.	Noted.
2. Natural England is in the process of seeking further advice from our geologist on the ground modelling outputs, but thought it would be helpful in the interim to provide our initial comments.	This comment is noted and the Applicant would welcome further comments from Natural England when they become available.
3. We believe that this document provides some of the necessary information to determine the likelihood of achieving cable burial, but as it stands it falls short of being able to change our position, as the burial assessment does not go far enough in considering the potential burial risks.	The purpose of the Preliminary Trenching Assessment was to ensure that the range of tools proposed within the project envelope and recommended secondary protection requirements were realistic for the ground conditions within the Hornsea Three offshore cable corridor. The assessment has demonstrated that a range of tools are suitable based on our understanding of the ground conditions and target burial requirements. We therefore remain confident in our project envelope. Within the assessment and as part of the lessons learnt we have identified some of the key risks to not achieving burial based on previous experience of trenching in similar ground conditions. To clarify these are: • The presence of soft soils which may cause traction issues for tracked trenchers; • Gravels and cobbles which if not fluidised can reduce the depth of burial;

Interested Party Written Representation	Applicant's Response
	• Coarse material causing increased chain wear on mechanical trenchers; and • Ensuring sufficient slack in the cable if a tool changeover is expected. Identification of these lessons learnt at this early stage will ensure Ørsted manages these risks through further development of the ground model and engagement with the installation contractor during the tender process. During the tender process Ørsted will work closely with each Contractor (in consultation with the MMO and SNCBs via the CSIP) to ensure that the ground conditions and associated risks are fully understood such that the most suitable tools are proposed.
4. The document states there are various cable tools that could work in each soil type, but does not give an indication of what % change of burial it thinks this will lead to given the options. If would be helpful to gain a better understanding of this.	Please see the Applicant's response to point 3 above and point 6 below.
5. Whilst we think the lessons learnt are good; but they haven't been translated across sufficiently to look at analogous soil types in each section and whether the lessons learnt and proposed solutions (which are scant aside from gathering more data) will reduce risk of cables not being buried and by how much.	Please see the Applicant's response to point 3 above.
6. What we would like to see included is: • the % chance of burial evidenced in each section of the route through the MPAs using the geotechnical information and experience from other projects; • where the Applicant has high confidence that cables can be sufficiently buried evidenced and where it is realistically lower ; • Agreed, High, Med, Low risk of burial across sections of the cable route; and	The Applicant would clarify that the intention of the Preliminary Trenching Assessment was to present the ground conditions within the Hornsea Three offshore cable corridor, via the ground model presented in the report. This was presented in order to indicate what tools are available, as presented in Volume 1, Chapter 3: Project Description of the Environmental Statement (APP-058), to enable cable burial within the maximum design parameters considered within the Environmental Statement and the RIAA (APP-051). The Applicant is not intending to update this report with the suggestions made

Interested Party Written Representation	Applicant's Response
• The sections broken down into the sediment/habitat types/characteristics.	by Natural England, although clarifications have been provided on the queries made. As set out in the clarifications below, the Applicant would reiterate that there are many reasons why cable protection may be required and this requirement is not limited to ground conditions alone. Please see the Applicant's response to point 3 above in relation to the first three bullet points. With regard to the sediment/habitat types, sections 2.11.1 and 2.11.2 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement (APP-062) and sections 5.5 and 5.6 of the RIAA present detailed assessments of the implications of cable burial and cable protection measures on the sediments and associated communities within the Hornsea Three offshore cable corridor.
7. In addition there is no discussion on how the Applicant will ensure that the successful contractor will be able to deliver on the ground what is set out in this document– this is needs to also be considered in both the Cable Specification and Installation Plan (CSIP).	Please see the Applicant's response to point 3 above.
8. Section 1.2: This assessment is based on the Applicant's knowledge of the site, but because some of the geophysical data has not been available to Natural England we are unable to agree with all of the conclusions. Therefore we are still considering the confidence level of evidence presented and survey intensity and will provide further comments in due course.	This is acknowledged by the Applicant.
9. Section 3.1: It should be noted that the whole of the MPAs are designated features and therefore we query why are only parts of the designated sites being considered?	The trenching assessment focusses only on those sections of the MPAs where cables would be installed. Detailed geotechnical investigations are not required in other areas, as cables will not be installed outside the Hornsea Three offshore cable corridor.
10. Section 4.1: This section makes assumptions in relation to our concerns and	The Applicant has reviewed the particle size distributions of the geotechnical

Interested Party Written Representation	Applicant's Response
doesn't acknowledge mixed sediment. With further input from our geologist we hope that we might be able to be clearer on where we think there may be more of an issue.	samples collected within the Hornsea Three offshore cable corridor and following this review does not foresee issues relating to burial as a result of these data. This is based on the proportion of gravels in the particle size distribution tests which are acceptable on the basis of the greater proportion of sands present in the majority of the samples. It should also be noted that offshore wind farms off the Holderness coast (e.g. Westermost Rough and Humber Gateway) have been able to install cables in much coarser sediments than those present on the Hornsea Three offshore cable corridor. As such, it is not expected that the coarse or mixed sediments will represent a significant challenge to cable installation.
11. Section 4.1: Ground modelling – we are still in the process of considering how much confidence we have in the modelling. But it would be helpful to understand how similar it is to modelling undertaken for other projects that have already constructed. At 4.3 it is stated that ground modelling is iterative and is effectively only as good as the data available which then begs the question - how much more is needed to ensure the conclusions are sufficiently robust.	The existing ground model, as presented in the Preliminary Trenching Assessment, has been developed to capture the range of conditions expected across the site, such that key risks to trenching can be identified and to ensure a realistic project envelope is proposed within the DCO application. Whilst the ground model is an iterative process and will be updated once new data are collected, we have sufficient confidence in our model to ensure a high level of confidence in our ability to install the cables to the target depth. It should be added that the full range of ground conditions expected to be encountered on Hornsea Three are conditions that Ørsted has encountered on other projects. Notwithstanding the above, the Applicant would reiterate that the inability to achieve the target depth of burial is also a function of several factors that cannot be predicted. These include but are not limited to: • Wear or mechanic breakdown of a trencher • Unforeseen ground conditions (i.e. subsurface boulders) that was not identified nor would it be possible to identify during site investigation • Adverse weather conditions

Interested Party Written Representation	Applicant's Response
	• Mechanical breakdown of the vessel
12. Section 4.1: Whilst we welcome the further work The Applicant has undertaken we will need further information before we will be able to provide clear advice if it is sufficient to allay our concerns or not.	The Applicant is not clear as to what further information NE require nor why such information is essential to allow NE to advise as to the implications of the maximum design scenario for nature conservation purposes. To the Applicant's knowledge, the information provided in the Preliminary Trenching Assessment is more detail than that which has been provided for any previous projects at this stage. The Applicant requests that NE urgently sets out what specific information is required and why it is necessary in order for NE to advise on the implications of the maximum design scenario.
13. Table 4.1: We haven't seen the detailed output from the geotechnical surveys undertaken in 2018 within The W&NNC.	The Applicant can provide NE with the raw data from the geotechnical surveys, however, it is not clear how this will assist NE in any way given that the interpretation of these data is presented in detail in the Preliminary Trenching Assessment. The Applicant would be happy to arrange a meeting between its technical specialists and those of NE to talk through the raw data if NE can provide an available date for this meeting within the examination timeframe, and make clear as to how this would provide any greater level of comfort beyond that presented within the existing report.
14. Figure 4.1: There seems to be more focus on geotechnical investigations along the dog leg outside of The W&NNC SAC/ Cromer Shoal MCZ and question whether there is a reason for this. We note that the geotechnical surveys are away from the near shore and where EIFCA found suspected cobble reef, which is more likely to be a challenging area for cable burial.	While the plot in Figure 4.1 shows sampling within and outside the SAC/MNZ, the sampling intensity is similar within and outside these designations. There is a greater survey effort in the nearshore area, with sampling locations specifically targeting the area of subcropping rock identified by Hornsea Three geophysical surveys (as shown in Figure 4.29 of Volume 5, Annex 2.1: Benthic Ecology Technical Report; APP-102). The results of these surveys are shown in Figure 4.3 of the Preliminary Trenching Assessment, which shows subcropping chalk covered by a thin layer of Holocene sediments. The Applicant has discussed with the Eastern IFCA the findings of their recent

Interested Party Written Representation	Applicant's Response
	survey in the eastern part of the Wash and North Norfolk Coast SAC. Based on the Eastern IFCA's initial review of their data, an area of rocky reef was recorded at the edge of the Hornsea Three DCO boundary. The Applicant has confirmed with the Eastern IFCA that this coincides with the area of Circalittoral Rock and Infralittoral Rock identified in the Hornsea Three characterisation within the temporary working area to the west of the Hornsea Three landfall (see Figure 4.29 of Volume 5, Annex 2.1: Benthic Ecology Technical Report). The Applicant has provided the Eastern IFCA with the Hornsea Three sampling locations to allow for cross checking of this. In any case, these areas would qualify as Annex I rocky reefs and direct impacts on these (e.g. anchor placement) will be avoided during cable installation activities and cable installation would not occur in this area of rocky reef as this is not within the offshore cable corridor.
15. Table 4.2: JNCC is not aware of Edmond Ground being referenced in NNSSR. It would be good to get confirmation as to whether the Applicant would expect to encounter that formation either (a) on the surface (presumably not) or (b) when clearing sand waves, i.e. is there any way in which that formation will end up on the surface? We advise that Botney Cut and Bolders Bank are much more familiar and their description seem consistent with everything else previously noted for the site.	Egmond Ground does not feature in many locations along the route. It is assumed based on strong evidence from the geophysical data that some of the missing underlying data may be Egmond Ground. Section 4.8 of the Preliminary Trenching Assessment explains the reasoning behind the missing data. Egmond Ground would not be expected to feature on the surface and is not expected to end up at the surface after sand wave clearance. This is an underlying layer and if there was a chance it would be encountered, cable burial into this unit would not pose a significant challenge.
16. Bolders Bank is the still till that would be the most difficult to trench through. JNCC is currently checking to see if they have further information on the formations and their stiffness / trench-ability. We believe that the Bolders Bank formation is about 5-10m down, so that would suggest there may be some interaction.	Bolders Bank is an over-consolidated glacial till. Undrained shear strengths can be as low as 50 kPa near to the top of the unit (if weathered) but stiffness of >100 kPa is more typical. This means that the soils cannot be jetted but a mechanical cutter or a plough will have no issues with physically shearing the till to form a trench. It should be noted that numerous cables (e.g. Westermost

Interested Party Written Representation	Applicant's Response
	Rough and Hornsea Project One) have been installed in the Bolders Bank Formation in recent years using these methods.
17. Figure 4.2: We are concerned about the consolidated mixed sediment/geogenic reef that we saw on the DDV data within the NNS SAC (close to the Dalek arm). That area could potentially be a more difficult area to install cables and one where rock armouring would be a concern.	The Applicant would note that while mixed sediments were recorded in the north of the NNSSR SAC, this was not classified as Annex I stony reef. Should Annex I reefs be identified during pre-construction surveys, direct impacts on these will be avoided, although based on current evidence, no such features were recorded. With respect to the ability to install cables in coarse sediments, see the Applicant's response to point 10 above. The Applicant is therefore confident that the presence of coarse sediments will not pose a significant challenge to cable installation. The Applicant would note that seabed imagery data (e.g. DDV) are used for the benthic ecology characterisation (i.e. they describe the habitats/communities present on the seabed), but these data are of little use in informing the ground model. The reason for this is that seabed imagery data only provide information on the surface sediments, rather than the subsurface geology, which is provided by geophysical and geotechnical datasets, as described in the Preliminary Trenching Assessment (see the Applicant's response to point 45 of NE's Written Submission of ISH5 – Offshore Ecology above).
18. Section 4.4: It would be helpful if the geophysical survey data for W&NNC were presented	The full geophysical survey interpretation for the Wash and North Norfolk Coast SAC are not yet available. The Preliminary Trenching Assessment presents the necessary interpretation of these geophysical datasets relevant to the ground model and this is sufficient for the purposes of consideration of the burial tool options, as set out in Section 5 of the document. The Applicant is not clear how this will assist NE in any way given that the interpretation of

Interested Party Written Representation	Applicant's Response
	these data is presented in detail in the Preliminary Trenching Assessment for the purposes of that report.
19. Section 4.5: In the Applicant's opinion, how would the structure-less chalk likely behave when trenching occurs? If it is structure-less, but still consolidated like mixed sediment we would highlight that this particular substrate is likely to be difficult to install cables in.	Trenching in chalk can be more challenging, due to the effect of weathering, but it is important to note that the chalk is not expected to behave like a rock during cable installation, but rather a soil akin to a stiff clay or a coarse gravel. In areas of subcropping chalk, a trench would be excavated by shearing the weathered chalk and this can be achieved with either a mechanical trencher or a suitable plough.
20. Section 4.8: There is an issue about visibility of base layer in the geophys. Layer which adds uncertainty, but it is unclear how much. Could the Applicant provide more clarity?	Section 4.8 of the Preliminary Trenching Assessment explains the reasoning behind the missing data, with further explanation provided in response to point 15 above.
21. Section 4.33: It would be useful to understand how this chalk differs from parameters for Thanet chalk where inter-array cables could not be buried. Is the applicant's view that it is softer?	The Applicant notes that a different type of chalk may be present at the Thanet wind farm although the Applicant does not have detailed information on the ground conditions at the Thanet wind farm, it being owned by a different developer, and therefore cannot confirm. Regardless the Preliminary Trenching Assessment presents details of the chalk present within the Hornsea Three offshore cable corridor. The Applicant has demonstrated that installation of cables within the weak, structureless chalk within the Hornsea Three offshore cable corridor is feasible using the tools included within the project envelope, which, as outlined in response to comment 23, includes a cutting tool similar to that used on Sheringham Shoal to install cables in subcropping chalk, within the project design envelope.

Interested Party Written Representation	Applicant's Response
22. Section 5.1: A cable burial risk assessment would also take into account the risk posed to the cables if insufficiently buried. This will be different depending on the sediment type and the activities occurring in particular areas. For instance there may be limited activities so lower risk, or lower likelihood of bigger vessel with larger anchors in shallow water due to limited vessel draft.	The Applicant confirms the NE comment, that the CBRA would look at the risk to the cable when considering target burial depths and NE will be consulted on the detail of this through the CSIP.

Interested Party Written Representation	Applicant's Response
23. Section 6.2: We would welcome evidence that Sheringham and Dudgeon cables are in similar sediment/ geology types. Statements in this section are not supported by evidence. Also Sheringham used a cutting tool to cut a grove in the chalk which provided natural protection around the cables. Exit pits seem to be a problem on several projects and it would be useful to understand why, and if something can be done to minimise the impacts and need to protect. Also for Sheringham and Dudgeon there is limited survey data prior to construction and afterwards to compare against as there wasn't an MCZ at the time of agreement on the scope of monitoring and the pre-construction survey data for Sheringham was considered unusable by Natural England.	The Applicant does not have detailed ground conditions information for the Dudgeon and Sheringham Shoal export cable routes, however it is reasonable to assume that these projects will have some similarities in ground conditions given their proximity (i.e. <1 km) to the Hornsea Three offshore cable corridor. The comment from Natural England also suggests that chalk was present in the Sheringham Shoal export cable route and that it was possible to install cables within this, using a cutting tool, which is in line with the conclusions of the Preliminary Trenching Assessment. The Applicant can also confirm that a cutting tool has been included in the project design envelope. In response to comments on the Dudgeon HDD operations, it is the Applicant's understanding that the angle of the drill profile in the subtidal environment was too steep and therefore deployment of a small length of rock bags (i.e. 70 m) was required to protect the cables (see REP2-004; response to The Wildlife Trusts Written Representation). The Applicant would highlight, however, that this demonstrates that there are many reasons why cable protection may be required, beyond the ground conditions on site, and that cable protection has been included in the dML for Hornsea Three to control for such unforeseeable eventualities. The Applicant notes the comments in relation to monitoring of Sheringham and Dudgeon. The Applicant has proposed a robust monitoring strategy for cable related impacts within designated sites, as outlined in the latest version of the In-Principle Monitoring Plan (REP4-067).

Interested Party Written Representation	Applicant's Response
24. Race bank lessons learnt: This section is very useful and characterises the issues encountered, but does not state how they will be resolved or increase chances of burial for Hornsea Project 3 cable aside from gathering more information. We need to understand whether gathering more information will just yield more understanding of where burial is likely to be a problem pre installation, or whether it will increase the chances of burial because something can be changed or done differently. It also doesn't evidence how analogous soil types on Hornsea Project 3 cable route are compared to Race Bank.	As outlined in paragraph 5.26 of the Preliminary Trenching Assessment and in response to point 3 above, further information on the ground conditions will allow the Applicant to further refine the burial tools with installation contractors. During the tender process Ørsted will work closely with each Contractor (in consultation with the MMO and SNCBs via the CSIP) to ensure that the ground conditions and associated risks are fully understood and identify the most suitable tools which minimise the risk as much as possible. See also response to point 25 below for an example of how further information on the ground conditions can be used to reduce risks, learning lessons from previous projects.
25. Section 6.4: Natural England queries if there is a solution. Would a different tool have achieved burial, or is there always likely to be less burial in this sediment type? What is bearing capacity and what effect does it have? More detail is required in this section.	Bearing capacity is the capacity of soil to support the loads applied to the ground. The bearing capacity of soil is the maximum average contact pressure between the load applied and the soil which should not produce shear failure in the soil. With this in mind, it is recommended on Hornsea Three that areas where soft soils exist are fully characterised and bearing capacity analysis performed by the Contractor prior to mobilisation of installation tools to ensure the risk is managed.
26. Section 6.5: As above – understanding is good, but will this actually increase chances of burial or are burial chances reduced in this soil type?	As outlined in previous responses above, a more detailed understanding of the conditions on site will help to reduce the risk of insufficient burial by ensuring that the most appropriate tool is selected for cable installation. As outlined in response to comment 10 above, coarse and mixed sediments would not necessarily represent a particular challenge to cable installation.
27. Section 6.6: How do we make sure that there is sufficient slack in the cables to ensure there is contingency to avoid cable protection in designated sites?	This can readily be achieved through good planning during the detailed design stage of the project.

Interested Party Written Representation	Applicant's Response
28. Rampion lessons learnt: This gives some confidence that Rampion found tools which sufficiently buried their cables in harder chalk rock. However, it should be noted that there has been no monitoring of the impacts of cable installation in chalk. Natural England's assumption would be that there is scarring along the cable corridor the width of the plough track in chalk unless it is covered with mobile surface sediments.	In the absence of any pre and post construction monitoring data from the Rampion cable corridor, the Applicant would agree that a trench will remain on the seabed if it is not infilled by mobile surface sediments. The degree to which sediment will infill trenches will depend on the mobility of surface sediments and for Hornsea Three, there is evidence that mobile sediments are present in areas where subcropping chalk has been recorded. It should be noted that the Applicant has proposed a robust monitoring strategy for impacts related to cable installation and cable protection, as outlined in the In Principle Monitoring Plan (see Appendix 3 to the Applicant's response to Deadline 7.
29. Section 8.3 '…*this does not mean that cable burial can be guaranteed and negate the requirement for remedial burial and/or protection. External factors outside the applicant's control should be considered such as adverse weather conditions, unforeseen round conditions and mechanical breakdown*' As this is a cover-all statement can the Applicant provide a realistic worst case scenario or is it a case that the position remains unchanged in relation 10% cable protection?	The Applicant can confirm that the maximum design scenario in relation to cable protection is unchanged from that at point of submission of the DCO application (i.e. that up to 10% of export cables within designated sites may require cable protection). The Applicant would reiterate that this is considered to be conservative based on the best available evidence, including experience of other offshore wind farm projects. However, the Applicant will work with its engineering team, contractors, SNCBs and regulators to minimise the amount of rock protection deployed within designated sites, wherever possible, as outlined in the outline Cable Specification and Installation Plan (CSIP; REP5-011).

ISH 5 Annex C – NE Comments on REP5-011 (Outline Cable Specification and Installation Plan)

Interested Party Written Representation	Applicant's Response

1. Whilst these comments are provided in the spirit of trying to find common ground; it should be noted that it may not be possible, even with the potential provision of further information, to satisfactorily address all of our nature conservation concerns and thus change our advice/position as set out in our Written Representations at Deadline 1. However, this is not to say that any further information and/or revisions wouldn't help inform any risk based decisions made by the competent authorities.	This is noted by the Applicant.
2. Overall we believe a CSIP is useful document and consider it to be best practice to provide such a plan for installation activities within designated sites. 3. However, the CSIP only ensures compliance with the consent. As Natural England has outstanding concerns with the Applicant's proposals and/or do not have sufficient information and evidence to advise on the impacts of those proposals; this document does not change our position in consenting terms.	The Applicant welcomes the comment that Natural England considers this to be best practice within designated sites. However, the Applicant would add that the processes outlined in the outline CSIP, specifically those related to sandwave clearance and cable protection within designated sites, were developed specifically for the Hornsea Three application and go above and beyond the content of CSIPs for other offshore wind farm developments.
4. In addition this document largely concerns the installation phase and based on the discussions within ISH 5, Natural England's current understanding is that the Applicant would like to place the 10% cable protection anytime over the lifetime of the project. We therefore believe that there are unlikely to be the same level of controls beyond the initial installation to minimise impacts to the designated features and would therefore question the overall value of this document without an amendment to a DCO/DML condition to ensure that the requirements of the CSIP are also adhered to during any subsequent operation phase when the condition requirements are likely to be transferred to an Offshore Transmission Organisation (OFTO). NB: Section 1.4 Schedule 11 wording only relates to construction.	This point is acknowledged and the Applicant has updated the DML to ensure that the Cable Protection Plan is a live document through the O&M phase: (i) a cable protection plan for all designated sites where cable protection is required, including details of the volumes, material, locations and seabed footprints for cable protection measures, where required, consideration of alternative methods of protection and monitoring proposals and provision for review and update of the plan throughout the life of the authorised project;
5. Section 2: Any further iterations/versions of the CSIP post consent would need additional/amended text to be included in a dialogue box for ease of clarity and review.	The Applicant acknowledges the comment from Natural England and will include a change tracker log in the outline CSIP to ensure updates are appropriately logged.

6. Section 3.1: Whilst NE understands and welcomes the Applicant's view that cable protection is to be a last resort; there is no definite commitment to limit the amount of cable protection to a specified amount and/or locations during/ post construction. Therefore the assessment remains for the 10% plus additional 25%.	There is a definite commitment to limit the *amount* of cable protection to a specified amount i.e. up to 10% of export cables requiring cable protection and up to 25% of these requiring replenishment and NE should advise on that basis. The cable protection limits for each designated site are set out in the updated CSIP (Appendix 4 to the Applicant's response to Deadline 7), aligned with the maximum design scenarios assessed within the RIAA and the MCZ Assessment (APP-104). The Applicant has advised above (and previously) the reasons why it is not possible at this stage to precisely identify the *locations* where cable protection may be required far less give definitive commitments on locations.
7. Section 3.2: Whilst it is noted later on in the document that engineers may attend some meetings we request that this is the norm rather than the exception as it avoids understandings and helps find appropriate solutions.	The Applicant welcomes the comment and will update the outline CSIP to clarify that a cable engineer will be in attendance at meetings with the MMO and SNCBs, wherever appropriate.
8. Section 3.3: We would welcome input into contractor tendering and preinstallation consultation.	The comment is acknowledged and is in line with the text in section 3.3. It should be clarified, however, that the decision to appoint a particular contractor will be made by Ørsted.
9. Section 3.4: The provision of these docs is best practice in designated sites and is not considered as mitigation.	The Applicant would note that the processes outlined in this plan are proposed to try to minimise cable protection wherever possible.
10. Section 4.1: We welcome the inclusion of the following text *'robust project plan should be provided, defining clear project parameters for Hornsea Three sandwave clearance activities within the North Norfolk Sandbanks and Saturn Reef SAC.'* Which will demonstrate compliance. However, there is not enough information provided now to be sufficiently clear on the impacts so that whilst this is welcomed should consent be granted it does not address the examination issues of not having a full enough understanding of the impacts through the EIA/HRA process to advise on level of impacts in designated sites.	The Applicant would re-iterate its position that there is sufficient information on the impacts to designated features of the North Norfolk Sandbanks and Saturn Reefs SAC to conclude no adverse effect on integrity.

11. The CSIP should help to ensure that impacts are no bigger than predicted/ consented and as stated in 4.2 will help with evidence base going forwards. We agree with this comment. But it effectively means we are all stuck post consent with the consented parameters and very difficult to change them e.g. Race Bank	The Applicant is perplexed by Natural England's final comment and does not consider the comparison which NE seeks to draw with Race Bank is fair. The Applicant would reiterate previous submissions that the Hornsea Three Project Description (Volume 1, Chapter 3 of the Environmental Statement; APP-058) has been developed taking into account learned lessons from previous projects (including Race Bank), using the best available evidence to ensure maximum design parameters are realistically conservative. The Applicant would suggest that the situation is quite different to Race Bank which was consented approximately 10 years ago (not by Orsted) and did not include any allowance for cable protection in its consent application. Hornsea Three has benefited from the developing knowledge in this industry over that period and is not directly comparable in the way in NE infers (e.g. because Race Bank has required more cable projection, that will be the case for Hornsea Three). Unlike Race Bank the DCO application provides for reasonably foreseeable cable installation activities, as defined and limited by the maximum design parameters, and the Applicant is confident that these parameters are adequately conservative based on the latest technology which will be used to construct Hornsea Three.
12. Section 4.3: We would welcome the clarification now on what is the maximum design scenarios. Our understanding is that the text as it stands wouldn't take into account any modifications the Applicant has or may do to minimise the impacts during the examination process	The maximum design scenario for sandwave clearance volumes has not changed from that assessed within the Environmental Statement or the RIAA. The Applicant will update the CSIP to clarify the maximum design scenario for each designated site coinciding with the offshore cable corridor.
13. Section 4.4: This section should also consider deposition of disposal material in areas of similar grain size to further enable the recovery of benthic communities over time. Again as per 4.3 as much information on the level of risk (low, med, high) etc. should be provided upfront prior to consent.	The Applicant welcomes the comment from Natural England and has updated the outline CSIP to consider the sediment type of disposal locations.

14. Section 5: Natural England queries what happens if once more site specific data is available we advise that there is an AEoI? How can the MMO be certain that AEoI will/can be avoided?	The Applicant's understanding is that the Secretary of State will make a judgement on adverse effect on integrity based on the maximum design scenario assessed within the RIAA. As long as the project remains within the consented envelope and mitigation is applied in accordance with the RIAA, the MMO will not have any decision to make with regard to adverse effects on integrity.
15. Section 5.10: We would like to see this mapped as well as presented. This license condition used at IFA2 interconnector is consider appropriate: *Within 3 months of completion of licensed activities, an 'as built' plan displaying the location of the cable as laid with specific details of the locations of buried and surface-laid cables, the placed location and quantity of rock placement or rock mattressing used in these works must be submitted to the MMO*.	The Applicant welcomes the comment from Natural England and will update the outline CSIP to commit to reporting this information via a plan.
16. Section 5.10: Natural England queries how impacts to surrounding areas as noted for sandwave levelling at Race Bank will be taken into account?	It is not clear what impacts to surrounding areas are being referred to, although the maximum width of the disturbance corridor is sufficiently wide (i.e. up to 30 m) to account for any seabed disturbance impacts associated with cable installation (including sandwave clearance and boulder clearance). As set out in the In-Principle Monitoring Plan (REP4-067), the Applicant has proposed a robust monitoring strategy for sandwave clearance and cable protection within designated sites.
17. Section 5.11 as 5.9: The monitoring should also focus on impacts on benthic habitat of habitat loss/ change and whether cable protection remains exposed or becomes covered in sediment, not just sediment transport and colonisation. It is about form and function and fully understanding impacts and recoverability. Scope for surveys should be agreed in consultation with the SNCBs to address residual concerns.	The comment is acknowledged and the Applicant would direct Natural England and the ExA to Table 4.3 of the In-Principle Monitoring Plan which will include consideration of accumulation of sediments on cable protection, as well as colonisation of cable protection by epifaunal communities.

18. Section 5.14: Whilst we agree with the text is should be caveated by previous comments.	The Applicant acknowledges the comment on this section.

ISH 5 Annex D – NE Comments on REP4-012 (Applicant's response to ExA Q2.2.46 in relation to MEEB)

Interested Party Written Representation	Applicant's Response
Natural England's comments on REP4-012 page 43 onwards: Applicants **response to ExA Q2.2.46 in relation to MEEB.** Natural England has reviewed this document in consultation with JNCC and we welcome the Applicant's comments regarding MEEB. As we have previously highlighted, there is currently no Government guidance in relation to Measures of Equivalent Environmental Benefit (MEEB) and to date there have been no other cases that have reached this stage. Therefore, should the Secretary of State conclude that MEEB are required, this case would be precedent setting. In the absence of guidance/experience to draw upon, we would recommend that discussions relating to MEEB, and the requirements thereof, include input from the SNCBs, Regulatory Agencies (i.e. MMO and BEIS) and Defra. Consequently, Natural England are not in a position to comment more specifically on the suitability and acceptability of the Applicant's suggestions at this time, but consider the Applicant's suggestions would be a useful starting point for discussion, should the need arise.	The Applicant acknowledges the comments made by Natural England and has nothing further to add.

ISH 5 Annex E – NE Comments on REP3-024 (The Wash and North Norfolk Coast SAC Incombination Assessment)

Interested Party Written Representation	Applicant's Response
Natural England's comments on REP3 – 024 Appendix 15 - The Wash and North Norfolk Coast (W&NNC) SAC In-combination Assessment 1) Revised Assessment: Firstly for audit trial purposes and for the audience of doubt please could the Applicant confirm that the assessment in Section 2.12 of Vol 2, Chapter 2 is no longer the current position and that the revised incombination assessment provided at REP3-024 for W&NNC SAC is to be used for any further assessment undertaken by the regulators.	The Applicant can confirm that the updated in-combination assessment as set out in REP3-024, is the current position. This considers the most up to date information on effects on the Wash and North Norfolk Coast SAC from Hornsea Three, in combination with other projects, using information from other projects (e.g. Race Bank) which was not available at the time of the DCO application.
2) Completeness of Assessment: Natural England has reviewed REP3 – 024 and we still consider this to be an incomplete assessment as MLA/2017/00277/4 in relation to cable protection for Race Bank has not been considered in the assessment.	MLA/2017/00277/4 is a marine licence which includes placement of cable protection on the Race Bank export cables outside the boundary of the Wash and North Norfolk Coast SAC. As such, there is no in-combination effect with Hornsea Three.
3) Fundamental concerns with the baseline: In relation to the appropriateness of the assessment, Natural England continues to have fundamental concerns in relation to the baseline information which have been used to determine the features (and subfeatures) that may be present along the HP3 cable route. Therefore we do not agree that the assessment is pre-cautionary and consider that there is a degree of uncertainty in relation to the percentage impacts on each feature provided.	The Applicant notes the comments from Natural England on this matter but does not agree that the issues raised by NE give rise to issues which can fairly be described as "fundamental". The Applicant is content that it has provided sufficient evidence regarding baseline features to enable a conclusion of no adverse effect on integrity to be reached with confidence.
4) Consideration of Large Shallow Inlet and Bay: The Large Shallow Inlet and Bay interest feature has not be considered and whilst a snapshot from the Magic.defra.gov.uk website has been provided by the Applicant to NE defining a boundary, the current conservation advice packages including conservation objectives do not explicitly define the parameters of the Shallow Inlet and Bay as only being only 'The Wash'. Therefore it is not appropriate to exclude this feature and subfeatures from the assessment.	The Applicant agrees with Natural England that the conservation objectives for the Wash and North Norfolk Coast SAC do not specifically refer to the Wash as the only area of Large Shallow Inlets and Bays within this SAC. As shown in Figure 1 below (from Magic.defra.gov.uk), this Annex I feature also incorporates inlets around Brancaster and Blakeney on the North Norfolk coast (i.e. to the west of Hornsea Three). According to Magic.defra.gov.uk, this feature does not extend to the part of the North Norfolk Coast which coincides with Hornsea Three, as this is open coastline and could not be

	described as an inlet or bay according to the JNCC and EUNIS definitions, i.e. "Large shallow inlets and bays are large indentations of the coast, generally more sheltered from wave action than the open coast." As there is no evidence to suggest any interaction with the Large Shallow Inlets and Bays interest feature, there is no reason to include this feature in the assessment. The Applicant would also note that it was agreed that the Large Shallow Inlets and Bays Annex I feature of the Wash and North Norfolk Coast SAC could be screened out of the RIAA during a meeting with the Marine Processes, Benthic Ecology and Fish and Shellfish Ecology Expert Working Group (meeting 4 December 2017; see Appendix C.6 of Annex 1 Evidence Plan; APP-035).
5) Natural England currently considers the impacts from cable protection to be permanent which is not explicit in the document.	As set out in paragraph 3.7 of the Wash and North Norfolk Coast SAC In-combination Assessment, for the purposes of the assessment, cable protection placed for Race Bank would be considered long term temporary (due to the commitment of that project to decommission cable protection at the end of the project lifetime), while for Hornsea Three, the assumption is that cable protection would be left in situ following decommissioning. The Applicant would reiterate the submissions made at Deadline 5 (REP4-012) and Deadline 6 (REP6-018) that the Applicant can commit to decommissioning of cable protection, subject to agreement from regulatory and nature conservation bodies at that time.
6) There remains some doubt in relation to the 25% additional cable protection included as replenishment and how that has been incorporated in the incombination assessment	The in-combination assessment focusses primarily on habitat loss effects associated with cable protection. The maximum design scenario for the area of seabed affected by cable protection (and therefore the area/proportion of Annex I features) includes consideration of replenishment of cable protection, which would not affect a greater footprint than that considered within the maximum design scenario.

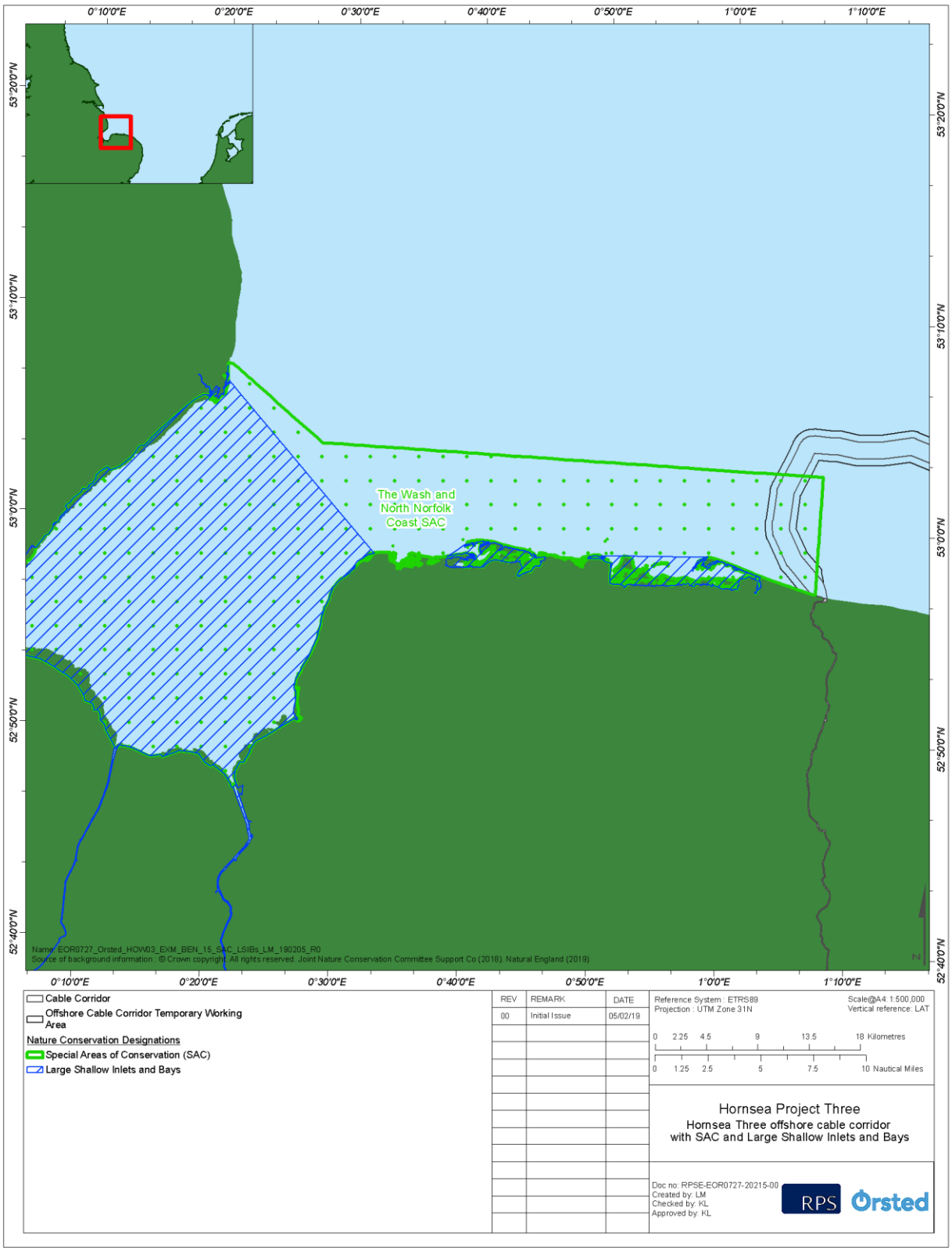

Figure 1: Large Shallow Inlets and Bays Annex I feature of the Wash and North Norfolk Coast SAC (from Magic.defra.gov.uk) with Hornsea Three offshore cable corridor

ISH 5 Annex F – ExA Q2.2.25

Interested Party Written Representation	Applicant's Response
Natural England's Response to Applicants response to ExA Q 2.2.25 as requested at ISH5 Natural England note that at the first Issue Specific Hearing it was requested that we provide details of the Personal Communication (pers comm) from RSPB and the Phenology Report (authored by Mike Babcock, RSPB) evidenced to support the definition of seasonal extents for the species presented in Table 7.1 of Natural England's Written Representation, and we confirmed that we were able to submit the pers comm from RSPB but that the 'Phenology report' would need to be supplied by RSPB. (REP3-101) Natural England submitted an email chain pertaining to the pers comm from RSPB colony managers regarding Flamborough and Filey Coast SPA breeding seasons that informed NE's advised breeding seasons (Appendix 3, REP3-075). Natural England apologise that the embedded attachment within the email correspondence was accessible Appendix 3 (REP3-075). This contained a summary of the pers comm from a telecall held on July 8th 2018. This was submitted at deadline 5 and we hope this addresses the majority of the applicant's outstanding queries on this subject. It should be noted that the email chain and associated attachment is the written summary of the pers. comm between NE and RSPB which occurred on a telecall (dated July 8th 2018).	The Applicant considers that Natural England has not presented sufficient information to allow for the application of these seasonal definitions in the impact assessments conducted for Hornsea Three, especially in relation to the use of these definitions for apportioning purposes. For apportioning purposes it is also necessary to consider the phenology of birds migrating through UK waters, as has been considered in the approach to defining seasons by the Applicant. The Applicant does not disagree with the seasons defined by Natural England in relation to the occurrence of each species at FFC SPA. However, the presence of these birds at FFC SPA does not mean that birds from FFC SPA will be present at Hornsea Three which is located 150 km away from the colony. In addition, the Applicant considers that Natural England's approach to the definition of seasons is anecdotal. In order for this to be substantiated, more information than that presented is required, including reference to timing of breeding stages (mean laying date, incubation period, etc.) and how these seasons are relevant to the populations of birds occurring at Hornsea Three. The Applicant provided a response addressing these concerns in response to Q2.2.24 and Q2.2.25 of the Examining Authority's Second questions.
The applicant has also requested the following information (in their response to Q2.2.25 Deadline 4), • How the information for gannet presented in Appendix 3 of Natural England's Deadline 3 submission was interpreted to provide seasonal definitions;	Natural England has not provided any interpretation of the information that they received from the RSPB including how the information received from the RSPB corresponds to breeding stages (e.g. mean laying date, incubation period, etc.). Natural England has also provided no guidance as

• Information in relation to the seasonal definitions defined in Natural England's Written Representation's for kittiwake and how this information was interpreted to define seasonal extents; • Information in relation to the seasonal definitions defined in Natural England's Written Representation's for guillemot and how this information was interpreted to define seasonal extents; • Information in relation to the seasonal definitions defined in Natural England's Written Representation's for razorbill and how this information was interpreted to define seasonal extents; • Information in relation to the seasonal definitions defined in Natural England's Written Representation's for puffin and how this information was interpreted to define seasonal extents; and • How does all of the information relate to Hornsea Three especially when considering the limited connectivity suggested by the foraging range of certain species. NE advise that this information has been supplied (for gannet, kittiwake and puffin) in Table 7.1 of Natural England's Written Representation (REP1-211) and within Appendix 3 (REP3-075), and associated attachment (REP5-026). Natural England have not challenged the seasonal definitions used by the applicant (and matching Furness 2015) for Guillemot and Razorbill and hence have not supplied any further information on seasonal definitions for these species. Natural England is uncertain how to address the Applicant's query of 'how does all the information relate to Hornsea Three, especially when considering the limited connectivity suggested by the foraging range'. The applicant has concluded (APP-054, 5.2.3 RIAA Annex 3 - Phenology, Connectivity and Apportioning) that there is connectivity between Hornsea Project 3 and breeding gannets, kittiwakes and puffins at FFC SPA. We have provided a full response within our written representation and response to the examiners first round of questions (REP1-211,	to how these seasonal definitions would then be used to inform a biologically appropriate apportioning approach accounting for the movements of migrating birds, non-breeding birds and immature birds that will occur at Hornsea Three.

Section 7 Annex C: Natural England Detailed Advice on Ornithology and REP1-212, Q1.2.51 regarding our approach to defining breeding seasons at FFC SPA, which is a necessary step to inform the HRA process required for these species at FFC SPA.	
Natural England's comments on cumulative and in-combination assessment. The standard approach to cumulative and in-combination assessments, is to use the consented parameters of the project and to refer to the WCS assessed within the Environmental statement, taking account of any updated assessments provided throughout the examination process. As highlighted within REP1-148, because Offshore Windfarms are consented based on the Rochdale Envelope approach, the worst case scenarios assessed within the Environmental Statements are often different to the potential 'as-built' impacts. Consequently, as the applicant maintains, the use of collision risk estimates calculated based on assumptions at application or decision, may lead to a potential over-estimate of the total cumulative or in combination assessments in terms of both EIA and HRA. Within their ES and the additional annex [REP1-148], the applicant is seeking to reassess/redefine collision risk for consented projects where they consider that the predicted 'as-built' scenario for that project is, or is likely to be, different to the WCS that was originally assessed. Whilst this is recognised as an issue, it is highly complex, and it is important to note that there is not yet an agreed and legally tested way to address this matter at present. As such, applicants have largely continued to use the standard approach of referring back to the original assessments in the Environmental Statement. Natural England Advises that is not sufficient for the Applicant to base their assessments on a 'most likely scenario' and that where they seek to redefine project parameters they should provide evidence that options they are assessing are legally secure and that further changes are no longer possible.	The Applicant would take this opportunity to clarify that consideration of the as-built scenarios in cumulative and in-combination numbers has been presented in order to support an accepted fact, that assessments based on collision risk estimates calculated using assessed turbine scenarios over-estimate cumulative and in-combination impacts. The Applicant has attempted to quantify this, where possible, in relevant submissions, to provide an indication of the scale of potential over-estimation. The Applicant has also not based its assessments on a 'most likely scenario' as stated by Natural England. Changes, where they are proposed, represent the realistic worst case scenario for a project, whether this represents the as-built scenario or has been legally secured through consent variations. The approach taken by the Applicant in REP1-148 acknowledges any potential for further development of a site and identifies those projects at which the worst case scenario has been changed (i.e. through a consent variation) or where future development is not possible. The Applicant considers that the approach described by Trinder (2017) provides a robust method for calculating collision risk estimates based on the differences between turbine scenarios. Collision risk modelling using the Band (2012) CRM is not required when turbine parameters for existing and updated turbine scenarios are known as simple correction factors can be applied to collision risk estimates to account for any differences as all other parameters remain constant. The concept of reducing collision risk estimates to account for changes in turbine scenarios does not require legal testing as it has been applied in other applications. The approach taken is an extension of that previously

Where the applicant is able to demonstrate that the revisions to the Rochdale Envelope of a particular plan or project are legally secure, Natural England would expect that a revised collision risk assessment/displacement be undertaken in line with the revised envelope, with the parameters of such assessment agreed with the regulators (as advised by the appropriate SNCB). Natural England recognises that this would be challenging for an individual applicant to achieve, would likely require a nationally coordinated approach.	applied be it for an individual project or for projects considered in-combination. This has previously been highlighted in the Applicant's response to Natural England's response to Q2.2.36 (REP5-008) alongside where these approaches have been accepted and applied by Natural England in their own assessments. If a project has built out to the maximum extent permitted by conditions of their consent (either as originally granted or as varied) then it is unclear why this would need to be confirmed by the relevant regulator. Further development beyond those limits would be unlawful. Additionally, consent variation documents are published by the relevant regulator have legal effect and as such, this can be regarded as secure and provides the confirmation and evidence required. The Applicant has made no attempt to update bird parameters used in CRM (in practice there is unlikely to be much variation in the majority of bird parameters used as they are from standard references that have not, until recently been altered based on the existence of a better evidence base (e.g. flight speed). This therefore has no bearing on the approach taken by the Applicant and therefore would not require agreement with Natural England. Regardless of the turbine scenario used, the density data used for collision risk modelling would be identical (unless the footprint of the wind farm changed) and as such this is not a valid criticism of the approach taken. In addition to this, the turbine parameters used by a developer are not agreed with Natural England and therefore there would be no reason as to why this would be the case if turbine parameters were updated. While a nationally coordinated approach may be preferable (which is something regulators have to lead, not applicants), the continuing absence of such an approach is no reason to refuse to account for over-estimation in the context of individual applications, especially when there are ways and means to do so as set out above. To fail to account for this over-estimation will mean that later projects have to over-mitigate, or worse may be at risk

	of refusal, premised on a 'false' cumulative/ in-combination baseline.

Written Submission of ISH6 – DCO Hearing

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AGENDA ITEM 6. Schedules 11 and 12- Deemed Marine Licences b) Paragraph 10- whether it is appropriate for decisions of the MMO to be subject to arbitration – consideration of alternative appeal mechanisms With reference to the two statutory appeal mechanisms summarised on page 4 of the Marine Management Organisation's (**"MMO"**) deadline 5 submission, Natural England (**"NE"**) noted that neither applies to decisions by the MMO in relation to approvals under conditions. One cannot appeal against such a decision and the remedy in such circumstances is judicial review. The Applicant confirmed this is correct. NE highlighted two matters for consideration on this point. First, it would circumvent the intention of the Secretary of State who made the relevant regulations and Parliament which positively approved them that no appeal would lie from an approvals decision under a condition. It was not being argued by the Applicant that the failure to include such a decision in either appeal mechanism was due to a mistake. Indeed this would be highly unlikely because, as stated by NE, in making these Regulations the Secretary of State and Parliament were required to have regard to very few sections of the Marine and Coastal Access Act 2009: essentially sections 71- 73 and 90-92 which contain the licensing powers from which an appeal can lie. For the Secretary of State and Parliament to inadvertently overlook an approval under condition decision would be a glaring error that, absent any evidence or indication in support, cannot be reasonably sustained. Both intended for such approval decisions not to be subject to appeal and that should not be frustrated by	Please see the Applicant's response to the MMOs Deadline 6 submission at section 2.1.1.

this DCO/DML. Second there is no need for an appeal mechanism because there is judicial review (which incidentally has never actually been required because, as stated by the MMO on p4 of its deadline 5 submissions, all cases have been successfully resolved). Submissions have been made previously about judicial review in ISH3 and NE's corresponding deadline 3 submission. An alternative appeal mechanism is a new point raised by the Applicant and the details have not been circulated. Accordingly NE reserves the right to make any additional submissions once that has taken place.	
c) Condition 2 – new limits on number of cable crossings and on works within Markham's Triangle Natural England highlighted that Markham's Triangle was now a recommended 'r' MCZ, rather than a pMCZ. Natural England were unable to confirm the likely timescales for the designation (or otherwise) of the latest tranche of MCZs and highlighted that this was a Defra led process. The MMO suggested that the decision may be made by Summer 2019, but that this was not confirmed and subject to change. Natural England also referred back to discussions held on the previous day (ISH 5) and Natural England's question as to whether the volume of cable protection permitted would reduce if few cables were installed. [N.B. Natural England's concern is that the volumes of rock protection are calculated the total possible length of the cable, rather than 10% of each individual cable. This could in theory mean that more than 10% of an individual cable could be protected, and in a build scenario fewer cables were ultimately installed, then in theory, cable protection could be placed along significantly more than 10% of an individual cable length. Natural England is concerned that the implications of this (such as barrier effects) may not have been captured in the current WCS	The Applicant notes the comment from Natural England regarding the reference to Markham's Triangle rMCZ and will refer to this as an rMCZ in future submissions. The Applicant has considered the Natural England comment on the volume of cable protection permitted if fewer cables were installed for both remedial cable protection and asset crossings. The Applicant can confirm that the volume and footprint of cable protection associated with asset crossings can be limited on a "per cable basis" (i.e. if only 4 cables are installed, the total volume and footprint of cable protection would be reduced by one third). The number assets to be crossed is currently known and if fewer cables are installed, this will result in fewer crossings, with the reduction directly proportional to the number of cables installed. The outline CSIP has been updated to reflect this commitment (see Table 5.1 of Appendix 4 to the Applicant's response to Deadline 7). The Applicant is currently considering whether a similar commitment can be made for remedial cable protection measures. It should be noted that the 10% of total cable length is one metric which informs the overall cable protection volumes and footprints; others being, for example, width and

assessment.] The applicant advised that they would be providing further clarification relating to areas and volumes of scour and cable protection at Deadline 6.	maximum height of berms, slope of berms, replenishment etc. The maximum design scenarios for footprint and volume are therefore realistically conservative aggregate volumes based on these assumptions. As these aggregate volumes/footprints are further subdivided, uncertainty in the precise volumes/footprints would increase. This is particularly the case for the Cromer Shoal Chalk Beds MCZ, where the footprint and volume of cable protection is already very low (i.e. volume of 6,000 m^3 and footprint of 4,200 m^2) and therefore any further limits on cable protection on a "per cable" basis would not be feasible. However, the Applicant is currently investigating whether some commitment can be made to limit cable protection in the event that fewer cables are installed within the SACs. The Applicant will provide an update for Deadline 8.
h) Condition 18 – (Construction monitoring) whether provision should be made for piling to stop if noise exceeds predictions Natural England continues to advocate for the inclusion of this provision.	For the reasons set out by the Applicant in the first DCO hearing, the Applicant makes clear that it has committed to the relevant monitoring and reporting proposed by the MMO already at Condition 18 (2(a) and (3)). That component of the MMO's proposed wording is therefore, agreed and already included. It considers the enforcement tail-piece an unnecessary addition to the DCO as the MMO have those enforcement powers within the MCAA (Section 72 and 102). It is our clear position that the onus must be on the undertaker of the DCO to develop in accordance with its consent, and to report compliance accordingly to the Regulator. But the onus must then pass to the regulator to regulate that compliance (in a pragmatic manner) noting that the relevant sections of the MCAA provide the exact necessary powers relevant to this matter (in other words it was the expectation of Government in drafting the Act that it would be the MMO who would be responsible for such enforcement actions and not the undertaker of licensed activity).

AGENDA ITEM 9. Other DCO Matters a) Schedule 13 (Arbitration Rules)- update on discussions NE noted that progress had been made since ISH3 through the Applicant accepting some of changes proposed by NE in Annex 1 of its ISH 3 deadline 3 submission. [Incidentally, although NE does not consider it necessary to substantively respond to the Applicant's allegations against it of obstructionism made in ISH6, it notes the inconsistency shown by the Applicant's subsequent own comments that NE was the only interested party that proposed such 'without prejudice' changes following the Examining Authority's direction to do so at the end of ISH3.] NE made the following two submissions in relation to the parts of Schedule 13 which are not agreed, for the most part this is paragraph 6 of Schedule 13 relating to arbitration costs. First the Applicant should, subject to the exception to the general rule contained in NE's second submission, bear the costs of the arbitration (e.g. the reasonable fees and expenses of the arbitrator) because: a) public bodies incur very high post consent costs (which for NE at least are unrecoverable) which the costs of the arbitration, above and beyond public bodies bearing their own costs, would unacceptably increase. Bearing in mind the relative disparity in resources between the parties, the fact that public bodies are publicly funded, and the fact any arbitration would be a relative benefit for the Applicant (apparently said to be saving it time and money compared with the judicial review procedure) fairness requires that the Applicant should bear these costs b) Appendix 1 of PINS Advice Note 15 (on which the Applicant relies for its own arbitration procedure) provides that the undertaker should bear the costs for the arbitration subject to the same exception which NE says	The Applicant has nothing further to add on this.

should apply here. No good reason has been given for 'cherry picking' this out of the Appendix 1 procedure because the situations giving rise to an appeal in that appendix (see Paragraph 4 of Appendix 1 of PINS Advice Note 15) are the same we are contemplating here; and c) of the polluter pays principle Second, the inclusion of the catch-all phrase *"having regard to all material circumstances, including…"* means those parts of that sub-paragraph which the Applicant had seemingly agreed to exclude (see those crossed-out clauses in the draft DCO and also 'costs following the event' which has been deleted altogether in the draft DCO for deadline 4) could actually still be argued by the parties and taken into account by the arbitrator and the Applicant did not deny this at ISH6. The only exception to the general rules that the Applicant bears the costs for the arbitration (reasonable fees and expenses of the arbitrator etc.) and the parties bear their own costs should be where a party has behaved unreasonably and that unreasonable behaviour has directly caused another party to incur unnecessary or wasted expense. This test is fair, certain, and familiar (it is taken from the Planning Practice Guidance and parties will be familiar with the types of behaviour- procedural and substantive- which will be held to be unreasonable). Also to commend it is the fact that it is referenced in Appendix 1 of PINS Advice Note 15 as a consideration to which a decision maker must have regard when determining costs. In addition (this was not previously submitted at ISH3 because the exact terms of Schedule 13 was not dealt with in that hearing), NE submits that the reason why it is important that costs are not awarded on the basis of e.g. the degree of success of the Applicant is: a) for the same reasons given above in relation to the costs of the arbitration; and	

b) it would be wrong, subject to the exception of unreasonableness above, for a statutory body to be exposed to such cost risks when it is simply standing by good faith decisions taken in the public interest in the performance of its statutory functions conferred by Parliament, especially where the award would be made by a tribunal other than a court. This would not only have a punitive effect on public bodies, it might also have a 'chilling effect' on the exercise of those statutory functions1. This would not be in the public interest and would have the effect of undermining the protection of the environment, including those sites which it is incumbent on the UK to protect, preserve and enhance. Below is how NE believes Schedule 13, paragraph 6 should be drafted (extract from Annex 1 of NE's deadline 3 submission in relation to ISH3): ***"Costs*** ***6.*** *—(1) Subject to sub-paragraph 3, the Applicant/Undertaker shall bear the reasonable fees and expenses of the Arbitrator* *(2) Subject to sub-paragraph 3, the general principle is that each party shall bear its own costs of the arbitration (such as the fees and expenses of any experts and any legal costs)* *(3) The Arbitrator has the power (on application by one of the parties) to make a costs award against a party which has behaved unreasonably during arbitration and this unreasonable behaviour has directly caused another party to incur unnecessary or wasted expense. An award may include the reasonable fees and expenses of the Arbitrator (or any part*	

thereof) and/or the reasonable and proportionate costs of the innocent party (or any part thereof)"	
AGENDA ITEM 8. Code of Construction Practice f) Mechanism for approval of matters within the CoCP Natural England highlighted that their remit in relation to the discharging of DCO/DML conditions and associate plans is an advisory one and it is the regulators responsibility to provide the necessary sign off/condition discharge. As the CoCP and the PFG mitigation plan are DCO requirements the Local Planning Authority would usually discharge the condition, with advice from Natural England. Natural England were unclear if there was a particular reason for this unusual approach and agreed to take this matter away for consideration and provide definitive comment at Deadline 6. h) Onshore ecology and nature conservation Natural England highlighted they were seeking feedback from their specialists on key areas of the CoCP and would provide comments at deadline 6.	The Applicant would refer the ExA to its more detailed response on the Outline CoCP below as part of *ISH6 – response to NE's further comments on the Outline Code of Construction Practice [REP6-057].*

ISH6 – response to NE's further comments on the Outline Code of Construction Practice [REP6-057]

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Natural England has reviewed the CoCP (Rev 2) and provides the detailed comments below to improve the robustness of the document and meet the regulatory requirements. Please note that until these issues have been resolved we are unable to finalise our position to one of agreement on the onshore section of the 'All other matters' Statement of Common Ground with the applicant	The Applicant is awaiting input from Natural England on the 'All other matters' Statement of Common Ground with regard to the points below.
CoCP sign off mechanism for Pink Footed Geese (PFG) mitigation plan 1. As raised during ISH 5 on 30th January 2019, Natural England's remit in relation to the discharging of DCO/DML conditions and associate plans is an advisory one and it is the regulators responsibility to provide the necessary sign off/condition discharge. As the CoCP and the PFG mitigation plan are DCO requirements the Local Planning Authority will need to discharge the condition. However, we request that there is a requirement included within the DCO/DML to do so in consultation with the relevant SNCB.	This request has been incorporated into the ExA's schedule of changes to the draft DCO and has been incorporated into the version of the draft DCO submitted at Deadline 7.
Pink Footed Goose Mitigation Plan 2. As raised during ISH 1 Natural England has some outstanding concerns in relation to the potential requirement for PFG mitigation outside of the peak over wintering period (Nov – Jan) for North Norfolk Coast SPA Annex I Pink Foot Geese. As set out in our conservation advice package that can be found on Natural England's Designated Sites View package on our website, PFGs are arriving before November and dependent on weather conditions and food resource may be utilising the North Norfolk Coast beyond January. Therefore any mitigation plan should factor this in.	There is no evidence known to the Applicant to substantiate Natural England's view that birds could arrive sooner if their breeding season was unsuccessful. Pink-footed Geese (PFG) wintering in North Norfolk breed primarily in Iceland. Migration begins in early autumn to the wintering grounds. Peak numbers of PFG occur in the autumn (and again in spring) in northern Scotland, but peak numbers in England occur later in winter at sites in Lancashire and Norfolk after the birds have moved further south. The likelihood is that as birds' stage in autumn in Scotland, this buffers any variability associated with departure from the breeding grounds between years from being reflected in the

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	main arrival of birds in Norfolk. The first returning PFG to North Norfolk typically arrive during September. During September and October, those fields of sugarbeet that are harvested are also invariably ploughed and the next crop sown to take advantage of the last days of the growing season. At this time PFG forage on spilled grain in stubbles and graze on saltmarsh. The Applicant wishes to note that its onshore ornithological baseline surveys for PFG recorded no birds during October 2017 and only 60 foraging on cereal stubble in October 2016. There is also no evidence known to the Applicant to substantiate Natural England's proposition that birds could leave Norfolk later depending on weather conditions. Substantial numbers of PFG leave North Norfolk in February by when no birds were recorded by the Applicant's onshore ornithological baseline surveys for PFG in 2017 and 2018, as there was limited/no availability of post-harvest sugarbeet on which to feed. Fields that are not harvested before late February are unlikely to become available subsequently as a food resource to wintering PFG as few remain at the roosts at Scolt Head to the west in North Norfolk Coast SPA in February (Mitchell and Hearn 2004, Acheson 2016). Mitchell, C. and Hearn, R.D. (2004) Pink-footed Goose Anser brachyrhynchus (Greenland/Iceland population) in Britain and Ireland 1960/61 – 1999/2000. Waterbird Review Series, The Wildfowl and Wetlands Trust/Joint Nature Conservation Committee, Slimbridge. Acheson, N. (2016) Great bird reserves: Cley Marshes. British Birds 109, 706-723. Notwithstanding this, the Applicant has committed to monitor wintering

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	PFG in the period October-February (and to March if the February data indicates that PFG may be present in March, as requested by the RSPB) in Table 10.1 of the Deadline 7 Outline EMP, which will allow the Applicant to respond to seasonal changes in PFG abundance.
3. 6.5.1.40 - The additional wording in the main body of the CoCP doesn't provide sufficient certainty to undertake HRA assessment as relies on real time decision and leaves multiple options with no restriction on how one or all of them are implemented.	The Outline Pink-footed Goose Management Plan (PFGMP) included as Appendix F to the Outline CoCP, provides the required certainty to undertake HRA assessment and while there are multiple options, there is control and certainity as to how and when each one would get implemented. The requirement for 'certainty' for HRA purposes does not preclude the possibility of identifying a range of mitigation options to provide flexibility and cater for a range of eventualities, while ensuring the final mitigation selected is suitable and proportionate. HRA does not require the selection of one specific mitigation prematurely where there are alternative and equally effective measures, depending on the final scheme design and the corresponding degree of impact. As well as being subject to the EU precautionary principle, HRA is subject to the overarching principle of 'proportionality'. There is no requirement to over-mitigate. As it cannot be precisely predicted, at this stage, the nature or scale of effect that the Application would be seeking to mitigate, with the need for and extent of mitigation dependent on final scheme design, timing of construction and other factors, it is entirely appropriate and does not affect the level of certainty to identify a range of effective mitigation options. The required certainty is ensured by the fact that a suite of effective mitigation measures are identified now through the Outline CoCP, with the means of how each would get implemented subject to control

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	through the need for approval of the PFGMP as part of the final CoCP. The 'decision-tree process', which will be approved in advance in consultation with Natural England will provide clarity as to the timing and trigger mechanisms and in practice the application of the decision tree and implementation of mitigation will also be overseen 'on the ground' by the ECoW to ensure it is effective. There is therefore a high degree of control and certainty, which is adequate for HRA purposes. Reference to Appendix F within the main body of the Outline CoCP will be added to paragraph 6.5.1.40 in the version of the Outline CoCP submitted at Deadline 7.

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4. And whilst we welcome the commitments to the proposed restrictions, the inclusion of the caveat 'as appropriate' doesn't allow for assessment of the parameter in the HRA.	The term used is only a reflection of the fact that the particular measure may not be necessary, depending on the circumstances at the time. The Applicant does not consider that this gives rise to any uncertainty but is content to change the formulation to "if required", as updated in the version of the Outline CoCP submitted at Deadline 7. Either way, assessment can be undertaken on the basis that if the relevant mitigation measure is required, it will be implemented in accordance with the terms and decision tree process set out in the PFG mitigation plan which must be approved as part of the detailed CoCP by the LPA in consultation with the SNCB.
5. 5.1.40 - This is further confounded by the use of individual's subjectivity in relation to 'sensitivities' with no clear indication of what would constitute cold weather when geese are more likely to sensitive, the level of disturbance that would cause a change in behaviour etc. There needs to be a clear action pathway i.e. when must works cease etc.	Natural England has sought for clear definitions in relation to 'sensitivities' with clear indication of what would constitute for example, "periods of prolonged severe winter weather". Such definitions in the context of how assessment will be based on an expert opinion of the birds' sensitivity to disturbance at a particular location and time, will be formulated, discussed with and submitted to Natural England for approval in the 12 months preceding the commencement of construction as part of the Pink-footed Goose mitigation plan. For the example cited, it may be proposed that "a period of prolonged severe winter weather", would be defined as that which under the Wildlife and Countryside Act (Section 2) introduces a statutory suspension of waterfowl shooting, at which point works within 500 m of the availability of post-harvest sugar beet would be ceased until the lifting of the temporary ban.
6. In addition, the inclusion of the mitigation plan at Appendix F has raised the following concerns: i) Table 3.1 - It would be helpful to see the evidence supporting	6.i) As stated in REP5-007, the mitigation trigger at Decision 6 (Table 3.1) was set at half the available area of postharvest sugar beet within the Zone of Influence (landfall to the village of Hempsted) based on ornithologist professional judgement. PFG have a foraging range of

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the assumption that it is okay to disturb up to 50% of the total available foraging area locations for any given overwintering period ii) F3.1.3 - We welcome a more precautionary approach iii) F5 - When will documents be provided to LPA for discussion with NE and sign off? iv) F5.2.3 - up to 18 weeks is a long time for works with limited personal and equipment to be in an area. Therefore there needs to be more detailed parameters included in the mitigation plan. For example: - The maximum number of personnel for these less disturbing works. - The maximum noise limit for the works - Potential evidence to support habituation - Justification for these works having to continue within overwintering period Also could further mitigation measure be considered e.g. If you know works are happening in specific area such as for HDD – could proactive measures be taken to ensure that beat crops won't be planted nearby? Could more sensitive periods towards the end of the overwintering period when food availability declines be avoided?	20km, of which they are not using the full extent due to the resource abundance of North Norfolk. Abundant sugar beet resource was recorded within and outside the cable corridor in this foraging range, which makes geese less dependent on the resources specifically within the Zone of Influence. Therefore, if there is less than half sugar beet coverage within the Zone of Influence, this would represent less than a quarter of the area where the cable corridor and foraging range overlap, which reduces the likely disturbance to an acceptable level. The RPSB are in agreement on this point. ii) Noted. iii) The PFG Management Plan will be provided to Natural England by the Applicant in the time scale stated in the Outline CoCP, and the Applicant would seek agreement from Natural England prior to submitting the detailed CoCP and annexes to the relevant planning authority for approval. Iv) The 'low key' construction works referred to in paragraph F.5.2.3 that could take place during the winter, will be spatially localised at specific points, between 750 m and 2,500 m apart depending on cable lengths chosen during detailed design. Works will be undertaken sequentially at individual or a pair of adjacent specific points by any one construction team working along the cable corridor. The equipment will in consequence be localised temporally and spatially within the cable corridor. Therefore, combined with the nature of the works (i.e. undertaking activities including HDD works, cable jointing or pulling cables through ducts), the works referred to in paragraph F.5.2.3 are considered as being low key and will be limited in impact. The Applicant does not consider that it would be appropriate to specify

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	restrictions (such as a limit on noise) as this is managed and minimised through best practice measures already detailed in Section 6.2 of the Outline CoCP. Furthermore, in respect to personnel numbers in the Outline plan, as the principle behind mitigation is to exclude activities which require travel of teams of people and heavy equipment along the cable corridor (which would therefore have a larger disturbance area and not allow the geese to habituate to the disturbance), it is not necessary to further restrict personnel or equipment working at point locations. PFGs in Norfolk are known to habituate to busy roads for example (observed feeding within 100m of Norfolk coast road), and where there is continuous disturbance at a point location it is expected through ornithologist professional judgement that PFGs will initially be disturbed (maximum within 500m of the disturbance) but habituate and move closer within hours/days. Further to the works described above, it should be noted that at Deadline 6, the following commitment to an additional measure to limit disturbance during work was added to paragraph F.5.3.1. of the Outline CoCP: at site induction, all personnel will be trained to identify flocks of grey goose species, which includes pink-footed geese, and make the right decisions via the toolbox talks so as to help ensure that potential impacts are managed effectively. Natural England in requesting for further mitigation measures to be considered, asked could "more sensitive periods towards the end of the overwintering period when food availability declines be avoided". The Applicant's onshore ornithological baseline surveys for Pink-footed Geese would suggest the availability of post-harvest sugar beet within the core range (as defined by SNH 2013 at 20 km), exceeded the demands of the increasing population of Pink-footed Geese during the

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	winter period. The surveys recorded Pink-footed Geese largely utilizing those fields nearest to the coast and roost(s), this coinciding with availability elsewhere within the survey area and 20 km of roost sites of at least an equal size of post-harvest sugar beet. This unutilized resource can be added to the availability of post-harvest sugar beet in fields elsewhere within the species' core range of the roost at Cley Marshes (i.e. within 20 km). This highly mobile species is well adapted to exploit such a patchy and rapidly changing food source (Mitchell and Hearn, 2004) such as the availability of post-harvest sugar beet fields across this wide area. Indeed, amongst the flocks feeding in the cable corridor, individually identifiable neck collared birds and GPS satellite tagged birds were followed that confirmed together with flight line observations of the flock, that these geese were also foraging extensively in fields to the west and less than half the distance away from the roost (R.M.Ward pers obs.). Consideration of the above observations diminishes the significance to Pink-footed Geese of the food resource in the cable corridor, when available as post-harvest foraging, in the context of the wider availability within the species' core range. Moreover, with respect to the end of the overwintering period, substantial numbers of Pink-Footed Geese leave North Norfolk in February by when no birds were recorded by the Applicant's onshore ornithological baseline surveys for Pink-footed Geese in 2017 and 2018, as there was limited/no availability of post-harvest sugar beet on which to feed. Fields that are not harvested before late February are unlikely to become available subsequently as a food resource to wintering pink-footed geese as few remain at the roosts at Scolt Head to the west in North Norfolk Coast SPA in February (Mitchell and Hearn 2004, Acheson 2016). Thus, there is no evidence that at the end of the over wintering period that there is anything other than availability of post-

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	harvest sugar beet within the core range that exceeds the demands of the wintering population. The Applicant considers that the mitigation measures identified within the PFGMP, including the exclusion of the more intrusive works if required, is sufficient to mitigate the potential for disturbance impacts to PFG. As such, the Applicant does not consider it necessary or appropriate for additional measures to reduce disturbance on top of this commitment.

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C. Sediment lagoons 7. C.1.4.3 - Sediment Lagoons – Natural England would wish to be consulted on the location of sediment lagoons especially in relation to the hydrological impacts on designated sites. Please be advised that Natural England's preference would be for sediment lagoons to be located outside of designated site boundaries and in locations where the risk of leaks into the hydrological system would be lower	A sediment lagoon may be required only at major HDD entry and exit points to contain bentonite slurry arisings from the HDD bore, as stated in Appendix C: Bentonite Break-Out Plan of the Outline CoCP. The location of the drill entry and exit points will be at an appropriate distance from the banks of the watercourse (the EA recommended stand-off distance for a watercourse less than 5 m wide would be 1.5 times the stream width, and for larger watercourses 1.0 times the width of the watercourse). The Applicant has further committed to a protective buffer zone for main watercourses of at least 10 m (paragraph 4.2.2.2 of the Outline EMP), which would exclude HDD exits and hence sediment lagoons. Sediment lagoons will be located in accordance with best practice and therefore will not be located within designated site boundaries. With respect to sediment lagoons located outside designated sites and with a potential hydrological link, the Applicant considers this to be controlled by the commitment to undertake site-specific hydrogeological risk assessments at sensitive crossing locations, for example those with a potential hydrological link to a designated site (the River Wensum SAC (River Wensum crossing) and the Norfolk Valley Fens SAC (Blackwater Drain crossing)). There is an existing commitment to consult with Natural England with regard to the site-specific crossing method statement at Booton Common SSSI, which would include the need for and location of any sediment lagoon. The Applicant has added a commitment to the version of the CoCP submitted at Deadline 7 to consult with Natural England with regard to the River Wensum SAC crossing, which would add a similar level of reassurance.

Interested Party Written Representaion	Applicant's Response
D. Soil Management Plan 8. G1.1.7 - The soil management strategy should also consider impacts to water courses, not just agricultural land, and this definition should be adjusted accordingly.	The soil management strategy was developed specifically in response to requests for clarification from agricultural landowners, and will not supersede other watercourse protection commitments within the CoCP. The watercourse protection measures have previously been agreed with Natural England in the All Other Matters SoCG [REP1-218].
9. The OCOCP states 'The location of these storage areas has been sited away from watercourses and flood zones where possible. There are two locations where the boundary of the storage area is located within a flood zone associated with nearby rivers.' Natural England would expect to see site specific mitigation included within the CoCP, to minimise run off from exposed ground and stock piles to water courses. 10. Final site specific strategies should incorporate the latest guidance available at the time of writing. Note: Ciria C692 has been superseded by Ciria C741	The Applicant has updated paragraph 4.1.7.12 of the Outline CoCP to read: "The sites identified are typically in agricultural use and located in areas that cannot be used by the farmer because the cable installation works temporarily restrict access. When required, topsoil will be cleared and retained onsite. The location of these storage areas has been sited away from watercourses and flood zones where possible. There are two locations where the boundary of the storage area is located within a flood zone associated with nearby rivers. The use and layout of these storage areas will be ~~carefully~~ managed in line with the latest available best practice guidance to minimise the risk of contaminants entering the watercourses, and site specific mitigation measures for these sites will be included in the detailed CoCP(s). "

N2RS Written Representation (REP6-060, REP6-061 and REP6-062)

Response to REP6-060

Interested Party Written Representation	Applicant's Response
N2RS is a locally based organisation backed by around 1,000 supporters. It was established primarily to question and challenge offshore wind farm projects in Norfolk which opt for HVAC technology. We've made written submissions which can be read on the inspectorate's website. We also have a Facebook page. It is our position that in terms of transmission systems, HVDC is the lesser of two evils. Whilst not everyone sees it this way, this is the general feeling given our understanding of all the works that are required onshore from landfall to the national grid. The overall strategic plan for offshore wind farms in East Anglia is hugely dynamic and over time, it will extend beyond the plans submitted by Orsted for Hornsea 3 (2.4GW) and Vattenfall (3.6GW). This is because the Crown Estates website has announced that it will be disposing of more areas in our region enabling the Government to commission several more offshore wind farm projects in the future. N2RS represents residents who fear that we will have to live with short term disruption and long-term damage to the environment if our voices are not heard or	The Applicant has provided a number of responses relating to the discussion on transmission systems and would refer to them for the purpose of responding to this representation. These include: • Appendix 22 submitted at Deadline 1: Transmission System (HVDC/HVAC) Briefing Note (REP1-164); • Applicant's response to the ExA's Further Written Questions (REP-012) – including Q.2.1.1 and Q2.1.2; and • Written Summary of the Applicant's oral case put at Issue Specific Hearing 1 (REP3-003). The decision of which transmission system to adopt for Hornsea Three (HVDC or HVAC) will be informed by extensive engagement with potential systems suppliers, which is likely to be further informed by future CfD auction allocation announcements (i.e. post consent). The selection of transmission

Interested Party Written Representation	Applicant's Response
respected. For this reason, we felt it was important to come tonight to try to influence the proceedings keeping the environmental impact at the top of the agenda. We're under no illusion that energy companies accept commissions to make money and that is not the issue here. The issue is that their enterprises are not done at the expense of peoples' livelihoods and Norfolk's unique environment. We should assume and expect companies to want to conserve our heritage and to go the extra mile to support our aims. Orsted's stated position is to keep its options open regarding transmission. So far in this examination, Orsted has given evidence regarding issues to do with deliverability, costs and supply chains (and many other points of course) all with an underlying preference for adopting HVAC technology. Given the number of people and statutory bodies who have expressed a preference for HVDC, Orsted has responded by describing HVDC on December 4thas a maturing technology suggesting that it may not be deliverable. A while ago, N2RS was delighted when Vattenfall made its decision to adopt HVDC. Recently though Orsted has taken the opportunity to pour cold water on this; casting doubt on Vattenfall's commitment to HVDC. But Orsted says it's keeping its options open on AC and DC. This is a confusing, ambiguous position to take and whilst we are sure it is not their intention to do so, nevertheless it makes them look aloof and disinterested in the people of Norfolk who have campaigned to keep environmental issues on the agenda. We are not experts, but we are aware that HVDC carried over long distances (i.e. over 100km) is in fact the optimal choice over HVAC. Hornsea 3 is 120 kilometres off shore. Arguably, this makes HVAC sub optimal for Hornsea 3. We hope this crucial matter will continue to be a key line of further enquiry for the examining authority. The holding open of options under the Rochdale Envelope on such a	technology is then only expected to be made public when Hornsea Three completes a Final Investment Decision, which is likely to be after a successful CfD auction allocation or after the exploration of alternative funding mechanisms.

Interested Party Written Representation	Applicant's Response
crucial issue with a major impact on the lives of people in Norfolk is too important to just let go. It essentially gives those with a vested interest the upper hand. This cannot be fair or ethical. We conclude by expressing alarm that Orsted appears at this stage in the proceedings to be dismissive of HVDC at a time when there is an ideal opportunity to pioneer it not just for this project but to blaze a trail for other projects to follow. International research suggests that supply chain issues should not be a major impediment. Our campaign has never been about challenging wind farms per se despite the growing chorus of concerns from America to Australia and many places in between. It is about leaving the place as you found it with the absolute minimum impact on our environment. If the issue of HVDC or HVAC comes down to marginal costs and claims of a real or imagined supply chain block, the deciding factor in our view should be the option which preserves our environment. On that basis, as everyone knows, HVDC is the optimal choice.	

Response to REP6-061

Interested Party Written Representation	Applicant's Response
Background N2RS is based to the east of the county inland from Happisburgh. It was formed in response to the consultations relating to Norfolk Vanguard and Norfolk Boreas and its goal was to campaign for an HVDC system to be adopted so that cable relay stations would not be needed and the cable corridor would be halved thus significantly reducing the environmental impact. Vattenfall's early commitment to HVDC has therefore been warmly welcomed. The similarities between Hornsea Three and Vanguard/Boreas are obvious and although we have been unable to replicate the enormous time and effort required for our original campaign, we have followed the Hornsea Three application as best we can and wish to make the following observations about the inequalities that exist between the communities affected and the applicants and also comment on some of the current design elements. The Herculean Task for Communities We know from many conversations with stakeholders, consultees and individuals that there is also a strong preference for HVDC for Hornsea Three and while even the applicant has acknowledged this we are not sure that the strength of feeling is fully realised. We have learnt how difficult it is to make an impact when dealing with billion pound energy companies who have apparently unlimited resources. The people who are most affected by major NSIP projects and who will have to live through the temporary - but in the case of Hornsea Three, long winded - disruption during construction and the lasting legacy of permanent infrastructure are local people who have no professional support. Although landowners are able to instruct land consultants at no cost to themselves	The Applicant has undertaken extensive and appropriate statutory and non-statutory consultation in relation to Hornsea Project Three, as summarised within the Consultation Report submitted as part of the Application (APP-034). Since the point of Application, the Applicant has continued to engage with stakeholders in order to explain and gather feedback on mitigation proposals and the ongoing development of the outline management plans. In respect to statutory stakeholders, the current status of these discussions is summarised within the relevant Statements of Common Ground submitted at Deadline 7. Community consultation events were also held pre-application, in October/November 2016; March 2017 and September 2017, to provide an opportunity for the Applicant to present the project. Stakeholders and members of the public were encouraged at these events to provide feedback and raise concerns relating to Hornsea Three. As part of the Examination process, open floor hearings have been advertised, which offer the opportunity for organisations and members of the public to provide new or further comment in respect to Hornsea Three. Where the Applicant has not made a change in the design or outline management plans in response to comments raised by stakeholders, it is has sought to explain the reasons and justification for this within ongoing consultation, or as part of a written response.

Interested Party Written Representation	Applicant's Response
in order to extract the best terms, local people have limited means to navigate the complexity of these proposals and few are in a position to spend the time necessary to properly read and digest the multitudinous pages of detail, let alone fully understand it and know how best to react. It took thousands of man-hours and a dedicated team of individuals – who had no previous experience - to even scratch the surface of the Vanguard/Boreas consultations. Campaigns such as these are fought at the expense of businesses, families and personal wellbeing – and for those facing the worst of the impact, there is the ongoing stress created by uncertainty about the future, their quality of life and the potential to see their homes and businesses devalued. Not everyone has the skills, expertise and resources to fully articulate their concerns and relatively few people are comfortable speaking at hearings, despite the Planning Inspectorate's best efforts to encourage participation. Contrast this to the teams fielded by the developers both throughout the consultations and at the hearings themselves. We are no match for the fully funded and possibly highly paid lawyers, engineers, environmental consultants, PR and communications experts. It is no wonder that ordinary people feel disenfranchised, disheartened and unable to compete and in the end campaign fatigue tends to set in. It is telling that when N2RS approached two planning consultants for advice nearly two years ago - with a view to possibly commissioning their services - we were told not to waste our money as the chances of influencing an NSIP process were minimal. We were advised that the cards were very much stacked in the developer's favour. Norfolk also faces additional challenges in that many villages and communities are geographically scattered often consisting of clusters of houses and small hamlets. This contributes to the charm and character of the area that is so loved by locals and tourists alike – but it makes mobilisation of	

Interested Party Written Representation	Applicant's Response
communities much harder to achieve. Of course Parish Councils should be the key to much of this but it appears that they also lack the resources to fully participate. Many have day jobs and they too seem to be overwhelmed by projects of this magnitude. We were fortunate, with regard to Vanguard and Boreas, that the North Norfolk District Council, The Norfolk County Council and the CPRE were amongst those to vigorously endorse the need for HVDC but these organisations are also having to face several large applications, running side by side, and they too are under resourced.	
Latest Observations on the Current Project Design We therefore watch with some concern and a certain amount of helplessness, as the Hornsea Three examination unfolds. Not only does the region face an HVAC project – involving a large and unsightly booster station in unspoilt countryside but by proceeding over two phases, those affected will be condemned to years of disruption as well as the cumulative effect of Norfolk Vanguard, Norfolk Boreas and Hornsea Three. And ironically, despite the enormous resources at the applicant's disposal, its team (at the Compulsory Acquisition Hearing 31st January 2019) was unable to answer two important questions: • exactly how the Norfolk Vanguard/Boreas cabling would interact with that of Hornsea Three at the crossing point near Saul – in terms of the type of drilling used; and • whether the mix of HVAC (Hornsea Three) and HVDC (Norfolk Vanguard) cables would create any technical challenges or influence the depth at which each would need to be installed.	The Applicant would refer to the written summary of the oral case at issue specific hearing 5 (REP6-010) as well as Appendix 1 submitted at Deadline 6 (REP6-013) which clarifies points relating to the interaction with Norfolk Vanguard.

Interested Party Written Representation	Applicant's Response
We reiterate that we are not against offshore wind farms per se and appreciate the need for renewable energy but those companies which seek to develop such projects should be compelled to do so with the utmost respect for the host communities. The phasing of Hornsea Three alone is a major cause for concern and with the prospect of an HVAC system and its accompanying booster station we do not feel that this project has the best interests of the region at heart. If the onshore works were to take place in an unpopulated or remote area, there might be more justification but cutting through a picturesque rural tourist area over an extended period of time reflects poor judgement in our view and gives the distinct impression that the applicant has scant regard for our way of life, landscape and businesses	

Response to REP6-062

Interested Party Written Representation	Applicant's Response
Local cumulative environmental impact assessments of the cable route on landscape, tourism, traffic and recreation. I refer to: • Orsted Environmental Statement Non-Technical Summary: PINS Document Reference: A6.00 APFP Regulation 5(2)(a) - May 2018 • The Environmental Impact Assessment (Environmental Statement) by Vattenfall & Royal HaskonigDHV Ref PB4476-005-033 - June 2018 The two infrastructure projects (Hornsea Three & Norfolk Vanguard) cut across each other in Norfolk and both projects are currently undergoing inspection under different examination panels. We understand that the inspection panels for the two projects do not consult with each other on areas of overlap. Whilst both wind power companies are working to the legal requirements (subject to approvals by the examining authorities involved) it is not easy for residents to understand clearly the impact of the projects in the location of areas where disruption could be particularly significant. It is even harder for holidaymakers and people working in the holiday business to be aware of the potential disruption which could take place over a period of 5-7 years. I draw to the attention of the Orsted Examination Authority that a cumulative impact assessment undertaken by Vattenfall in June 2018 sets out a number of activities that cut across both projects, notably the intersection of the cable routes. In this report, Vattenfall summarised areas where there is likely to be a cumulative environmental impact for example on tourism and recreation. This would be a welcome piece of information for the general public if it weren't for the fact that it was incomplete. The gaps in information are in regard to the Orsted Hornsea Three	The Applicant would refer to the cumulative assessment for Hornsea Three, which assesses the potential impact of Hornsea Three and Norfolk Vanguard, as well as other developments, contained within each technical chapter of the Environmental Statement (see APP-073 to APP-083). It is noted that Norfolk Vanguard's project programme was behind Hornsea Three's and therefore the cumulative assessment of Norfolk Vanguard within Hornsea Three's Environmental Statement uses data from Norfolk Vanguard's Preliminary Environmental Information Report, as this was the only data available at the time the Environmental Statement was drafted. Hornsea Project Three has since provided at Deadline 1 (REP1-174) an update as part of its Examination submissions. This update provides comments on any changes in the Norfolk Vanguard and other projects status at the time it was drafted and provided information specific to traffic and transport at Deadline 6 (REP6-039). The Applicant remains in ongoing dialogue with Norfolk Vanguard regarding the potential for the construction of the projects to overlap, and suitable management measures have been identified within the relevant outline management plans to reflect these discussions (Outline Code of Construction Practice (REP6-014) and Outline Construction Traffic Management Plan (REP6-015).

Interested Party Written Representation	Applicant's Response
project. Despite the absence of information, Vattenfall made some judgments on the extent of the cumulative environmental impact in the area where the two projects intersect. As a general aside, one would assume that the more complete the information is, the more accurate the impact assessment will be. But Vattenfall's assessment lacks information such as: • 'the timings of the works for Hornsea Three' • 'insufficient information being 'in the public domain regarding final scheme plans' • 'uncertainty on the exact location and manner of the crossing point'. N2RS takes the view that if there is insufficient information available for whatever reason, that a cumulative impact assessment cannot contain a valid set of judgments. This holds true in any area of work where impact assessments are required. The greater the clarity, the more useful the impact assessment is. In Orsted's Environmental Statement (7.5.1.4) it says: 'During the construction phase, the onshore cable corridor would result in temporary short-term landscape and visual impacts which would not be significant. Impacts on landscape character would arise as a result of construction activities such as the digging of cable trenches, HDD works and the removal of short sections of hedgerow and some individual or small groups of trees. However, these impacts would be local in nature, over the short term and reversible, with Hornsea Three committed to re-instating landscape features (e.g. hedgerows) following construction. However, some character areas are more sensitive than others, such that effects on landscape character are considered to range from minor adverse to negligible significance (not significant in EIA terms)'.	

Interested Party Written Representation	Applicant's Response
N2RS is concerned that the judgments on environmental impact are somewhat flawed in not defining what 'short term' means. We have been led to understand that if Orsted chooses to undertake this work in two distinct phases (with a proposed 2-year gap as it has suggested in meetings) the term 'short term' could be anything from 5 to 7 years. Whilst Vattenfall has confirmed that it will employ a single-phase East-West cable run for Vanguard and Boreas and it has made a commitment to HVDC, Orsted has made no such commitments on either transmission or phasing. We do not believe that a project of this magnitude should be allowed to keep its options open during the crucial period of inspection and public consultation. To allow such latitude to go unchallenged is not in the public interest in our view. We therefore hope to see further scrutiny of Orsted during the remainder of this examination focussing on why key decisions are being deferred and whether Orsted's cumulative environmental impact assessments in relation to the cable route are fit for purpose.	

Weybourne Parish Council Written Representation (REP6-066)

Interested Party Written Representation	Applicant's Response
Weybourne Parish Council wish to submit the following representation to the Planning Inspectorate for consideration in relation to the examination of the Hornsea Three Windfarm. As Weybourne is a small village with limited road infrastructure and an economy heavily dependent on visitors and tourism, Weybourne Parish Council have a number of concerns relating to the Hornsea Three Windfarm development. The council are very concerned about the impact of the beach closure on the village and on tourism, a major part of the village economy. The council very much hope every attempt will be made to minimise the length of any beach closure and disruption in the Weybourne area. Related to this, the council are keen for Orsted to confirm they will not use open cut trenching techniques at Weybourne. This technique could impact significantly on beach access, use of footpaths and public rights of way, considerably effecting both residents and visitors to the village. The council are also concerned about access to the beach and how heavy machinery and lorries will access the site. There are no roads in to Weybourne that are suitable for large, heavy vehicles and the council are concerned to know how Orsted propose to access the site. The council hope barges will be considered to bring materials and machinery onto the beach site instead of relying on unsuitable, single track roads and bridges.	Impacts on tourism and recreational activity, are assessed in Volume 3, Chapter 10: Socio-Economics of the Environmental Statement [APP-082]. The assessment of effects related to tourism and recreation draws on the assessments provided in related chapters including Volume 3, Chapter 4: Landscape and Visual Resources of the Environmental Statement [APP-076], Chapter 6: Land Use and Recreation [APP-078], Chapter 7: Traffic and Transport [APP-079] and Chapter 8: Noise and Vibration [APP-80]. The assessment presented in Chapter 10: Socio-Economics [APP-082], concludes that no significant effects relating to tourism are anticipated during construction or operation. In respect to the cable installation methodology at landfall, the Applicant would refer to page 5 and 6 of Annex 10 of the Applicant's Comments on Interested Parties Relevant Representations, where the Applicant responds to NNDC's representation (RR-133). This confirms that the Applicant has included both HDD and open cut for cable installation at the Hornsea Three landfall, as described in Volume 1, Chapter 3: Project Description of the Environmental Statement (APP-058) and provides details of the proposed beach closures for each methodology. In addition to the information provided in Volume 3, Chapter 6: Land Use and Recreation of the Environmental Statement [APP-078], the Applicant has provided a framework of Public Right of Way Management Measures (REP4-068). The Applicant has confirmed with both NCC and NNDC, in their respective Statements of Common Ground (REP4-019 and REP5-005) that the proposals for the Norfolk Coast Path are considered acceptable in

Interested Party Written Representation	Applicant's Response
	planning terms and that site-specific management issues can be resolved through the preparation of a public right of way management plan to be provided as part of the final CoCP (through consultation with NCC and NNDC), as required by paragraph 6.8.1.31 of the Outline CoCP (REP6-014). The potential for delivery of equipment by sea has a number of constraints which has resulted in a road transport option being taken forward. Constraints include potential impacts on the beach (including access), as well as technical and health and safety considerations. The Applicant is confident there is enough capacity within the local road network around Weybourne to facilitate access to the landfall site. Routing and management of construction traffic will be controlled through the measures to be set out in the final CTMP, which will be prepared in accordance with the Outline CTMP (REP6-015). For example, specific measures relating to visibility at the existing access onto the A149 is covered in paragraph 2.1.3.7 of the Outline CTMP (REP6-015) and will be further developed within the final CTMP, pursuant to Requirement 18 of the draft DCO.

Mulbarton Parish Council Written Representation (REP6-067)

Interested Party Written Representation	Applicant's Response
Introduction Mulbarton Parish Council strongly supports Hornsea Project Three, and looks forward to a successful completion of the project. There is, however, reasonable cause for doubt as to whether the site currently chosen for the onshore converter substation, Option B, is either appropriate, or deliverable. **Site selection process** The site selection process is illustrated on page 31 of the relevant document[1], as shown in Attachment 1. This procedure identified the general area of Option A as being subject to the least number of constraints, but does not appear to have considered the local planning policies applicable to Option B, as shown on the policy map[2] in Attachment 2. In particular, Option B would seem to be in conflict with three local policy criteria: a) The Norwich Southern Bypass Landscape Protection Zone (NSBLPZ); b) View Cones towards Norwich (the viewing cone from the south-west); c) Undeveloped Approaches (the B1113, to the north of Swardeston). The effects on heritage assets for both Option A and Option B have been discussed at length by other parties, and would seem to be an important aspect of the position of South Norfolk District Council on the question of AC or DC transmission. In the case of Option B, it seems unlikely that mitigations by planting would be effective. This is because of the height of the substation building, the density of the planting scheme needed to provide effective screening, the time taken for trees to grow to maturity, and the need to remove up to 430m of roadside frontage to	In respect to site selection for the onshore HVDC converter/HVAC substation, the Applicant would refer to its comments on Mulbarton Parish Council's written representation (REP5-025) which were submitted at Deadline 6 (REP6-009), as well as the Applicant's response to the ExA's first written questions (Q1.1.15) which provides the justification for the selection of Option B relative to Option A. Consideration was given to the planning history of the quarry during the site selection process, and as such the Applicant maintains that Option B remains the most appropriate site for the onshore HVDC converter/HVAC substation. The Applicant has committed to pre-planting sections of the landscape mitigation at the onshore HVDC converter/HVAC substation within the Outline LP (paragraph 3.1.3.4) updated and submitted at Deadline 7. As noted within the same paragraph, some areas will not be pre-planted in order to facilitate the construction works. Any areas not pre-planted, will be planted in the first available planting season after the construction is completed. The implications of a two-phase construction programme are set out in paragraph 3.1.3.5 of the Outline LP, submitted at Deadline 7. The Applicant would also refer Appendix 5 submitted at Deadline 4 (REP4-026) which provides design principles and objectives for the onshore HVDC converter/HVAC substation. These principles will be applied during the detailed design of the infrastructure, as required by Requirement 7 of the draft DCO.

Interested Party Written Representation	Applicant's Response
provide for visibility splays and access to the site for abnormal loads ('over-running'). It is not clear how planting can begin until after the delivery of all abnormal loads, which may be required in the second phase of the project; there would also be no planting across the site entrance, or over the cable route. The positions of Options A and B, and also of Mangreen quarry, are shown on an aerial view in Attachment 3. The northern section of Mangreen quarry was correctly identified in the selection process as 'quarried land', even though it was no longer in use for extraction when the evaluation was carried out. The southern section is not identified at all. Although that section is currently still being worked, there are good reasons to expect that extraction will cease before the currently authorised date of 31st December 2021. The two adjoining sites previously identified for mineral extraction have recently been withdrawn. The planning history of the area around Mangreen quarry is summarised in Appendix 1. Over the last fifteen years, detailed environmental and archaeological surveys have been carried out in the area, and the larger part of the quarry site has already been excavated. New equipment above 16.5m in height has been approved for installation at Norwich Main. These considerations suggest that Option A would not be significantly constrained in terms of either temporary or permanent space requirements, maximum acceptable height of installed equipment, or vehicle access to and from the road network.	
Traffic assessment The traffic impact of the construction phase of the onshore converter substation is given on page 4 of the relevant document[3]. This shows the following impacts on the local road network for Option B, which is currently expected to use access from the B1113 only, whilst also generating some additional HGV traffic on the A140:	The assessment presented within Volume 3, Chapter 7: Traffic and Transport (APP-079) has been prepared in accordance with relevant guidance, which informs the scope of the assessment, as well as the methodology for determining significance of any effects. This assessment concludes no significant effects on the B1113 or A140.

Interested Party Written Representation	Applicant's Response
<table><tr><th></th><th colspan="2">Baseline</th><th colspan="2">Project</th><th colspan="2">Impact</th></tr><tr><th></th><th>Total</th><th>HGVs</th><th>Total</th><th>HGVs</th><th>Total</th><th>HGVs</th></tr><tr><td>B1113</td><td>8,594</td><td>561</td><td>846</td><td>528</td><td>+ 10%</td><td>+ 94%</td></tr><tr><td>A140</td><td>21,826</td><td>2,833</td><td>248</td><td>142</td><td>+ 1%</td><td>+ 5%</td></tr></table> It seems hardly fair to describe the impact of Option B on the B1113 as 'negligible'. In the case of Option A, whilst there would still be an adverse impact on the A140, this would be much less dramatic, as the total increase in HGV traffic – presumably an increase of up to 670 vehicles per day – would be less than 25% of the baseline estimate.	The Applicant notes that potential impacts on the B1113 and A140 have been subject to further discussion with Norfolk County Council, as the highway authority, with additional information provided in Appendix 33 submitted at Deadline 1 (REP1-157) in respect to the A140/B1113 junction. This concluded that although queuing would increase at the B1113/A140 junction with the addition of actual construction traffic flows, this is already part of the normal fluctuations in queuing that day-to-day road users' experiences. Furthermore, such impacts would occur for a temporary period, and would be reversible following completion of the most intense construction period. The Applicant has sought to minimise any potential impacts on this junction through the inclusion of extended core working hours, to enable the majority of construction staff movements to occur outside of the network peak. As set out in the Statement of Common Ground between Hornsea Three and Norfolk County Council (REP4-019), no outstanding concerns regarding these locations remain.
Public consultation The highlighting of Option A until a late stage in the consultation process is likely to have diminished public interest in the project. It is very difficult for the public to appreciate the visual impact of Option B as seen from the local road network, or from any of the protected sites and viewpoints, or from countryside footpaths and bridleways. The comparison between Option A and Option B in terms of both visual impact and the effect on local roads and traffic was not made clear in the consultation documents. Further, the potential interaction between the selection of the site for the onshore converter station and the choice of AC or DC transmission was not made clear.	The Applicant would refer to Volume 1, Chapter 3: Site Selection and Consideration of Alternatives (APP-059) as well as Volume 4, Annexes 4.3 and 4.4 (APP-094 and 095) which set out the process the Applicant undertook to identify and compare alternate sites for the onshore HVDC converter/HVAC substation. This process was informed by discussions with stakeholders between the EIA Scoping Stage and the submission of the Preliminary Environmental Information report. In March 2017, information was presented at the community consultation events (Phase 1B) and Hornsea Three specifically sought feedback on the output of a heat mapping exercise which showed areas identified as being the least constrained for the onshore HVDC converter/HVAC substation, and therefore preferable in terms of siting the permanent footprint. The

Interested Party Written Representation	Applicant's Response
	proposed site, Option B, was then presented (alongside justification for it being taken forward) within the Preliminary Environmental Information report submitted in 2017, and then refined for the purpose of the Application submitted in May 2018.
Availability The applicant has explained that compulsory purchase provisions are required, even for those sites where voluntary agreement is forthcoming, as this may may change over time. It is difficult to see how these provisions can be applied to Option B, when a reasonable alternative may be available, in closer proximity to the required termination point. Option A would appear to offer a greater prospect of public benefit, and a reduced level of harm; thus, the assessment of site availability should presumably still favour Option A.	The Applicant would refer to its comments on Mulbarton Parish Council's written representation (REP5-025) which were submitted at Deadline 6 (REP6-009), as well as the Applicant's response to the ExA's first written questions (Q1.1.15) which provides the justification for the selection of Option B relative to Option A. On the basis of these previous responses, the Applicant maintains that Option B remains the most appropriate site for the onshore HVDC converter/HVAC substation.
Conclusion In our view, the site currently chosen for the onshore HVAC/HVDC converter substation is unsuitable, and in the absence of a compelling public interest, there is reasonable cause for doubt as to whether it is either appropriate, or deliverable. There does not seem to be sufficient reason to change from the applicant's original preference of the area of Option A, which seems to be less harmful in terms of traffic and environmental impacts.	The Applicant has responded to each of the individual points raised above.
Attachment 1: Figure 4.15 of Volume 1, Chapter 4: Site Selection and Consideration of Alternatives (APP-059)	The Applicant has reviewed these attachments in the preparation of the response above.
Attachment 2: Map 4.6 (Policy DM4.6) The Landscape Setting of Norwich – with NSBPZ, Undeveloped Approaches, Viewing Cones and Gateways taken from South Norfolk Planning Document: Development Management Policies Document	

Interested Party Written Representation	Applicant's Response
Attachment 3: Onshore Converter Substation – Options A and B	
Appendix 1: Planning History of Mangreen Quarry	
1 EN010080-000529-HOW03_6.1.4_Volume 1 - Ch 4 - Site Selection and Consideration of Alternatives.pdf **2** From the South Norfolk planning document: Development_Management_Policies_Document_Maps.pdf **3** EN010080-001620-Ørsted Hornsea Project Three (UK) Ltd - Appendix 1 - Appendix G to the Transport Assessment.pdf **4** See for example, para 4.10.7.16 of the Consideration of Alternatives document, which states: 'Due to the early stage of technical investigation at the point of the Phase 1.B consultation events, the specific sites presented in Figure 4.15 were not shown at the consultation events as work was ongoing to determine whether each was considered to be technically feasible. However, the heat mapping exercise was presented to demonstrate the process that Hornsea Three was using to try to identify potential sites.'	

The Wildlife Trusts Written Representation (REP6-068)

Summary

The Wildlife Trusts (TWT) Deadline 6 submission provides summarised comments following attendance of Issue Specific Hearing 5 (offshore ecology issues). Comments have also been provided on the Outline Cable Specification Plan and Preliminary Trenching Assessment.

Response

Interested Party Written Representation	Applicant's Response
1.1. Cabling within The Wash and North Norfolk Coast SAC Our concerns regarding cabling within The Wash and North Norfolk Coast SAC have increased since becoming aware of Race Bank Offshore Wind Farm cable burial failure resulting in the need for rock protection. Our concerns have again increased since learning that The Wash and North Norfolk Coast SAC is now in unfavourable condition. To ensure no adverse effect on The Wash and North Norfolk Coast SAC from cabling works and cable protection, the following is required: • An assessment of why Race Bank offshore wind farm cable burial has failed, resulting in the need for increase rock protection and a comparative assessment on if the same risks are likely for the Hornsea 3 cable route. *Post hearing comment: We welcome that some of this has been addressed in the Preliminary Trenching Assessment document.* • A new assessment using the recent condition information to understand if the recovery of The Wash and North Norfolk Coast SAC will take place with the addition of Hornsea Three cables. This assessment must take the cumulative effect of fishing into account. Fishing is one of the causes of unfavourable condition within The Wash and North Norfolk Coast SAC and therefore cannot be considered part of the baseline. We refer to Natural England's comments in their response to written questions for deadline 4 (REP4-130) *"fishing is mobile, variable and subject to change, fishing impacts may not be adequately captured in the baseline characterisation".*	With respect to the first bullet point, the Applicant has provided a Preliminary Trenching Assessment (REP5-010), with further clarification on the Wildlife Trust's questions on this provided below. With respect to the second bullet point, the Applicant would direct the Wildlife Trust and ExA to the Applicant's comments on the Wash and North Norfolk Coast SAC Condition Assessment as submitted at Deadline 6 (REP6-019). The Applicant's position is that the conclusion of no adverse effect on integrity of the SAC remains valid, even when considering the updated condition assessment. In relation to effects of fisheries on the condition of the site, management measures for fisheries to protect coarse and mixed sediments have been proposed by the Eastern Inshore Fisheries and Conservation Authority (IFCA), with a view to bringing these features back into favourable condition. Hornsea Three would not hinder the implementation of these management measures and therefore would not affect the recovery of sub-features as a result of fisheries management.

Interested Party Written Representation	Applicant's Response
1.2. Southern North Sea SCI Site Integrity Plan TWT supports the development of Site Integrity Plans to manage underwater noise disturbance impacts within the Southern North Sea SCI. However, we are concerned that no strategic mechanism is in place to manage and coordinate the multiple Site Integrity Plans that will be produced by offshore wind farm developers. With a lack of coordination in place to oversee the delivery of mitigation, there is a risk to the site integrity of the Southern North Sea SCI. TWT have been working on the suggestion of an offshore wind farm levy which could be part of a toolkit to deliver management. This has been shared with the Planning Inspectorate previously. We highlight that a strategic approach to mitigation and monitoring for offshore wind farms in Scotland is delivered through Regional Advisory Groups. We suggest this is replicated for English offshore wind farms undertaking noisy activities in the Southern North Sea.	The Applicant welcomes the support to the SIP commitment but has no further comment to make about the regulatory statements given this is a matter for the MMO and BIES to manage.
2. Preliminary Trenching Assessment We welcome the production of the Preliminary Trenching Assessment, which provides much more clarity on cable burial viability. The document highlights the complex geology found within the cable route area and how very detailed survey information will be required to ensure the most appropriate burial tools are used. Although we welcome that the applicant has included a lessons learnt section in this document, we would welcome further information on the similarities and/or differences between the geology within the Race Bank cabling area and the Hornsea Three cable area within The Wash and North Norfolk Coast SAC. This will provide clarity on if the problems encountered for Race Bank cabling pose a similar risk within the Hornsea Three area cabling area.	The Applicant would note that while there are a number of geological formations within the Hornsea Three offshore cable corridor, these are typical for the southern North Sea and none of these would present a particular challenge to cable installation. As set out in the paragraph 5.28 of the written summary of Applicant's oral case put at Issue Specific Hearing 2 (REP3-004), the chalk within the Hornsea Three offshore cable corridor is considerably weaker (as set out in the Preliminary Trenching Assessment) than Race Bank. This is supported by evidence provided as part of the Written Summary of the Applicant's oral case put at Issue Specific Hearing 7 (6 March 2019), which presents evidence from Sheringham and Dudgeon offshore wind farms which also show weak, structureless chalk off the North Norfolk Coast. See paragraph 4.16 to 4.20 of the Written Summary of the Applicant's oral case put at Issue Specific Hearing 7.

Interested Party Written Representation	Applicant's Response
	As stated by the Applicant in previous submissions, there are many reasons why burial may not be successful, beyond ground conditions alone. Within the assessment and as part of the lessons learnt we have identified some of the key risks to not achieving burial based on previous experience of trenching in similar ground conditions. To clarify these are: • The presence of soft soils which may cause traction issues for tracked trenchers; • Gravels and cobbles which if not fluidised can reduce the depth of burial; • Coarse material causing increased chain wear on mechanical trenchers; and • Ensuring sufficient slack in the cable if a tool changeover is expected. Identification of these lessons learnt at this early stage will ensure Ørsted manages these risks through further development of the ground model and engagement with the installation contractor during the tender process. During the tender process Ørsted will work closely with each Contractor (in consultation with the MMO and SNCBs via the CSIP) to ensure that the ground conditions and associated risks are fully understood such that the most suitable tools are proposed.
3. Cable Specification and Installation Plan TWT welcomes the further clarity on the post-consent process and monitoring in relation to cabling activity. We request that the applicant engages with TWT post-consent during the development of this plan. It is essential that effective mechanisms are in place within the DCO or as a dML to ensure that detailed pre-	Regarding TWT's request for engagement, the Applicant and TWT have signed a Memorandum of Understanding (submitted at Appendix 43 to Deadline 7) to agree to commit to working in a collaborative manner as the project moves forward into the post consent phase. This engagement will be

Interested Party Written Representation	Applicant's Response
construction survey work is undertaken to provide certainty that the correct burial tools are used. We welcome the monitoring which the applicant has proposed within the document. However, careful monitoring will be needed to ensure the amount of cable protection is recorded so that the total allowable amount consented within protected sites will not be exceeded.	led by the Applicant's environment and consents team as part of the development of construction management measures where they may have an influence on marine mammals and inshore cabling route. The Applicant notes the comments made by the Wildlife Trusts on the Cable Specification and Installation Plan (CSIP). The Applicant would note that the approach set out in the outline CSIP, which itself is secured in the DMLs, would achieve the objectives set out by the Wildlife Trusts.

Bidwells on behalf of Mr Kemp Written Representation (REP6-069)

Interested Party Written Representation	Applicant's Response
We refer to agenda item 5 c) of the Compulsory Acquisition Hearing of the 31 January 2019 as agent for the landowner Mr M Kemp of Thickthorn Farm, Norwich Road, Hethersett, Norwich, NR9 3AU. While Mr Kemp is opposed to the cable route for the project crossing his land if by the use of compulsory purchase powers he is forced to accept the cable route on a without prejudice basis he would prefer the suggested temporary access from Norwich Road to the construction strip from the west to be used (i.e. the shorter route) and that the suggested access from the east be disregarded and not used to access the construction strip. We trust this is the information you require.	The Applicant welcomes feedback from Mr Kemp and notes the preference for the western construction access from Norwich Road (as it relates to land parcel 30-003, 30-004 and 30-005). The Applicant had not previously been granted access to either of the proposed access routes in order to assess them. However, Mr Kemp permitted access to undertake surveys to ensure that the accesses are suitable on 7 March. The Applicant is still awaiting the results of aboricultural and ecological surveys from that site visit and therefore considers it necessary to maintain both access options (the western and eastern access from Norwich Road) within the Order Limits at Deadline 7. The results of the surveys are expected imminently, and the Applicant will keep the Examining Authority updated on this point. As at Deadline 7, the land plans as presented at Deadline 4 (REP4-102 – REP4-104) remain correct. In the event that the preferred western construction access is confirmed to be suitable after the survey results are received then the Applicant will update the Book of Reference, Statement of Reasons and all plans accordingly for Deadline 9.

Historic England Written Representation (REP6-070)

Interested Party Written Representation	Applicant's Response
Written submission of oral case – Issue Specific Hearing held on Wednesday 30th January 2019 (draft Development Consent Order) In relation to agenda item 4a, we agree that within Article 2 (Interpretation) the outline Offshore Written Scheme of Investigations (WIS) should be referred to as such, in line with the reference to the outline Onshore WSI.	Noted. The Applicant has updated the term included within Article 2 (Interpretation) to be Outline offshore written scheme of investigation within the draft DCO submitted at Deadline 6 (REP6-004).
In relation to agenda item 5e and 5j, we accept the amendments made to Requirements 8 and 16 of the Development Consent Order (DCO), with the minor correction that it is Historic Buildings and Monuments Commission for England, which should be applied throughout the DCO.	Noted, the amendments have been captured within the draft DCO submitted at Deadline 6 (REP6-004).
With regard to agenda item 6c, we accept the amendments made to Condition 13(1)(d)(vii) of the DCO.	Noted.
In relation to agenda item 6f, we made a further representation regarding our previous advice on Condition 14(1) regarding the need to have the Offshore WSI completed and agreed as early as possible, in order for it to be produced prior to the commencement of any pre-commencement surveys, to enable the WSI to inform both survey methodologies and other plans and schemes as set out in the DCO.	The Applicant is in agreement with this position.
In relation to agenda item 6g, we are encouraged by the inclusion of additional wording within Condition 17(2)(e) Schedule 11. However, the condition needs to detail either the option to complete 100% coverage of side scan sonar data, or the review of a method statement to ensure the suitability of the survey methodology for archaeological purposes.	The Applicant is in the process of discussing survey methodologies with Historic England.

Interested Party Written Representation	Applicant's Response
We further offered the following comments under agenda item 6k; with regards to Condition 19(2)(f) of Schedule 11, we are largely content with the wording presented. However, the condition needs to detail either the option to complete 100% coverage of side scan sonar data, or the review of a method statement to ensure the suitability of the survey methodology for archaeological purposes.	
With regard to agenda item 8i, we noted that intertidal archaeology is covered within the outline Offshore WSI, and that this should be explicitly referenced within the Code of Construction Practice (CoCP). Having reviewed the CoCP and outline Offshore WSI again subsequently, we confirm that whilst the outline Offshore WSI is explicit in its coverage of intertidal project areas up to Mean High Water Springs, the methodologies provided within the outline Offshore WSI only relate to mitigation measures and surveys from a seaward approach. It should be noted that intertidal mitigation measures and surveys may also be conducted from a landward or terrestrial approach. As such, the methodologies within the outline Offshore WSI and the reference made to it in the CoCP should be amended to ensure provisions for both approaches are described.	The Applicant welcomes Historic England's feedback on this aspect and has updated the Outline CoCP [REP6-014] following discussions to explicitly refer to the Outline offshore and onshore WSIs, and clarify that the outline offshore WSI covers the intertidal zone. The Outline offshore and onshore WSIs are listed as accompanying plans to the Outline CoCP (paragraph 3.1.1.2 of REP6-014) and as such will be reviewed by the relevant Local Planning Authorities as well as other stakeholders. The Outline onshore WSI [REP6-044] is applicable landward of MHWS. The Outline offshore WSI will be updated post-consent (as agreed with Historic England) to refer to the terrestrial methods (detailed in the Outline onshore WSI) to be used on the landward side of the intertidal zone. The Applicant has discussed this approach with Historic England and is in agreement on this schedule.

Oulton Parish Council Written Representation (REP6-071)

Interested Party Written Representation	Applicant's Response
Oulton Parish Council's submission at Deadline 6 Oulton Parish Council (OPC) welcomes the opportunity to comment at Deadline 6 on the current status of the planning issues relating to the Main Construction Compound at Oulton. OPC remain committed to engaging with the applicant and all Interested Parties both during the Examination process and post-consent. In an attempt to move forward the production of realistic and meaningful cumulative impact scenarios for the combined effects of the traffic impacts of Hornsea Three with Norfolk Vanguard/Boreas, OPC has had meetings with both projects since Deadline 5. (1) At a recent meeting with Orsted and NCC (Highways) on 25/1/19, we were informed by the Applicant that design evolution of the access route using Option 1 (Passing Places) "is now complete". All further mention by OPC of issues relating to the access route to the compound will therefore assume that this is the only route under discussion. At this meeting, issues relating to the VISSIM traffic modelling simulation were discussed, including the (accidental) omission of a known set of vehicle numbers and the developer's misunderstanding of the actual whereabouts of the main commercial agribusiness depot, in fact located at Street Farm, only 500m north of the proposed site entrance for the compound. It is this large commercial operation that will generate the greatest proportion of competing HGV traffic related to sequential harvests throughout every year. Despite our concerns over the accuracy of some of these data inputs, we remain interested in receiving the VISSIM in USB form, as promised by the Applicant, so that we can run the simulation in real time. At this same meeting, issues related to de-commissioning – especially of the passing places - were discussed. OPC expressed its absolute need for a rigorous	The Applicant would refer to the Updated VISSIM modelling report submitted at Deadline 5 (REP5-016), particularly paragraph 2.12, which sets out the approach taken to the inclusion of agricultural vehicles within the model; and paragraph 2.10, which explains the approach taken in respect to the potato store. The Applicant has provided Oulton Parish Council with a copy of the VISSIM outputs in USB form; however, would note that this VISSIM modelling has been undertaken to assist in the engagement process with Oulton Parish Council and has not been requested by any statutory consultees, including Norfolk County Council. As such no further work on this modelling is anticipated as part of the Examination. As noted in the Applicant's comments to OPC's written representation (REP5-023), submitted at Deadline 6 (REP6-009), the Applicant has provided additional wording within section 5.2 of the Outline CTMP (REP6-015) which includes commitments to site-specific management measures discussed with Oulton Parish Council and Norfolk County Council. One such commitments requires that all temporary physical intervention works to the highway would be removed once the use of the main Hornsea Three construction is complete (unless otherwise agreed with the relevant highway authority, in consultation with Oulton Parish Council, see paragraph 5.2.1.3 of the Outline CTMP (REP6-015).

Interested Party Written Representation	Applicant's Response
commitment by the Applicant and NCC to the restoration of the southern end of Oulton Street to its current state, especially by the removal of passing places, once the construction of the project is complete. The Applicant proposed that such a commitment, including the requirement to consult with Oulton Parish Council at that future time, should be written into the CTMP, and NCC agreed with this suggestion. OPC welcomes this proposal, but is concerned about the enforcement status of the mechanism, as we are aware that much of the CTMP is finalised post-consent. It would be preferable therefore if a commitment to this particular de-commissioning could be secured within the DCO.	
(2) At a recent meeting with Vattenfall (Norfolk Vanguard/Boreas) on 6/2/19, particular features of that project's construction process were discussed in detail, as were many aspects of the impacts of their likely traffic movements. They are proposing that two of their compounds will be sharing the same access route as Orsted's Option 1(Passing Places). With regard to OPC's overarching concerns about the cumulative impact with Hornsea Three (HOW3), it is clear that Vattenfall do not feel that they are yet in a position to produce a comprehensive and realistic cumulative impact assessment of the traffic implications of these two projects combined. In our estimation, such an assessment is long overdue and we urge both applicants to liaise as a matter of urgency on this piece of work and feed the information back into both Examination processes. On a point of information, at an Issue-Specific Hearing for the Vattenfall project on 5/2/19, the ExA requested of the Applicant that they should prepare and submit three traffic impact scenarios: • for Norfolk Vanguard (NV) operating alone;	The Applicant would refer to Appendix 25 submitted at Deadline 6 which provides an update on the cumulative assessment with Norfolk Vanguard (REP6-039). The scenarios assessed align with those requested of Norfolk Vanguard, and comprise (for Hornsea Three): • Hornsea Three operating alone (which would also cover Hornsea Three operating before Hornsea Three given that the Applicant has committed to providing the designed-in mitigation for Hornsea Three along, as well as under the cumulative scenario); • Hornsea Three operating simultaneously with Norfolk Vanguard and other Tier 2 cumulative schemes. These scenarios represent the maximum design scenarios for the purpose of assessing potential cumulative effects. REP6-039 concludes that there would be no significant effects as a result of the cumulative impact of Hornsea Three and Norfolk Vanguard construction vehicle movements on any of the relevant road links.

Interested Party Written Representation	Applicant's Response
• for NV operating simultaneously with HOW03; and • for NV operating before HOW3. It would be extremely useful, in assessing cumulative impact, if Orsted were to produce a similar set of scenarios.	
(3) Finally, OPC needs to record again its continuing concerns about the severe impacts on the residents of the Old Railway Gatehouse. We are currently unaware of any particular progress in an offer of mitigation measures.	The Applicant has provided, at Appendix 23 submitted at Deadline 6, an assessment of the potential for noise and vibration impacts on residential receptors along The Street (specifically The Old Railway Gatehouse). This confirms that no significant noise and vibration effects are predicted but outline optional mitigation offered by the Applicant (the nature of which have been informed by discussions with the residents of the Old Railway Gatehouse), should the residents request it. The Applicant remains committed to engaging with the residents of the Old Railway Gatehouse during the Examination process and post-consent as set out in the Outline CTMP (REP6-015).

Marine Management Organisation Written Representation (REP6-072 and REP6-073)

Summary

For Deadline 6, the MMO provided;

1) A Written Representation on Environmental Matters focussing on the following topics:

- Coastal Processes;
- Site Integrity Plan;
- Hornsea Three Noise Clarification – Herring Spawning

- In Principle Monitoring Plan

2) Written Representation on the revised Development Consent Order (DCO) and the Deemed Marine License (DML) submitted at Deadline 4 focussing on:

- Schedules 11 and 12 – Deemed Marine License; Appeals Process and Cable Protection.
- Schedule 12 – Arbitration Schedule

3) Post hearing submissions including written submissions of oral cases

Response

Interested Party Written Representation	Applicant's Response
1.1 Coastal Processes 1.1.1 Scour and Cable protection The MMO has previously raised a number of concerns in relation to scour and cable protection within the array area associated with the silty sediments and deeper structure locations either in Outer Silver Pit or Markham's Hole. Following a number of clarification notes provided by the Applicant during Examination, the MMO seeks assurance that the scour assumptions and processes in these areas are robust and appropriate to the design selected for construction. At present, the assessment that the applicant has provided is incomplete and not site specific, since potential scour depths for each foundation structure have not been identified. The Applicant has highlighted that the required information may not be available until closer to the construction date, therefore the MMO proposes the reintroduction of swath bathymetry monitoring of scour pits at the sites with high mud fractions to offset this uncertainty. This requirement can be secured in the DML conditions or included in the In Principle Monitoring Plan.	In response to the comments made by the MMO, the Applicant would note that Volume 5, Annex 1.1: Marine Processes Technical Report (APP-101) (including Appendix C to that document) provides a similar level of detail regarding potential scour extents to that provided by other wind farm applications prior to a detailed layout and foundation design being available. It is considered that the assumptions are robust and appropriate. However, the Applicant agrees to the inclusion of monitoring of scour around turbine and substation foundations where these are placed within areas of high mud fractions (i.e. Outer Silver Pit and Markham's Hole), the exact number of locations be agreed with the MMO. The Applicant would highlight that it considers scour to be primarily an engineering issue and as such, any scour related monitoring should be informed by, and combined with, engineering studies as outlined in the In Principle Monitoring Plan (REP4-

Interested Party Written Representation	Applicant's Response
	067). The In Principle Monitoring Plan (Version 4.0, submitted at Appendix 3 to Deadline 7) and DCO as submitted at Deadline 7 have been updated accordingly to include such.
1.2 Site Integrity Plan The MMO welcomes the submission of an In Principle Site Integrity Plan. This is recognised to be a working document which would be revised post-consent to include updated design parameters following award of Contract for Difference electricity generation capacity. The MMO has the following preliminary comments to make on the In Principle Site Integrity Plan (version 2.0) submitted by the Applicant at Deadline 4. The MMO recommends that agreement of the final Site Integrity Plan should take place at least 6 months prior to commencement of any activities likely to impact upon the Southern North Sea Site of Community Interest (SNS SCI) unless otherwise agreed in writing. Mitigation to limit the risk of impacts upon harbour porpoise should be explicit and detail how mitigation measures would work to reduce such impacts, with suitable evidence to support such conclusions. The developer is encouraged to liaise with all relevant industries undertaking noise inducing activities within the SNS SCI to ensure that potential in combination effects are effectively mitigated. It is acknowledged that an unexploded ordnance (UXO) clearance campaign would be expected to form part of a separate marine licence once detailed information is available post-consent. Assessment of UXO underwater noise impacts would be carried out as part of the determination process for such a licence following validation.	The Applicant can confirm that the detail of the SIP will be consulted upon immediately following CfD award and then again prior to the Final Investment Decision (FID) (envisaged to be 9 – 6 months before commencement of works). The MMO and relevant stakeholders will be engaged at these junctures and the document developed collaboratively. These versions will (if necessary) contain relevant information with regard to mitigation. The Applicant welcomes the MMO's acknowledgements with regard to UXO and confirms that this is how it intends to manage this potential activity post consent.
1.3 Hornsea Three Noise Clarification – Herring Spawning In our Section 56 response, the MMO questioned whether the proposed	The Applicant welcomes the MMO's comments and its confirmation that no piling restriction to reduce potential impacts on herring spawning would be

Interested Party Written Representation	Applicant's Response
underwater noise modelling presented in the ES reflected the worst – case scenario in light of concurrent piling being discussed as a potential option. Following extensive discussions with the Applicant, a clarification note has been provided on herring spawning which was submitted at Deadline 4. Please see the MMO's comments below. The MMO requested further information on concurrent piling from the Applicant in our Deadline 3 response. Following the review of the clarification note, the MMO is content that all requested information has been provided. The MMO is content that the clarification note reflects the worst-case pilling scenario. The modelling was based on a stationary fish receptor and assumes two monopiles being installed simultaneously using a maximum design scenario for hammer energy of 5,000kJ in the north-west corner of the Hornsea Three array area. The MMO is content that the updated noise modelling has addressed our previous concerns. Based on the predicted SELss received levels at Flamborough Head the modelling provides reassurance that the risk of significant impact on spawning herring from concurrent piling operations is likely to be low. The MMO can confirm that based on the current design scenario as assessed in the ES, no piling restriction to reduce potential impacts on herring spawning would be required.	required. The Applicant has nothing further to add.
1.4 In Principle Monitoring Plan 1.4.1 Minimum monitoring requirements The MMO's position remains as outlined in our Deadline 5 response that the minimum monitoring requirements of 3 years should be made explicit within the IPMP. 1.4.2 Monitoring of Sandeel habitat	The Applicant has since discussed this point with MMO and it has been agreed that the Applicant will update the In-principle Monitoring Plan (as submitted at Appendix 3 to Deadline 7) to include monitoring of preferred sandeel habitat by geophysical surveys in the array areas also.

Interested Party Written Representation	Applicant's Response
The MMO has now reviewed the Applicants proposed methodology for the monitoring of preferred sandeel habitat. Please see our comments below: In principle, the MMO support the monitoring of preferred sandeel habitats using geophysical surveys and associated monitoring of sandwave clearance activities. The MMO request further clarification from the Applicant as to whether all preferred sandeel habitats, as identified in the Hornsea Project Three baseline characterisation surveys, will be monitored or just sandwaves along the offshore cable corridor. Sandeel preferred habitat characterisation information presented in the ES shows that the habitats which are likely to support sandeels are most likely to be located within the northern half of the array area. The proposed sandwave clearance monitoring presented in the IPMP does not appear to cover this location. Given the lack of proposed sandwave clearance monitoring within the array area, the MMO recommends that any benthic monitoring programme for the array should be aligned with monitoring of preferred sandeel habitat and utilise PSA and grab data to monitor sandeel habitats and presence. Potential disturbance, temporary smothering/covering of suitable sediments from construction activities and installation of turbine foundations together with any associated potential recovery/return of the original suitable sandeel habitat and associated sediments within the array would not be identified by the proposed monitoring. The MMO acknowledges that the ES demonstrates some correlation between Sandwave locations and suitable sandeel habitat within the array area and the value in monitoring preferred sandeel habitat within the export cable corridor.	
2.1 Schedules 11 and 12 – Deemed Marine License 2.1.1 Appeals process The MMO thanks the Applicant for the early opportunity to comment on the	The Applicant's view is as per its' previous submissions – the Secretary of State has already determined in relation to two other DCOs that all parties and all matters can and should be subject to arbitration. Fundamentally, the Applicant's position is that the ability to refer a dispute to

Interested Party Written Representation	Applicant's Response
modified Appeals process in the Marine Licensing (License Application Appeals) Regulations 2011 put forward by the Applicant to the Examining Authority on a 'without prejudice' basis for submission at Deadline 6. The MMO received the proposed Appeals modifications via email on 31 January 2019 (see Annex 1). The MMO would like to reiterate our position as set out in our Written Representation at Deadline 3 on the previously proposed arbitration provisions, schedule and determination timescales. The MMO remains unclear as to the need for the arbitration provision as currently set out in the DCO or this amended appeals process. The MMO is not aware of any detailed explanation other than what was included in the explanatory memorandum which sets out a cogent argument as to why the provisions (arbitration and the Appeal process modification) are necessary. The MMO is aware of the Applicant's intention to propose a process to deal with matters of dispute in a timely manner to prevent unnecessary delays, however it remains unclear how this process could apply to situations where the MMO would be minded to refuse or withhold their approval. Additionally, as the Applicant is persistent in their argument that a 4 month timescale provides a sufficiently long period to get approval for pre-construction documentation due to their commitment to undertake extensive pre-submission engagement, it is unclear to the MMO where this concern regarding delays has originated from. Furthermore, no such requirement was considered to have been necessary for other projects such as Hornsea Project One or Two. Following review of the proposed modified appeals process, the MMO questions the necessity to extend an appeal route which is not intended to apply to decisions of this nature. The MMO does not agree that this process would provide a more timely process than a Judicial Review (JR), given that the JR process requires that a timetable would be followed by the claimant and the defendant. Any decision of the Court would be dependent on court availability which is out of the control of either party in the JR process, but the same situation would apply with any other	arbitration is not a new concept in DCOs granted to date. The terms in Schedule 13 simply set out a process for that arbitration to follow, which the Applicant considers beneficial to all parties in ensuring that this process is timely and does not hold up the construction of a nationally significant infrastructure project. This process has previously been absent from DCOs, and so should be welcomed as providing certainty and an understanding of what should be expected by parties engaging with arbitration. Therefore, the desire to elaborate on the principle of arbitration in Article 36 and provide more detailed provision in Schedule 13 of the dDCO in the interests of certainty and transparency were not anticipated by the Applicant to be contentious. However, as an alternative, and without prejudice to this primary position on arbitration, the Applicant has proposed an alternative approach of utilising the MMO's existing appeal process to resolve disputes. The Applicant notes that this appeal process deals with a number of concerns that the MMO expressed in Issue Specific Hearings, such as concerns over confidentiality and the expertise of the potential arbitrator, employing a familiar process set out by Parliament already for the making of similar determinations. The MMO appears to believe that the arbitration provisions that exist in previous DCOs do not apply to the MMO. That is not correct. The MMO's regulatory decisions/determinations are already subject to arbitration in existing DCOs. The principle of arbitration is well-established, so the Applicant is not seeking anything beyond that accepted by the Secretary of State in other DCOs. The only new element is the provision of a detailed practical framework for the conduct of such arbitration, which one might expect to be welcome by all concerned in the interests of certainty and transparency. This is in accordance with guidance. The Planning Act 2008 and the Planning Inspectorate's advice notes do not prescribe that DMLs should be standalone from the rest of the DCO, but it is

Interested Party Written Representation	Applicant's Response
appeals process. Any claimant can apply to the Court to have the JR application given urgent consideration, together with an explanation as to why the case is required to be determined within a certain time scale. Having reviewed the proposed amendment to the MMO Appeal process set out in Annex 1, the MMO does not agree that this proposal would provide a more timely route than a JR. Additionally, the MMO considers that the amended appeals process is unnecessary given there is an established route by which the MMO's decision can be challenged and to date, such a process has not been required for the discharge of pre-construction documentation. The MMO does not consider that a set four month time limit for application determinations as described in Annex 1 would be appropriate, given that the time taken to discharge conditions is a factor of the quality of such documents received from the licence holder and the resolution of any arising issues from relevant stakeholders. Holding post-consent document approval processes to a fixed timescale has the potential to pressure the regulator into accepting sub-standard reports within an entirely arbitrary timescale or face the potential of an appeal. Should the Secretary of State choose to adopt the Applicant's proposed Schedule 13 of the draft DCO, this would come with the potential of costs being awarded against a public sector body with known financial constraints and could create additional pressure on the regulator to accept condition discharge documents prior to the appropriate resolution of any issues arising from them.	accepted by the Applicant that such an approach has practical advantages. Therefore, if the Secretary of State prefers, the content of Schedule 13 could be transposed into schedules attached to the DMLs, or alternatively set out as a series of conditions. Either way, the desire for a standalone DML is no justification for dispensing with the arbitration provisions altogether. Judicial review is neither quick nor is it a universally available and effective remedy as it can only deal with narrow points of law. As the MMO will be aware, it can take years to resolve differences via judicial review litigation, which is not conducive to delivering a renewable energy NSIP expeditiously to meet the urgent national need set out in the NPS. Furthermore, if the dispute is with the MMO, a complaint to the MMO is unlikely to resolve the dispute, hence a resolution by independent arbitration is required and accords with principles of natural justice. In addition to the above, we would invite the MMO to consider section 120(5)(c) of the Planning Act 2008, which prescribes that a DCO may "*include any provision that appears to the Secretary of State to be necessary or expedient for giving full effect to any other provision of the Order*". Without prejudice to the submissions above, this subsection may also be relied on to give effect to the arbitration provisions in Article 36 and Schedule 13 of the dDCO, because those provisions are necessary and expedient to give full effect to the terms of the dDCO.
2.1.2 Condition 2 – Cable protection Following the MMO's oral representation during ISH 5 and 6, the MMO requested further explanation as to whether the draft DMLs permitted a maximum of 10% of cable protection to be only deployed during construction or to be deployed also	The Applicant would clarify that the assessments presented within the Environmental Statement and the RIAA assessed a maximum design scenarios for cable protection (e.g. maximum volumes, footprint, height etc.) and assumed that cable protection would be in place for the duration of the project lifetime of a maximum of 35 years. For example, this applies equally to

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during the operational phase of the OWF. The MMO would expect to be consulted on additional cable protection measures following the completion of each construction phase, in the event that the deployment of additional cable protection was required. Since the operational lifetime of a project can be 25 years or longer, it is not possible to assess the impacts of cable protection on designated sites and the marine environment this far in the future. As such the impact of new cable protection on the environment should be reassessed if additional cable protection is likely to be required. The MMO recommends that DML conditions including references to cable protection should be amended to explicitly confirm the maximum volume of the 10% cable protection, the maximum volume of the 25% cable protection replenishment, and that reference is made to a maximum of 10% cable protection which may only be deployed during the construction phase unless otherwise agreed by the MMO.	habitat loss effects on benthic ecology receptors considered in Volume 2, Chapter 2: Benthic Ecology (APP-062), snagging risks to commercial fishers in Volume 2, Chapter 6: Commercial Fisheries (APP-066) and potential interaction with sediment transport processes in Volume 2, Chapter 1: Marine Processes (APP-061). Any other scenario, for example, whereby 5% of export cables had cable protection installed on construction and further cable protection (within the maximum design scenario of 10% of cables requiring cable protection) is placed during the operation and maintenance phase, would be within this maximum design scenario, with receptors affected for a shorter duration than that assessed in the Environmental Statement and the RIAA. The Applicant directs the ExA to Schedule 11, Part 1 paragraph 3 and Schedule 12 Part 1 paragraph 3 which refers to the licensed marine activities, including deposit of materials for scour protection around foundations and cable protection measures, being authorised in relation to the construction, maintenance and operation of the relevant infrastructure. The approach adopted by the Applicant, i.e. considering the maximum design scenario for cable protection during the construction and operation and maintenance phase, is in line with recent practice in the offshore wind industry, including other projects progressing through Examination at this time. Furthermore, Ørsted has, in recent years, applied for (and had granted) a number of separate marine licences (e.g. Burbo Bank Extension and West of Duddon Sands) for operation and maintenance operations, including cable repair and replacement activities, for offshore wind farms which did not include these activities within their original consent. These marine licences have included estimates for cable protection measures which could be placed at any point during the lifetime of the project (i.e. a period of decades into the future) and without specifying exactly where on the cable corridor this cable

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	protection may be placed. As such, there is precedent for consenting remedial cable protection measures which may be placed years or decades into the future. The approach taken by the Applicant on Hornsea Three is consistent with this approach, allows for a more holistic approach now (as advocated by the MMO and Natural England), whilst reducing the risk that separate marine licences will need to be applied for post consent. The Applicant would also note that for scour protection, this would also not necessarily be placed during the construction phase of the project. Scour around foundations can take a period of time (e.g. years) to develop and may not represent an engineering concern (i.e. in some cases, severe scour can undermine foundation structures) until the project has entered the operation and maintenance phase, based on the results of asset integrity monitoring surveys. In such a case, scour protection would be deployed during the operation and maintenance phase to prevent such a risk to the foundation. This is analogous to the scenario described during ISH6, whereby a cable may be buried during the construction phase but over time may become exposed and (should attempts at reburial be unsuccessful) may require cable protection. The Applicant would note, however, that the outline Cable Protection Plan (Section 5 of the outline Cable Specification and Installation Plan; REP5-011) would be a live document which would be used both in the construction phase and the operation and maintenance phase of the project. This would provide the necessary mechanism whereby the MMO and relevant SNCBs would be consulted on any cable protection measures to be deployed within designated sites following the completion of each construction phase (as well as any other remedial burial operations which may be attempted prior to use of cable protection). The Applicant has also provided an updated outline CSIP at Deadline 7 (Appendix 4) to clearly specify the maximum design scenarios for

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	cable protection (i.e. volume and footprints) within each designated site, including replenishment during the operation and maintenance phase.
2.2 Schedule 13 – Arbitration Schedule Government guidance on the NSIP pre-application process for the Planning Act 20081 states that early engagement with statutory consultees includes benefits such as helping *'the applicant identify and resolve issues at the earliest stage which can reduce the overall risk to the project further down the line',* therefore '*enabling potential mitigating measures to be considered and, if appropriate, built into the project before an application is submitted'*. The guidance also reminds applicants that '*Many proposals will require detailed technical input, especially regarding impacts, so sufficient time will need to be allowed for this'*. The MMO notes that the Examination process for the project has highlighted a number of areas where consultation advice from stakeholders has not been acted upon and potential mitigation measures have yet to be agreed. Important document detailing impacts of the proposed development have been submitted by the Applicant only in the application and examination process, in some cases with insufficient time available to review and consult upon the reports prior to Issue Specific Hearings. The inclusion of a Schedule detailing such a prescriptive process for resolution of potential issues post-consent in a draft DCO and DMLs administered by the MMO is unprecedented. The MMO questions why such an issue resolution process should be required in an application process intended to seek issue resolution and the agreement of in-built mitigation measures to address potential impacts of an NSIP prior to application submission. In both Issue Specific Hearings relating to the draft DCO, the Applicant has claimed that the current appeals process for Judicial Review of DML condition discharge disputes would be a potentially long process for the project which could lead to unacceptable delays incurring significant financial costs to the construction	The Applicant refers to its points in section 2.1.1 above and in previous representations regarding the principle of arbitration.

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of the wind farm. The MMO notes that it has administered deemed marine licences for a number of offshore wind farm projects within its jurisdiction since the organisation was vested in 2009. Within that time, the MMO has a 100% record of managing to resolve issues relating to condition discharges for offshore wind farm deemed marine licences through negotiation between relevant stakeholders and licence holders without recourse to its exiting appeal mechanism. The MMO again questions why the Applicant considers that such a prescriptive process should be necessary. Any disputes on decisions relating to the discharge of duties of a public body are intended to be resolved in a fair, open, and transparent manner and to provide relevant stakeholders with an opportunity for their opinions to be heard. The existing process for Judicial Review of MMO decisions relating to the discharge of conditions on deemed marine licences has been designed to meet these requirements and, for the reasons outlined above and in previous written representations in the Examination process, the MMO does not consider that there is a need to change such a process for this or any other NSIP project Applicant. The Applicant has asked on a number of occasions if the MMO would provide comments on the proposed Arbitration Schedule (Schedule 13 of the draft DCO) on a 'without prejudice' basis. Notwithstanding the comments above regarding the appropriateness of such a Schedule in the draft DCO, the MMO puts forward the following comments on the Schedule proposed. The MMO has clearly set out its reasons why the proposed timescales within the Schedule are considered to be inappropriate in previous written representations. No further progress on timescale issues has been made between the MMO and the Applicant since the representations were submitted, therefore discussion on timescales for decision making and the arbitration process have not been repeated here. Paragraph 1(2) of the Schedule sets out an internal process through which '*The*	

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Parties will first use their reasonable endeavours to settle a dispute amicably through negotiations undertaken in good faith by the senior management of the Parties.' This describes the process through which disputes are currently considered by both the MMO and licence holders and the MMO does not consider it necessary for the Schedule to explicitly refer to this internal escalation protocol. Paragraph 2(1) of the Schedule includes weekends in the measurement of timescales. The MMO advises however that public bodies including the MMO, Natural England, the Centre for Fisheries and Aquaculture Science (Cefas) are not available to provide advice to applicants outside of their weekday operating hours. Set timescales in terms of the number of working days would be more appropriate here. Paragraph 2(2)(b) states that an Arbitrator would be selected by the Secretary of State. The MMO seeks assurance that such an Arbitrator would have the necessary legal powers and relevant skills and experience to act as a decision maker for deemed marine licence condition discharge issue resolution. Paragraph 4(1) sets out that '*no single pleading, witness statement or expert report will exceed 30 pages of A4*'. In the MMO's experience, condition discharge documents are often necessarily complex to ensure that the evidence or data presented are clear, thoroughly examined and appropriately referenced. The MMO does not consider that such a restriction in document size would be appropriate given the complexity of post-consent issues requiring condition discharge on deemed marine licences. Paragraph 6 on Costs states that '*the Arbitrator will award recoverable costs on the general principle that each party should bear its own costs'*. The MMO considers that any benefit of an expedient arbitration process would only be felt by the Applicant.	

Interested Party Written Representation	Applicant's Response
The MMO is, regardless of any proposed changes to its decision appeal processes, bound by the Marine and Coastal Access Act 2009 to administer the discharge of marine licence conditions. There would be no benefit to the MMO in calling for arbitration on a dispute raised on such a matter. Given that the entire benefit of calling for arbitration would be upon the licence holder in seeking a faster route through dispute resolution, the MMO considers that it would be appropriate for the Applicant to bear the costs of such a process. The MMO concurs with the statement made by Natural England in their representation to ISH6, namely that '*Bearing in mind the relative disparity in resources between the parties, the fact that public bodies are publicly funded, and the fact any arbitration would be a relative benefit for the Applicant (apparently said to be saving it time and money compared* *with the judicial review procedure) fairness requires that the Applicant should bear these costs'*. The only acceptable caveat to such a situation would be that parties bear their own costs where a party has behaved unreasonably and that unreasonable behaviour has directly caused another party to incur unnecessary or wasted expense. The MMO recommends that the terms 'unreasonably' and 'unreasonable behaviour' should be clearly defined and agreed by all parties bound by any such Schedule. In terms of confidentiality (Paragraph 7 of the Schedule), the MMO remains uncomfortable with 7(2) which states '*The Arbitrator may direct that the whole or part of a hearing is to be private and/or any documentation to be confidential where it is necessary in order to protect commercially sensitive information*.' This has the potential to be contrary to the requirement for open and transparent decision making in the regulatory process of Government bodies. The MMO would be content for commercially sensitive information to be redacted from documentation submitted to and subsequently	

Interested Party Written Representation	Applicant's Response
published by the Arbitrator, subject to the requirements for commercial confidentiality in the Freedom of Information Act 2000. The assumption that hearings should be held in public with appropriate representation from relevant stakeholders is, however, considered to be an important principle of open government decision making.	
Paragraph 1(2) of the Schedule sets out an internal process through which '*The Parties will first use their reasonable endeavours to settle a dispute amicably through negotiations undertaken in good faith by the senior management of the Parties*.' This describes the process through which disputes are currently considered by both the MMO and licence holders and the MMO does not consider it necessary for the Schedule to explicitly refer to this internal escalation protocol. Paragraph 2(1) of the Schedule includes weekends in the measurement of timescales. The MMO advises however that public bodies including the MMO, Natural England, the Centre for Fisheries and Aquaculture Science (Cefas) are not available to provide advice to applicants outside of their weekday operating hours. Set timescales in terms of the number of working days would be more appropriate here.	Submissions made by interested parties leading up to and during ISH3 (draft DCO) raised concerns that arbitration might become a solution of first, rather than last, resort and that text should be added to the Schedule to make it clear that parties should try to resolve disputes between them, before commencing arbitration. The text added at paragraph 1(2) responds to that request by IPs.
Paragraph 2(2)(b) states that an Arbitrator would be selected by the Secretary of State. The MMO seeks assurance that such an Arbitrator would have the necessary legal powers and relevant skills and experience to act as a decision maker for deemed marine licence condition discharge issue resolution.	As stated in Article 37(1) of the draft DCO (as submitted for Deadline 6), the parties have the opportunity to appoint an arbitrator by agreement, failing which the Secretary of State can be called upon to make such an appointment. The paragraph referred to by the MMO refers to that possibility. The Applicant has elected to have this fall back of the Secretary of State making an appointment as the Secretary of State would be an independent party, capable of fairly selecting a suitable arbitrator. The Applicant sees no

Interested Party Written Representation	Applicant's Response
	basis to assume or fear that the Secretary of State would select an arbitrator who did not have appropriate skills and experience.
Paragraph 4(1) sets out that '*no single pleading, witness statement or expert report will exceed 30 pages of A4*'. In the MMO's experience, condition discharge documents are often necessarily complex to ensure that the evidence or data presented are clear, thoroughly examined and appropriately referenced. The MMO does not consider that such a restriction in document size would be appropriate given the complexity of post-consent issues requiring condition discharge on deemed marine licences.	The purpose of this paragraph is to keep the pleadings to a minimum, but the Applicant would agree to amend or remove this requirement.
Paragraph 6 on Costs states that '*the Arbitrator will award recoverable costs on the general principle that each party should bear its own costs'*. The MMO considers that any benefit of an expedient arbitration process would only be felt by the Applicant. The MMO is, regardless of any proposed changes to its decision appeal processes, bound by the Marine and Coastal Access Act 2009 to administer the discharge of marine licence conditions. There would be no benefit to the MMO in calling for arbitration on a dispute raised on such a matter. Given that the entire benefit of calling for arbitration would be upon the licence holder in seeking a faster route through dispute resolution, the MMO considers that it would be appropriate for the Applicant to bear the costs of such a process. The MMO concurs with the statement made by Natural England in their representation to ISH6, namely that '*Bearing in mind the relative disparity in resources between the parties, the fact that public bodies are publicly funded, and the fact any arbitration would be a relative benefit for the Applicant (apparently said to be saving it time and money compared with the judicial review procedure) fairness requires that the Applicant should bear these costs'*. The only acceptable caveat to such a situation would be that parties bear their own costs where a party	The Applicant is of the view that as it is the normal position under planning appeal procedures for parties to bear their own costs, save where conduct of a party has been unreasonable, in such case costs are often awarded against that party. The Applicant sees no good reason to take a different approach here. Also, there may well be circumstances where the MMO would wish to commence arbitration.

Interested Party Written Representation	Applicant's Response
has behaved unreasonably and that unreasonable behaviour has directly caused another party to incur unnecessary or wasted expense. The MMO recommends that the terms 'unreasonably' and 'unreasonable behaviour' should be clearly defined and agreed by all parties bound by any such Schedule.	
In terms of confidentiality (Paragraph 7 of the Schedule), the MMO remains uncomfortable with 7(2) which states '*The Arbitrator may direct that the whole or part of a hearing is to be private and/or any documentation to be confidential where it is necessary in order to protect commercially sensitive information*.' This has the potential to be contrary to the requirement for open and transparent decision making in the regulatory process of Government bodies. The MMO would be content for commercially sensitive information to be redacted from documentation submitted to and subsequently published by the Arbitrator, subject to the requirements for commercial confidentiality in the Freedom of Information Act 2000. The assumption that hearings should be held in public with appropriate representation from relevant stakeholders is, however, considered to be an important principle of open government decision making.	The Applicant notes that this comment overlooks that paragraph 7(3) permits disclosure insofar as may be required under enactments. Also, Inspectors may direct hearings to be held in private under the Planning Act 2008 and Town and Country Planning Act 1990, without offending the principle of transparency.

Post hearing submissions including written submissions of oral cases

Interested Party Written Representation	Applicant's Response
1.1 **Benthic Ecology** 1.1.1 Cable Protection At ISH 5 the MMO expressed their confusion regarding the total volumes of required cable protection that has been assessed in the ES and is reflected in the DCO/DMLs. Prior to the Hearings, it was the MMO's understanding that the Applicant had assessed in the ES that the export cable corridor would require a	Please see the Applicant's response to Section 2.1.2 of the MMO's Deadline 6 submission (REP6-072)

Interested Party Written Representation	Applicant's Response
maximum of 10% of cable protection to be placed during construction as worst case scenario. Following the discussion throughout ISH 5, it became evident that the Applicant could require a maximum of an additional 25% of rock protection to be installed throughout the lifetime of the project as replenishment of existing protection. The Applicant was asked to provide further clarification as to whether the 25% additional cable protection was based on the cable protection volumes to be placed during construction only or included any volume required during the operational phase of the OWF. It was confirmed that the Applicant intended for the placement of the 10% cable protection to not be restricted to the construction phase, but also to be used throughout the operational phase of the OWF. At this point, the MMO expressed concerns that this may not be reflected in the DCO/DMLs appropriately. Additionally, the MMO highlighted at ISH 6 that we would not be content for the total volume of cable protection to be used throughout the lifetime of the project. In the event that the total volume of cable protection detailed in the DMLs was not required during the construction phase, the MMO would expect a separate marine licence application to be submitted during the operational lifetime of the project should any additional placement of cable protection be required. It is the MMO's opinion that, as the operational lifetime of a project can be 25 years or longer, it is not possible to assess the impacts of cable protection on designated sites and the marine environment this far in the future.	
1.2 **Marine Mammals** 1.2.1 Site Integrity Plan The MMO considers that a Site Integrity Plan (SIP) has the potential to provide a useful control measure to assess and mitigate impacts on the Southern North Sea Site of Community Interest (SNS SCI). Specific details are currently under	Please see the Applicant's response to Section 1.2 of the MMO's Deadline 6 submission (REP6-072)

Interested Party Written Representation	Applicant's Response
discussion as part of the Review of Consents consultation process, however it is proposed that prior to construction, developers would provide a SIP demonstrating how potential impacts of the proposed development could be mitigated to avoid an Adverse Effect on the Integrity of the SNS SCI alone or in-combination. The MMO highlighted that this requirement would be secured in the DMLs as part of a pre-construction condition. It is the intention for the SIP to be an evolving document as the design plan becomes available closer to construction, with final submission to the MMO proposed at least 6 months prior to the commencement of any piling works. The MMO further highlighted that the consultation on the SIP as part of the Review of Consents is currently ongoing, and emphasised that changes to relevant draft conditions may be required once this has been completed. Additionally, the MMO emphasised that considering the current trend towards an increase in noisy activities within the SNS SCI, consideration of additional mitigation measures such as the timetabling of works along with the willingness of the industry to work together to reduce impacts on the SNS SCI is likely to be required.	
2.1 **Schedule 1, Part 3 – Requirements** 2.1.1 Requirement 5 – limit on number of cable crossings The MMO confirmed we are satisfied that the maximum number of cable crossings and the maximum volume of cable protection required for cable crossings has been reflected in the DMLs. The MMO is satisfied that the maximum volume of cable protection for each individual crossing will be reviewed and approved by the MMO as part of the discharge of the Cable Protection Plan condition.	The Applicant welcomes the MMO's comments and its confirmation that the maximum number of cable crossings and the maximum volume of cable protection required for cable crossings has been adequately reflected in the DMLs. The Applicant has nothing further to add.
2.2 **Schedules 11 and 12 – Deemed Marine License**	Please see the Applicant's response to Section 2.2 of the MMO's Deadline 6

Interested Party Written Representation	Applicant's Response
2.2.1 Paragraph 10 – whether it is for decisions of the MMO to be subject to arbitration – consideration of alternative appeal mechanisms	submission (REP6-072).
2.2.2 Condition 2 - new limits on number of cable crossings and on works within Markham's Triangle As highlighted under point 1.1.1 the volume of cable protection and how it is secured in the DMLs was discussed during ISH 5. In addition to the points raised above, the MMO also questioned how the deployment of cable protection would be agreed in the event that multiple construction phases would be required.	This would be controlled and agreed via the Cable Protection Plan and consultation led by the Ecological Clerk of Works (ECoW). The maximum footprints and volumes are clearly set out for the project as a whole within the DCO and for the individual designated sites within the Cable Protection Plan (as submitted at Appendix 4 to Deadline 7). As set out in that plan, the requirement for cable protection (within the limits referred to above) would be communicated and agreed with the MMO (and SNCBs) via consultation pre-construction (for crossings) or post cable installation (for remedial protection). This would be the case for a single installation phase, or a two-phase installation.
2.2.3 Condition 10 - New wording regarding aviation safety lighting The MMO had no comments to make in relation to the new proposed wording for aviation safety lighting, other than the recommendation that a notification to the MMO should be provided within 10 working days.	This is noted by the Applicant – the DCO as submitted at Deadline 6 (REP6-000) included the amendment to include the MMO in such notification.
2.2.4 Condition 14 - Timescale for MMO decisions No progress has been made on this topic. The MMO position on the submission of pre-construction documentation and the MMO determination timescales remains the same as set out in our Written Representation submitted at Deadline 3.	The Applicant has nothing further to add regarding this point.
2.2.5 Construction 18 - (Construction monitoring) whether provision should be made for piling to stop if noise exceeds predictions The MMO affirmed its position regarding the proposed amendments to condition 18 (3) to include the requirement for all piling to stop should the noise monitoring	For the reasons set out by the Applicant in the first DCO hearing (see section 7.13 of REP3-004) and in previous deadline submissions, the Applicant would reiterate it has committed to the relevant monitoring and reporting proposed by the MMO already at Condition 18 (2(a) and (3)). That component of the

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show significantly different impact ranges to those assessed in the ES or failure in mitigation, as stated at Deadline 5. The MMO advised that the proposed amendment of this condition is required because the current condition wording is not considered to be fit for purpose. Should underwater noise impacts exceed those predicted in the ES, the developer would potentially be committing an offence if piling continued without securing a European Protected Species (EPS) licence. The MMO advised that similar recommendations had been made for the Norfolk Vanguard and the Thanet Extension offshore wind farms draft DCO representations.	MMO's proposed wording is therefore, agreed and already included. It considers the enforcement tail-piece an unnecessary addition to the DCO as the MMO have those enforcement powers within the MCAA (Section 72 and 102).

Maritime and Coastguard Agency Written Representation (REP6-074)

Interested Party Written Representation	Applicant's Response
Appendix 9 to Deadline 5 Submission Summary of Array Layout Position and Responses to Interested Parties	

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Development Principles Paras 1.1– 1.4 (a) The layout is of significant concern for MCA going forward, and the design principles have not yet been fully agreed by MCA. Although we support the establishment of the design principles, we should not be held to account should we not have considered every possible future eventuality based on the information provided within the current design principles. It has been evident during meetings that the design principles can be subject to different interpretation. Therefore, the MCA continues to request the option and ability to consider any layout plans on a case by case basis in line with MGN 543. This includes our strong recommendation that at least two lines of orientation are included within the layout design. (b) It remains to be seen if the layout principles "avoid potential delay" in the approval process, and they have taken considerably more time than more conventional layout conversations. The principles are still not fully agreed and MCA will continue to work with the applicant to resolve these issues. Where actual layouts have been discussed for other developments, rather than principles, it has taken less time and less resources, so the benefit of using these design principles is yet to be seen. (c) The MCA remains of the opinion that two lines of orientation should be incorporated into the layout plans for Hornsea 3. MGN 543 requires at least two lines of orientation unless it can be demonstrated that fewer is acceptable. Although we note the worst case has been assessed in the NRA, based on just one line of orientation, this does not mean that we should accept one line if more can be achieved by the developers. It is up	**PROCESS AND CONTEXT** The Environmental Impact Assessment (EIA) process for National Significant Infrastructure Projects (NSIPs) is an iterative process reflective of size and complexity of the projects it is assessing. National Policy Statement (NPS) EN-3 states (paragraph 2.6.43) that the Infrastructure Planning Commission (IPC) should *'accept that wind farm operators are unlikely to know precisely which turbines will be procured for the site until sometime after the consent has been granted'* and therefore assessment to date has focussed on the maximum or minimum parameters which result in a worst case assessment for each chapter rather than the arrangement of those worst case parameters within the array. During early rounds of wind farm development where turbines were smaller megawatt size and the total number less than 50 this assessment process (worst case) offered a workable solution that met the needs of both developers and regulators. However as the size of proposed developments has increased including the number and megawatt size of turbines, as well as changes to the funding process, the need for developers to explore alternative options to reach a safe and viable solution (including minimising wake effect and achieving the lowest price to end user), focus on the type (i.e. foundation) and layout of turbines has become more variable and more critical to the process. The historic approach of agreeing a final layout has therefore not worked efficiently for more recent large scale offshore projects given that developers are working within the consented parameters (minimum and maximum) and regulators on the other side are focussed on their current requirements. This

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to the applicant to demonstrate they have made every attempt to achieve a minimum of two lines of orientation, through appropriate justification in support of this reduction to our requirement. Until we receive this justification, and agree it in consultation with Trinity House, we cannot support just one line of orientation at this stage. (d) Although the NRA suggests lower commercial, recreation and fishing in the area, there is still the risk that vessels may find themselves in the vicinity of the site in poor weather or in an evolving emergency situation. MGN 372 provides guidance to Mariners operating in the vicinity of windfarms. There are three options for mariners: (a) Avoid the OREI area completely, (b) Navigate around the edge of the OREI, or (c) In the case of a wind farm, navigate, with caution, through the wind farm array. Two lines of orientation will ease navigation, and when considering the cumulative effect of multiple windfarms in the North Sea in the future, windfarms with a consistent grid layout will be safer and easier to navigate. We also note Trinity House's submission dated 23rd Jan 2019 (regarding further written questions at deadline 5), a key navigation safety stakeholder who has provided a detailed response in support of the two lines of orientation.	leaves no clear approach to how any technical inconsistences are resolved leading to a wide divide between the two parties which instigates significant delays to the project including in financial closured Contract for Difference deadlines. **PURPOSE OF DEVELOPMENT PRINCIPLES** Therefore the Applicant (from the early stages of the consent process) took a new approach to layout approval to ease the post consent process; this desire and approach has always been clearly demonstrated to the MCA and TH and several consultation meetings and technical reports have been used along the process to support this objective. Regulation 17 of the Infrastructure Planning Regulations 2009 states that 'providing as many details as possible should facilitate a clearer ES and avoid the possibility of a delay in the examination process'; the Applicant considers that this point is also relevant for post consent and has therefore provided a greater level of detail (than maximum and minimum numbers) in the form of the Development Principles. The Applicant agrees that this process has taken some time; however this time has been part of the standard examination approach to enable it to be guided and recorded by the formal consultation process. The purpose of the Development Principles is therefore to provide a framework post consent that will ensure engineers working on the project at that point (noting this could be some years after consent) develop initial layouts and undertake surveys within the parameters consented and that are in a general sense acceptable to the regulators. It is noted that the MCA and

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	TH still have the ability to comment on the layout at this point pursuant to the conditions of the DMLs; including final approval through the MMO. The Applicant sees no safety justification or technical explanation for two lines of orientation to be incorporated in the design as demonstrated with the risk assessment both within the NRA and the Environmental Statement. **SINGLE LINE OF ORIENTATION** As per D4 and D6 responses the Applicant has demonstrated that a safety case has been made for both surface craft and SAR assets operating within the Hornsea Three array. MGN 543 (MCA, 2016) states 'a review of the Navigational Risk Assessment should be carried out post-consent and prior to construction commencing to validate the Environmental Statement.' Therefore post consent if the layout proposed by the Applicant is within the parameters assessed within the application and the Environmental Statement (and NRA) validates the safety case the Applicant sees no justification for a single line of orientation not being considered safe to proceed with (noting that some minor modifications to suit peripheral lighting and marking may be required). The MCA has stated in its submission that: "MGN 543 requires at least two lines of orientation unless it can be demonstrated that fewer is acceptable. Although we note the worst case has been assessed in the NRA, based on just one line of orientation, this does not mean that we should accept one line if more can be achieved by the

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	developers. It is up to the applicant to demonstrate they have made every attempt to achieve a minimum of two lines of orientation, through appropriate justification in support of this reduction to our requirement". That interpretation is not correct and is more onerous than the guidance in MGN543. That guidance does not require the Applicant to "*demonstrate they have made every attempt to achieve a minimum of two lines of orientation*". It also does not say that the MCA should "*[not] accept one line if more can be achieved by the developers*". There is no adopted policy support for those tests. The adopted policy is MGN543 and that is plain to read – a single line of orientation is acceptable provided there is safety justification for that approach. The Applicant has consultated extensively and exclusively on a single line of orientation and has made clear its safety case for that from the outset of those negotiations. The safety case is included in the NRA and as such the Applicant has discharged the requirements of MGN543 - a single line of orientation is justified in relation to Hornsea Three. **MGN 372** The MCA have referenced sections of MGN 372 (MCA, 2008) within their D6 response. The Applicant notes MGN 372 also states that 'where adequate safe water exists it may be prudent in planning the voyage of larger vessels to set tracks at least 2 nautical miles clear of turbine fields'. Given the location of Hornsea Three and the available safe water it is likely that the majority of vessels will passage plan to avoid the site and this was backed up by regular

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	operator consultation during the Hazard Workshop process. **RESPONSE TO TRINITY HOUSE** In Trinity House's D5 response they state that two line of orientation 'are optimal' and that the one line of orientation 'must be assessed on a case by case basis' and 'individually assessed…allowing for the area and the expected marine traffic'. This is the approach taken by the Applicant as noted in responses at D4 and D5 whereby we have demonstrated our technical reasoning (including the location and traffic) for a single line of orientation for Hornsea Three. The Applicant's formal response to Trinity House was published at D6.
<u>Hornsea Three SAR Aspects</u> 1.5 Mark Prior is the second specialist which the Applicant has engaged with regarding Hornsea 3, and others on separate projects. While the MCA encourages this engagement and welcomes the additional expertise Mark brings to discussions, the MCA has undertaken repeated conversations covering the same ground with different individuals.	Noted
1.5.1 As detailed in the "MCA report on renewables SAR trials" document, paper calculations (contained in 15 Aug meeting SAR follow-up v1.2) do not appear to have accounted for wind conditions or safety margins to turbines. When wind conditions are accounted for, particularly in higher values which may well be encountered during an incident, the turning radii is increased significantly. In a 40kt wind, a 30° angle of bank turn at 80 kts could result in a turning radius of up to 1km depending on wind direction. 150m of a safety margin is required for each turbine therefore 300m need to be added on. This is already in excess of	The Applicant's SAR Specialist notes that discussions were around searching in poor visibility (<1000 m) when the next turbine ahead or laterally could not be seen. This phase of flight would have been at a low groundspeed. Over the sea at low altitude conditions of visibility below 1000 m and strong winds are very rare. The Applicant has assesed data from two site specific sources in the first case (located to the east of Hornsea Three) and there are no recorded events of visibility <1000 m and wind speed above 30 kt; in the second case (located to the west of Hornsea Three) there is a frequency of 0.0166% over a

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1km and for greater windspeed, or a reduced angle of bank turn (e.g. 20°) is conducted, the required space increases. In addition, all the crews which the MCA has liaised with are cautious about any required turning within a windfarm, particularly at night and/or in reduced visibility or strong wind conditions. AIS transmitters on key turbines may assist in indicating a HRA, however, it does not completely mitigate the requirements to safely turn within these areas. Furthermore, any restriction on space or lack of straight-line corridors may not completely result in an area which a SAR helicopter could not access, however, it would significantly increase the time taken to conduct a search and/or rescue. Potentially even to the point when it becomes an ineffective resource.	seven-year period, with sampling at 10 minute intervals. Conditions with visibility <1500 m and windspeeds over 30 kt occurred for 0.0414% of the time. Conversely, a strong wind will reduce the radius of turn. In a relatively confined space, as they would in a mountain valley, crews will plan their turn taking into account the wind direction to minimise the radius of turn Unless the visibility was poor, in which case the evidence shows the wind will be lighter, the crew will be able to see the the closet turbines and plan their turn to pass between the 1 km gap between turbines.
1.5.2 This has been discussed multiple times previously, and the systems are mentioned in the "MCA report on renewables SAR trials" document. The closest a SAR helicopter would get to a turbine (row of turbines) would be 150m (safety margin). This is approaching the uncorrected visual sweep width for a person in the water (0.1nm/185m) not including corrections for variables such as weather. Add a 300m development corridor, plus blade overfly, and it is greater than this sweep width. The aircraft is fitted with cameras and systems to assist in detection, particularly if a person is wearing detection aids or is carrying emergency beacons. However, the cameras are degraded in moisture and are ineffective in fog.	The Applicant notes that this caution is normal and applies equally during a SAR coastal search, in the mountains or other areas where obstacles are present. This is not unique to offshore wind farms.
1.5.3 Two lines of orientation are a preference however we would only accept less on the basis of a valid safety case. A single line of orientation would allow safe access in certain conditions although does not allow for alternative access routes based on variables such as wind direction and if searching, factors such as	The Applicant notes that based on their technical evidence the SAR helicopter and its on board sensors would allow them to approach to within 150 m of a turbine and search in zero visibility. The Applicant has commited to a Helicopter Refuge Area of between 0.5399 and 1 nm with AIS transponders,

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transiting towards the sun.	which will allow an alternative access route.
1.7/1.8 – The applicant states *'It is also noted that the MCA has not provided its own technical evidence to the Applicant to support the MCA's position including outputs of trials that have been undertaken. Consequently, the Applicant has not been able to respond'.* There had been delays in finalising the document summarising SAR exercises and trials, but this is now available. Further technical evidence is supplied in this response. The applicant states '*Furthermore, the Applicant has requested to meet (in an official capacity as part of the Examination process) with the MCA's helicopter service provider; however, MCA states this has not been possible because the helicopter operator of the MCA's SAR contract may change sometime in the future'*. This is not correct. The MCA arranged for the Applicant's previous SAR expert to meet with the helicopter operator on 2 November 2017. The SAR document which was submitted as part of the NRA came about in part due to this, and other meetings with the Applicant, including on the 6 October and 7 November 2017. The Applicant document, which was then commented on in detail by the MCA, has not been finalised by the Applicant and the MCA are still waiting on a response to feedback, provided to the Applicant on 21 February 2018. The MCA is not prepared to continually arrange for different representatives from the Applicant to meet with the helicopter operator, when MCA procedures and policy contained in MGN 543 have already been agreed with the helicopter operator. The applicant states *'In the absence of an evidenced position from the MCA the Applicant has been constrained in how much progress it has been able to make on this matter'.* An MCA summary of the trials has now been released, however, there were also significant discussions previously, as above, arranged to better	No futher comment.

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inform the Applicant on SAR requirements. These discussions resulted in a recognition of the problems which can be faced by SAR when operating within or in the vicinity of windfarms and this was acknowledged by the Applicant's previous SAR expert.	

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1.10 – last bullet. The MCA recognises the vast experience Mark Prior has with aviation operations and as previously stated, welcomes his input into discussions on SAR requirements. It is not clear if he has search planning experience, which is a key element which requires consideration when assessing layouts. It must be stressed that lines of orientation are requested for multiple SAR reasons. Safe access may be achieved with one line depending on the conditions. One line of orientation is limiting if there are unfavourable conditions such as cross winds, and it does not lend itself to efficient search options, particularly in reduced visibility. Searching a windfarm, by any resource (marine or air) is going to be challenging with any layout but reducing the available options by limiting lines of orientation will add additional complication.	The Applicant's helicopter specialist does have experience of planning SAR missions; his CV was provided at D5. The Applicant also is of the understanding that a full scale search is normally planned by the MCA using their software which takes into account tides etc. The Applicant notes that strong wind and poor visibility rarely occur as per the response to 1.5.1.
1.11 A single line of orientation was a positive improvement after the initial layout discussions with the Applicant which were, quite frankly, completely unacceptable. The principles were also considered as a sensible approach, however, they have proven to be extremely time consuming with several meetings required to discuss them plus considerable resource from the MCA to provide feedback. They are also still not resolved with all parties failing to agree on certain principles.	The Applicant has been working closing and openly with the MCA and Trinity House to bridge the divide. To date the Applicant has: • Committed to at least one line of orientation for SAR helicopter access; • Committed to a Helicopter Refuge Area (of between 0.5399 and 1 nm) despite technical evidence demonstrating that this is not required. The Applicant has also offered additional mitigation in the form of AIS transponders; • Reduced turbine location tolerance from 150 to 100 m without technical evidence to suggest this is necessary; • Offered to provide a safety case noting that the Navigational Risk Assessment already makes an assessment of a single line of orientation; and • Committed to no curved perimeters with the exception of mitigation for

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	third party impacts at which the Applicant will liaise with the MCA.
1.14 The MCA has not moved away from initial requirements, merely highlighting the multipurpose requirement for the HRA. The HRA still allows for access to and egress from a windfarm, other than via a single line of orientation or where spacing is limited with multiple lines of orientation (not the case with Hornsea 3).	The Applicant has committed to an HRA of between 0.5399 and 1 nm.
1.16 The MCA has countered the 1km spacing of a HRA, repeatedly, during meetings and submissions. This is also now included in the "MCA report on renewables SAR trials" document with further detail provided in this reply.	The Applicant notes that no technical evidence is provided within the MCA report on Renewables SAR trials.
1.17 The MCA has agreed with the Applicant that the addition of AIS transponders, switched on if required, may well provide additional mitigation for SAR aircraft operating in the area. However, they do not mean a decrease in width is suitable, since an aircraft may still be required to turn within that area. The MCA welcome the suggestion of using AIS in this capacity and it shows the benefit of having open and frank conversation	No further comment to make.
1.18 The MCA does not see how the SAR lanes would allow SAR access in all weather conditions. The MCA has also responded to points raised about the sensors on aircraft and the limitations caused by moisture. There may also be limitations depending on the type of object the aircraft is searching for, and any limitations created by searching through any windfarm.	No further comment

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1.19/1.20/1.21 – The tender for the SAR helicopter provision was not written for operations within windfarms. In addition, not all requirements were fully met and the aircraft are (not) fitted with a weather radar	The Applicant understands that the specification was not written for operations within windfarms however the comments raised are based on the specification and use of the equipment that is carried and how that might be used within a wind farm.
2.1 – disagree as covered above	No Further Comment
2.3 – The MCA notes the upcoming ISH8 on the Search and Rescue aspects. Unfortunately, it is unlikely that the MCA representative with the relevant expertise in this field will be able to attend the hearing on this occasion. This is something the MCA would have certainly supported had the hearing been scheduled for a different date.	No further comment.
Applicants Comments on Interested Parties Responses to the ExA Second Written Questions **1.5 Written Questions 2.5 Navigation and Other Offshore Operations** Reference to MCA Response at D4 *The Applicant notes that a submission relating to MCA's intent to comment on the dDCO has not yet been made and would ask that this is made as soon as possible so that the MCA's views may be reviewed and responded to*. See MCA response below	

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<u>Reference to Q2.5.7 The Applicant would lie clarification from the MCA on what is the purpose do the HRA?</u> The MCA wishes to remind the Applicant of MGN 543 Annex 5, section 9.26.3 which states: Helicopter refuge areas are to allow SAR helicopters access to a defined area of safe airspace to: manoeuvre in preparation to enter or when exiting wind farms, to safely turn within a windfarm or, in the event of an emergency requiring the helicopter to escape from the wind farm. Each HRA is assessed on a case by case basis as layouts may be complex and depending on the number of lines of orientation, spacing, length of lanes and other variables, the requirements and details for a HRA will change. Further information is contained with the document "MCA report following aviation trials and exercises in relation to offshore windfarms", specifically: Where assessed as being required, refuge areas provide a number of benefits for a SAR aircraft. A refuge area is designed for sufficient space which may allow the crew to re-orientate themselves and to turn into before entering another SAR lane e.g. during a search. It may allow an aircraft to enter a windfarm from part way along, at perpendicular angles, rather than transiting down a whole lane e.g. to access a single turbine, saving time and reducing risk. The lane also provides a safe/clear area of airspace/waterspace which the SAR aircraft may be able to navigate to during an aircraft emergency or to winch from a vessel, if this is deemed to be preferred.	In poor visibility the Applicant has proposed AIS in conjunction with the HRA (0.5399 to 1 nm) to assist with navigation. In good visibility the Applicant's evidence notes the helicopter will not require the HRA to turn as they can orientate themselves between turbines that are at least 1 km apart.
<u>Reference to Q2.57 The Applicant would like to confirm whether the MCA agree that the Applicants technical evidence demonstrates that het helicopter can turn within 1 km, if not please can that evidence be provided?</u>	The Applicant notes that this statement does not take account of wind as very poor visibility and winds which would impair a turn are mutually exclusive conditions.

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As detailed in the "MCA report on renewables SAR trials" document, paper calculations (contained in 15 Aug meeting SAR follow-up v1.2) do not appear to have accounted for wind conditions or safety margins to turbines. When wind conditions are accounted for, particularly in higher values which may well be encountered during an incident, the turning radii is increased significantly. In a 40kt wind, a 30° angle of bank turn at 80 kts could result in a turning radius of up to 1km depending on wind direction. 150m of a safety margin is required for each turbine therefore 300m need to be added on. This is already in excess of 1km and should the windspeed increase, or a 20°angle of bank turn is conducted, the required space increases. Also attached are two screenshots from a spreadsheet which calculates turning radius, created by a crewman working for the SAR helicopter provider. The MCA are not prepared to share this electronically but happy to show it to the Applicant if they want to discuss it further.	The Applicant notes that 80 kt airspeed, with the specified wind direction would give 60 kt groundspeed. As only a 180 degree turn is required, it appears to show a maximum lateral deviation of 400m, so well within the width of the SAR lanes within Hornsea Three. The helicopter does get 'blown' down wind, but a 180 degree turn it would remain safely inside the SAR lane.
Q2.5.1 MCA. The MCA stands by its response at deadline 4 regarding the need for two lines of orientation for the safety of navigation and search and rescue purposes, as supported by Trinity House's submission dated 23rd Jan 2019.	As per D5 and D6 responses.
Q2.5.6 and 2.5.7 No further comments to MCA's our previous responses at this stage	N/A
Draft Development Consent Officer Article 13 and 14 Preconstruction Plans The MCA requirements for hydrographic surveys are detailed in section 6 of MGN	Noted

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543 and in the guidelines for Offshore Developers, including the post construction guidelines. These can be found at the bottom of the following link: On the understanding that these guidelines are followed, we would have no concerns. If possible, the MCA would also like to be involved in the determination of the 'pre- established periodicity' when this is decided. We would therefore suggest the DCO refers to: **Pre-Construction requirements:** The undertaker must conduct a swath bathymetric survey to IHO Order 1a of the site and its immediate environs extending to 500m outside of the authorised project area. The survey shall include all proposed cable routes. This should fulfil the requirements of MGN 543 and its supporting 'Hydrographic Guidelines for Offshore Developers', which includes the requirement for the full density data and reports to be delivered to the MCA and the UKHO for the update of nautical charts and publications. This must be submitted as soon as possible, and no later than [three months] prior to construction. The Report of survey must also be sent to the MMO. **Post-construction requirements**: The undertaker must conduct a swath bathymetric survey to IHO Order 1a of the installed export cable route and provide the data and survey report(s) to the MCA and UKHO. The MMO should be notified once this has been done, with a copy of the Report of Survey also sent to the MMO, as per above guidelines.	
Article 15 and Article 16 - Offshore safety management The wording for the condition in the DCO regarding the Emergency Response Cooperation Plan/SAR Checklist is still under discussion with the applicant, and MCA will submit our requested amendments to these articles shortly.	Noted

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Article 36: Arbitration The MCA supports the Arbitration concerns raised by the Marine Management Organisation for the reasons set out in their written summary of ISH3.	Noted

RSPB Written Representation (REP6-076)

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Examining Authority's Questions 2.2.4 and 2.2.6 As a further consideration on the point of incomplete survey raised in ExA Q2.2.4. and Q2.2.6. the RSPB would like to draw the examiners attention to a graph recently submitted in the Norfolk Vanguard examination showing the difference in kittiwake density in January in two survey years (*Figure 1 in Norfolk Vanguard The Applicant Responses to First Written Questions Appendix 3.2., ExA;WQApp3.2;10.D1.3*). This document is appended to this response. There is a clear difference in density between the two years, highlighting the importance of two full year's survey, even during the winter months. If the assessment had been based on only one of these years there would have been potential underestimation (or overestimation) of the predicted mortalities. [Figure]	The meta-analysis of Hornsea data undertaken in consultation with RSPB exhaustively reviewed information on the variability of key species within the former Hornsea Zone and was used to contextualise the site-specific digital aerial survey programme undertaken in 2016 and 2017. These data are considered to provide a good indication of the likely variability of seabirds at Hornsea Three as they are from the same or adjacent locations. These data indicate that the variability in kittiwake abundance at Hornsea Three across three years of boat-based surveys is limited. The Applicant also considers that drawing general conclusions or extrapolating conclusions in relation to variability using data from only one wind farm site and only one month to another site has the potential to be misleading especially when that site is located some distance from Hornsea Three and potentially subject to different ecological conditions. The data discussed by the RSPB is selected only from Norfolk Vanguard East. However, Norfolk Vanguard comprises two sites, East and West. The data from Norfolk Vanguard West, in contrast, indicates little variability in the abundance of kittiwake. Consideration of inter-annual variability in non-breeding season months also

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	needs to be considered in the context of the relative importance of this part of the year for impact assessment. Winter generally represents a period of reduced abundance for the majority of species, including kittiwake, gannet and auks. As such, the magnitude of impacts is likely to be lower during this period and potential impacts should not disproportionally affect local breeding populations based on large BDMPS population sizes and the low apportioning values these entail.
The Applicant's response to Q.2.2.10 The Applicant has provided a narrative of how it is widely accepted that that most parameters used for collision risk modelling have been conservatively estimated and overestimate the collision risk. For the avoidance of doubt, this "widespread acceptance" does not include the RSPB. Furthermore this narrative has omitted the fact that the recent Bowgen and Cook (2018) report on avoidance rates has *reduced* the avoidance rate previously estimated for kittiwake by Cook *et al.* (2014 and 2018) thereby increasing predicted mortality. This is also a marked reduction from the avoidance rate recommended by Skov *et al.* (2018). Bowgen and Cook (2018) also highlighted that flight heights *measured* by Skov *et al.* (2018) were higher than those *estimated* (such as in the Hornsea zone) elsewhere and the pColl (proportion of collisions) value calculated by the Band model differed from the empirically derived value from Skov *et al.* (2018) by underestimating collision by a factor of four. Taking all these into account will increase the number of predicted collisions, and therefore demonstrate that the parameters used in collision risk modelling are not always conservative.	It is the Applicant's position that the appropriate avoidance rates for use in collision risk modelling now are those published by JNCC (Bowgen and Cook, 2018 (REP4-035)). Those rates have been formulated based on the empirical evidence obtained from the ORJIP Bird Collision and Avoidance Study as reported by Skov et al. (2018) (REP1-149). In formulating those avoidance rates, JNCC has taken into account the observations made by RSPB including in relation to pColl. More generally and notwithstanding the two specific points opposite which RSPB raise, it is noted the RSPB's response does not actually countermand the general point made by the Applicant that parameters are *mostly* conservative and therefore mostly overestimate collision risk. RSPB's note that collision risk modelling is not "always conservative", inherent to which is acknowledgement that the majority of the parameters used in collision risk modelling are indeed conservative. It is noted that Bowgen & Cook (2018) reviewed the empirical observations reported in Skov et al. (2018) and formulated appropriate avoidance rates for

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	use in collision risk modelling in light of those findings. It is the Applicant's position that the avoidance rates recommended by Bowgen & Cook (2018) are now the appropriate rates to use as they take best account of known modelling uncertainties.
The Applicant's response to Q2.2.16 and 17 The RSPB welcome the Applicant's presentation of the timing of surveys. The RSPB would also welcome details of when the actual surveys occurred and not just the timings of the flights as presented, as this is likely to represent an even narrower survey window. The RSPB agree with the Applicant that these surveys are all aggregated around the middle of the day. As such the assessment is likely to have missed peaks in activity and will therefore underestimate the mortality arising from the development. The Applicant says that the issues arising from carrying out surveys in a narrow window around midday should be dealt with by adjusting avoidance rate, but has not done so with their presentation of avoidance rates. The RSPB agree with the Applicant that this merits correction and requests that the Applicant does so.	The approach to the assessment of collision risk follows standard practice for offshore wind farms. The survey methodology was discussed and agreed in the Evidence Plan process. The timing of surveys in offshore locations will, however, be limited by transit times and this will inevitably lead to less coverage during the earliest, or latest parts of the daytime. As this restriction cannot be avoided, the Applicant has presented collision risk estimates across a range of avoidance rates and utilising confidence metrics associated with density data and flight height distribution and considers that this provides an appropriate way in which uncertainty can be considered. It is also consistent with the approach advised by Natural England to allow for consideration of uncertainty.
The Applicant's response to Q2.2.18 The RSPB welcome the Applicant's submission at Deadline 4 (Appendix 28; REP4-049). Although it does not change the RSPB's preferred avoidance rates it does help to provide a comparison of the consequences of the use of different rates. The RSPB note that the alternative analyses presented show a wide range of values (for example kittiwake in table 1.3 have a range of predicted mortalities apportioned to the FFC SPA between 4 and 211) indicative of the high level of	The variation in predicted mortality rates presented by the Applicant, that the RSPB refers to here, reflects different positions on modelling assumptions, rather than uncertainty about the values within those different assumptions. Where there is uncertainty around input parameters, the Applicant has presented the range of that uncertainty. There is no indication that the uncertainty in this case is any higher than it is for any other similar offshore wind farm assessment. The approach to the assessment of collision risk follows standard practice for offshore wind farms.

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uncertainty in these mortality predictions and the considerable debate that is continuing as to what are the correct input parameters. The statement in paragraph 1.9. claiming that JNCC have changed their advice with regard to Avoidance Rates is incorrect. JNCC commissioned the report cited (Bowgen and Cook, 2018), but as yet have not changed theirs or the collective SNCB position on avoidance rate.	JNCC specifically commissioned the study referred to in order to interpret the empirical observations and recommendations reported in Skov et al. (2018). The ORJIP study represents the most extensive empirical data set on bird avoidance behaviour and the findings of that study (Skov et al 2018) have been independently reviewed by the British Trust for Ornithology (on behalf of JNCC) and recommend avoidance rates specifically and explicitly for use in collision risk modelling for offshore wind farm impact assessments. There is no clarity on when or, indeed, if, the SNCBs will undertake any further review of either Skov et al (2018) and / or Bowgen & Cook (2018). On this basis it is considered that Bowgen & Cook (2018) represent the best available evidence on avoidance rates for use in collision risk modelling for Hornsea Three.
The Applicant's Comments on Interested Parties Responses to the ExA's Second Written Questions, response to Q2.2.19 The Applicant is wrong to look at the proportion of birds from the SPA that go to the array area as the important metric in comparison with their calculation of an apportioning value; the key point is that kittiwake from the SPA colony are present at the site. There is no evidence of birds from other colonies being present. Therefore it is reasonable to conclude that all the breeding birds recorded at the site are associated with the Flamborough and Filey Coast SPA. Furthermore, it is important to note that the data presented by the RSPB in response to Deadline 5, from 2010 to 2015, were based on birds only tracked during late incubation and the early chick rearing period and therefore the data only represent the flights of birds during this period of the annual cycle. This limitation is due to the technologies available, the tracking devices only allowing	The Applicant has assumed that all breeding adult birds present at Hornsea Three will originate from FFC SPA. The Applicant is unaware of tracking data (or any other relevant data) having been collected for breeding kittiwake at other colonies on the east coast of England. On this basis it is unclear whether Hornsea Three is within foraging range of any of those colonies. However, if birds from those colonies exhibit similar foraging behaviour to those recorded by the RSPB at FFC SPA, then there is clearly the potential for birds from these colonies to occur at Hornsea Three. It is important to note that these additional breeding colonies do not form part of any designated sites. The apportioning value for FFC SPA is derived through consideration of the proportion of immature and non-breeding birds that will be present at Hornsea Three during the breeding season. The tracking data provided by the RSPB, some of which is included in the analyses presented in Cleasby *et al.* (2018)

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for relatively short deployment periods and requiring retrieval, which is only possible when birds return to active (or very rarely, recently failed) nests early during the breeding season. As our more recent tracking work (Wischnewski *et al.,* 2018) confirms, the distribution of birds often shifts during the breeding cycle and shows a greater foraging range and use of the Hornsea Three area later in the breeding season. The RSPB disagrees with the Applicant's implication that a significant proportion of the tracked birds were failed breeders. The tracking studies carried out from 2010 to 2015 used a different attachment method to those carried out in 2017 (and 2018) which meant that the birds had to be recaptured at the nest. It is very unusual for birds that have failed to be recaptured, as while failed breeders can come back to the nest, they do not always do so and the probability of them doing so drops with time after failure as does the recapture probability. Therefore the majority of the birds tracked in 2010-2015 were successful breeders. The RSPB is examining the data to see if this proportion can be quantified and will report to Deadline 7. The tracking carried out in 2017 (Wischnewski *et al*., 2018) used a different attachment method and tagging technology that meant that birds did not need to be recaptured and could be tracked for a longer period. It was also possible to determine the breeding status of the birds and continue to track failed breeders. The results of this showed that while there was little difference in the flight patterns of the tracked successful and failed breeders, the longest foraging range recorded was in fact from a successful breeder.	(REP1-144) are an important consideration in relation to the derivation of an appropriate apportioning value. The proportion of birds tracked from the SPA that interact with the array area is a highly relevant consideration. In this case the data clearly indicate that the Hornsea Three area is visited by birds from the SPA, but that it is unlikely to represent an important area for breeding adult birds from that colony. It is not being argued that a "*significant proportion*" of the tracked birds were failed breeders. It is however, clear in Wischnewski *et al*. (2018) (REP2-019) that a proportion of birds were failed breeders, as would be expected at such a large colony. It is also logical to consider whether birds undertaking such large foraging trips are failed breeders as evidence from other colonies indicates that birds foraging over large ranges are often failed breeders that are free of the need to tend and feed young. Evidence presented in Wischnewski *et al*. (2018) also suggests that one of the longest foraging trips was undertaken by a failed breeder. The Applicant has previously requested that the RSPB provide further information in relation to the definition of a successful breeder and the information presented in Wischnewski et al. (2018) to clarify this matter.
The Applicant's response to Q2.2.20 and Appendix 30 The RSPB began an intense seabird tracking programme under the EU LIFE funded FAME (Future of the Atlantic Marine Environment) project and continued this work under STAR (Seabird Tracking and Research). We work with a	The Applicant notes the limitations of Cleasby *et al.* (2018) highlighted by the RSPB, but considers that it is a highly relevant source of evidence on this matter. It is noted that RSPB agree this is an important analysis and of great value. Tracking data represents the only method, currently available, by which connectivity between colonies and wind farm sites can be established. In this

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consortium of project partners and funders which has allowed us to build up the largest database of seabird tracks in the world. The most recent analysis of these tracking programmes are presented in Cleasby *et al*. (2018). These build upon and complement the results of a RSPB paper Wakefield *et al*. (2017) that developed sophisticated models to predict the at-sea distribution for the four breeding seabirds: kittiwake, guillemot, razorbill and shag. Cleasby *et al*. (2018) used these distributions to identify potential hotspots to inform the identification of protected areas at sea and improve the management of the marine environment. There are important caveats to this work in that there are limitations associated with the use of tracking data. One limitation, acknowledged by the report authors, is that the species distribution of Wakefield *et al.* (2017) were based on birds tracked during late incubation and the early chick rearing period. Thus, the distribution maps and the hotspots analyses presented there only represent the foraging distribution of birds during this period of the annual cycle. This limitation is due to the technologies available, the tracking devices usually only allowing for relatively short deployment periods and requiring retrieval which is only possible when birds return to active (or very rarely, recently failed) nests early during the breeding season. This is particularly true for smaller seabird species such as the Black-legged kittiwake that need lighter tags with smaller batteries and are often susceptible to long-term attachment methods such as harnesses. As our recent tracking work (Wischnewski *et al.,* 2018) confirms, the spatial distribution at sea of birds often shifts during the breeding cycle, therefore distribution maps from the early chick rearing period may not reflect flight behaviour throughout the whole breeding season. Another, again acknowledged, limitation is that it was not possible to ascertain the temporal variability in hotspot location across years. Wakefield *et al.* (2017) pooled data across years as running separate species distribution models on a year-by-	respect the breeding colonies of the Flamborough & Filey Coast SPA are amongst the best studied in Britain. The results of these tracking studies indicate that it is unlikely that Hornsea Three represents an important area for breeding adult birds from FFC SPA and this consistent with other information about foraging behaviour (see RIAA Annex 3 - Phenology, Connectivity and Apportioning (APP-054)). Whatever the importance of other areas, it is noted that RSPB agree the hotspots should be considered as identifying the areas of greatest importance.

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year basis would have required more tracking data per year to ensure results were representative. Consequently, it is unclear whether the hotspots identified by Cleasby *et al.* (2018) will be consistent across years. In addition, the species distribution models of Wakefield *et al.* (2017) did not distinguish between different behaviours whilst birds were at sea. Therefore, the hotspots identified in the Cleasby *et al.* (2018) report are based upon commuting and loafing behaviour as well as foraging behaviour. As a consequence, the importance (in terms of foraging) of areas close to the colony may be upweighted as birds may spend a significant amount of time rafting close to the colony or commuting through such areas even if these areas are not key foraging sites. The identification of hotspots purely based on foraging behaviour species distribution models may result in stronger associations between habitat and distribution as well as allowing identification of areas that are particularly at risk from activities that disproportionately impact on foraging birds. The current RSPB tracking work will seek to do this and is being carried out in partnership with Ørsted. As such the hotspot maps presented in Cleasby *et al*. (2018), while an important analysis and of great value, should be considered as identifying areas of greatest importance, but not precluding other areas from being of importance and unsuitable for development. As detailed above, kittiwake from the SPA colony are present at the site and there is no evidence of birds from other colonies being present. Therefore it is reasonable to conclude that all the breeding birds recorded at the site are associated with the Flamborough and Filey Coast SPA.	
The Applicant's response to Q2.2.28. The RSPB agrees with the Applicant in their response to this question that there are scant numerical data regarding the non-breeding component of the North-sea auk population. However this does not prevent the Applicant from carrying out the sensitivity analysis as suggested by the RSPB in our previous answer to this question.	The Applicant responded to this question in REP5-008 and has nothing further to add at this time.

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The Applicant's further response to Q2.2.32. Please see our response to Q2.2.19 and Q2.2.20. It is clear that, kittiwake from the SPA colony are present at the site and there is no evidence of birds from other colonies being present. Therefore it is reasonable to conclude that all the breeding birds recorded at the site are associated with the Flamborough and Filey Coast SPA.	The apportioning approach applied by the Applicant has assumed that all breeding adult birds at Hornsea Three are from FFC SPA. However, see the Applicant's response to Q2.2.19 above – the Applicant does not agree that it is reasonable to conclude that all breeding birds at the Hornsea Three site are associated with FFC SPA.
Appendix 6 to Deadline 5 The Applicant has presented an apportioning approach for immature auks based on the SNH apportioning approach for breeding seabirds. The RSPB welcome this and will discuss this further with the Applicant in order to incorporate our response into the Statement of Common Ground.	The Applicant welcomes the opportunity to discuss this further with the RSPB.

National Farmers Union and Land Interest Group Written Representation (REP6-078 and REP6-079)

Response to REP6-078

Interested Party Written Representation	Applicant's Response
Introduction 1.1 Submissions on behalf of the National Farmers Union ("NFU") and the Land Interest Group (LIG) in respect of the application for a Development Consent Order (DCO) by Orsted Hornsea Project three (UK) Limited for the Hornsea project Three Offshore Wind Farm. The NFU is making a case on behalf of its members and LIG its clients, who are affected by the DCO.	Noted.
Articles 2.1 Article 2: Joint Bay: The NFU and LIG are in agreement with the definition now drafted for Joint Bay. 2.3 Article 2: Link Box: The NFU and LIG would like to emphasise that landowners would only want to have manhole covers or an inspection chamber which is level with the ground. A request was made some time ago to the Applicant that no cabinets would be installed as link boxes. We would like confirmation on this.	2.1 - Noted 2.3 – The definition of "link box" in Article 2 refers only to a ground level manhole or inspection chamber. For the avoidance of any doubt, the Applicant confirms that surface access into a link box will not include any cabinets or anything above the surface of the land unless requested by the landowner and save for any associated above ground marker post/bollard or similar installed at the Landlord's request.
Schedule 1, Part 3 - Requirements 3.1 Requirement 6 - Phasing: In the Applicant Responses to ExAs Second Written Questions (January 2019) at Q2.1.9 the Applicant stated that the draft DCO had been amended and would refer to two phases at Requirement 6. The wording included in the amended draft DCO states that the development will be carried out in two phases but also refers to 'that each phase may be undertaken in any number of stages as prescribed in the Written Scheme'. Further clarification is requested on what is meant by 'any number of stages'.	3.1 – The reference to 'stages' has been incorporated into Requirement 6 to clarify and enable the relevant planning authority (or the MMO in relation to offshore works) to discharge requirements in respect of specific work activities within a given phase if required. As an example, the reference to stages enables the relevant planning authorities to discharge the Requirements relevant to the onshore HVDC converter/HVAC substation (Works No. 9) separately to works at landfall (Work No 6). This is important to ensure that any ongoing discussions surrounding works at the landfall (for example), does not preclude the discharge of requirements for the onshore HVDC

Interested Party Written Representation	Applicant's Response
3.2 Requirement 23 - Onshore Decommissioning: NFU and LIG request details of what the decommissioning plan is likely to include.	converter/HVAC substation. 3.2 - The Applicant refers to the description of onshore decommissioning works, including onshore export cables, joint bays, link boxes, and onshore HVDC converter/HVAC substation and HVAC booster station components provided in section 3.14.3 of Volume 1, Chapter 3: Project Description of the Environmental Statement [APP-058]. Requirement 23 requires an onshore decommissioning plan to be submitted for approval to the relevant planning authorities within three months of the cessation of commercial operation of the connection works. The decommissioning plan will be drafted in accordance with the applicable guidance on decommissioning works at the time of submission and based on the technology available at the time of drafting of the plan. This enables the onshore decommissioning plan to take into account any technological developments or changes in guidance at the end of the lifetime of the project. Given the above, it is not possible at this stage to provide any further details as to what the decommissioning plan required pursuant to Requirement 23 is likely to include. In addition to Requirement 23, the Applicant is required to comply with the provisions of the Energy Act 2004 which require a decommissioning plan for Hornsea Three to be submitted to the Secretary of State for approval. As part of this process, a draft decommissioning plan will be submitted prior to construction and updated during the lifetime of the Hornsea Three to take account of changing best practice and new technologies.
Outline Code of Construction Practice: 4.1 Communications Plan: The NFU and LIG stated that they are in agreement to the new wording that has been included to the Communication Plan Framework at	In respect to the two issues raised in 4.1, the Applicant would note the following: - The anticipated timeline for a second phase, if required, would be set out in the written scheme submitted to the relevant planning authorities

Interested Party Written Representation	Applicant's Response
Appendix A of the Outline COCP but did raise two issues: - A timeline for the second phase has not been included. - It is important that any landowner or occupier must be informed in writing of any land take, construction programme, and details of the body responsible for carrying out the works before any newsletter is sent out to any affected community. 4.2 Field Drainage: The NFU and LIG raised at the hearing the general details they would like to see being agreed on how field drainage will be dealt with was still not included in the Outline CoCP. The details of this wording has now been discussed with Orsted and agreed. Please see the drafting of details agreed for Field Drainage at Appendix 1. 4.3 Helpline: Orsted stated that a complaints helpline will be set up. The NFU and LIG believe strongly that a specific 24hr helpline or contact details need to be available for landowners and occupiers especially for emergencies. We would like to see that this is the ALO or team supporting the ALO.	in relation to the onshore connection works (and the MMO in relation to works seaward of the MHWS) pursuant to Requirement 6 of the draft DCO. - The Applicant would refer to paragraph A1.1.3 (second bullet point) of the Outline CoCP (REP6-014) which confirms that landowners would be informed in writing of matters such as phasing, transmission technology, land take, construction programming and principal contractors responsible for carrying out the works, prior to the issue of such information to the wider community via newsletters. The Applicant has amended this to refer also to 'and/or occupiers' in line with NFU/LIG comments, within the updated Outline CoCP submitted at Deadline 7. In respect to the matter of field drainage discussed in 4.2, the Applicant would note that discussions with NFU and LIG have been ongoing and that agreed wording was included within the Outline CoCP submitted at Deadline 6 (REP6-014). In respect to 4.3, the Applicant would refer to paragraph 5.1.6.3 of the Outline CoCP submitted at Deadline 6 (REP6-014). This wording was agreed with NFU/LIG prior to its submission.
Soil Management Strategy – Annex G: NFU and LIG accept that there is now wording which is included and agreed to in the Outline CoCP at Annex G covering how soils will be treated during and post construction. The information at G3.3.1 to G3.3.3 states how soils surveys will be undertaken, what will be undertaken to form the survey and how the information will be used to monitor soil handling and restoration operations. The NFU and LIG would like to see this information being made available in a soil statement/report. This will then inform what aftercare	The Applicant would refer to paragraph G3.3.1 of the Outline CoCP submitted at Deadline 6 (REP6-014) which states that soil resource, topsoil and subsoil unit plans and restoration specifications will be prepared for areas of agricultural land within individual holdings. It is intended that these plans will be prepared on an individual holding basis and will be accompanied by a report that sets out the results of the baseline surveys, the restoration requirements and the aftercare management and monitoring in accordance with paragraph

Interested Party Written Representation	Applicant's Response
requirements are needed to bring the soil back into agricultural use and to bring the soil back to its original condition. Aftercare of soils is highlighted at G8.1.1 to G 8.1.3. It states how there will be annual monitoring of physical soil characteristics and soil nutrient levels to set the aftercare required. This needs to be carried out and information obtained from the initial soil statement/report to determine what aftercare is needed over a five year term to restore the soil. This needs to be stated clearly in G8 and the information from the surveys forming a soils statement highlighted in G3.	G.8.1.4 of the Outline CoCP (REP6-014). The Applicant would note that the text in section G.8 of the Outline CoCP submitted at Deadline 6 (REP6-014) has also been updated to highlight that the restoration requirements would be informed by the baseline surveys carried out pre-construction. Annual monitoring during the aftercare period will be used to set aftercare requirements for the following year rather than using information from the baseline survey.
Appendix 1: Agricultural Field Drainage Particular care will be taken to ensure that the existing land drainage system is not compromised as a result of construction. Land drainage systems will be maintained during construction and reinstated on completion. 6.8.1.9 The ALO will coordinate drainage surveys to establish the existing drainage position including any related farm drainage that may be affected by the scheme. The services of a suitably qualified drainage consultant will be employed by the Applicant to act as a drainage expert during the detailed design process and liaise with landowners or occupiers (through the ALO) to consult on the pre and post drainage schemes required. This will include the design of any land drainage works required during construction, and on the design and timing of any land drainage works required for the subsequent restoration of the land. This process will take due regard of any local and site-specific knowledge. 6.8.1.10 Subject to the consultation existing agricultural land drains, where encountered during the construction of each phase, will be appropriately marked. The location of drains cut or disturbed by the construction works will be photographed, given a unique number and logged using GPRS coordinates. The actual condition and characteristics (e.g. depth of installation, pipe type and	The Applicant can confirm that paragraphs 6.8.1.8 to 6.8.1.15 of the Outline CoCP submitted at Deadline 6 (REP6-014) regarding agricultural land drainage within each land holding has been updated in line with the text suggested by the NFU and LIG in their written representation (REP6-078).

Interested Party Written Representation	Applicant's Response
diameter) of the existing drainage will also be recorded upon excavation. 6.8.1.11 During the construction works, temporary drainage will be installed either side of the cable trenches, within the onshore cable corridor working width, to intercept existing field drains and ditches in order to maintain the integrity of the existing field-drainage system during construction and ensure existing flow is not channelled by the onshore cable corridor. Such measures will also assist in reducing the potential for wet areas to form during the works, thereby reducing the impact on soil structure and fertility. Drainage systems however will not be installed into areas where they are not currently present, e.g. environmental wetlands. 6.8.1.12 Any field drainage intercepted during the cable installation will either be reinstated following the installation of the cable or diverted to a secondary channel. Landowners and occupiers will be informed of the design of drainage works required during construction and following installation of the cables and associated works, including: pipe layout, falls, dimensions and outfalls (if required). The drainage would be reinstated in a condition that is at least as effective as the previous condition and will follow best practice for field drainage installations taking into account site specific conditions. 6.8.1.13 Where it is reasonable for the reinstatement of drainage to involve works outside of the order limits it will be done subject to the agreement of the landowner. 6.8.1.14 Landowners and occupiers will be provided with the opportunity to inspect land drainage works as they progress, subject to health and safety considerations. Furthermore, records of existing and remedial drainage will be maintained by the Applicant with copies provided to the Landowner (and the Occupier, if applicable) following the completion of construction works in each phase.	

Interested Party Written Representation	Applicant's Response
6.8.1.15 A dispute resolution process will be established including the appointment of a jointly agreed Independent Expert for drainage design and implementation, where required. Where agreement cannot be reached on the appointment of the expert the matter will be referred to the President of the Institution of Civil Engineers.	

Response to REP6-079

Interested Party Written Representation	Applicant's Response
Articles 2.1 Article 19: NFU and LIG believe strongly that it is not necessary to extend the time limit of compulsory powers from 5 years to 7 years. This is important to Landowners as it will mean that Orsted have to start the 2nd Phase in year 5. This will help to keep the full length of the project within the 8 years. 2.2 Article 37: NFU and LIG would like to see the maintenance period extended to 10 years to cover the maintenance and establishment of hedgerows. 3.0 Outline CoCP Communication: The NFU and LIG stated that it is imperative that landowners and occupiers are informed of land take specific to their land holdings prior to any information regarding land take being sent out in a newsletter as highlighted in Appendix A of Outline CoCP between A1.1.7 and A1.1.8. It states that a newsletter would be sent out four months prior to commencement of onshore works. 4.0 Land at Moor Farm: Jane Kenny (Savills) as the acting agent for the landowner at Moor Farm confirms the preferred route is the western route as confirmed to Orsted. 5.0 Norwich Road Access: Christopher Bond (Bidwells) the acting agent has submitted a separate submission to cover this point discussed at the hearing. 6.0 Agricultural Liaison Officer (ALO): Please see at Appendix A the wording which has been agreed with Orsted following the hearing on Thursday 31st January to be included in the outline CoCP. 7.0 Agricultural Field Drainage: Please see at Appendix B the wording which has been agreed with Orsted following the hearing on Thursday 31st January to be	2.1 – The Applicant would refer to its comments in the written summary of the Applicant's oral case put at ISH3 (paragraph 4.17 relating to Article 18) (REP3-005) which provides justification for the period of seven years. 2.2 – The Applicant would refer to its comments on the ExA's DCO Schedule of Changes submitted at Deadline 7 which addresses the matter of landscaping maintenance period. 3.0 - As stated in the updated paragraph A.1.1.7 of the Outline Code of Construction Practice submitted at Deadline 6 (REP6-014) first notification will now be given to landowners prior to the public. The Applicant has amended this to refer also to 'or occupiers' in line with NFU/LIG comments, within the updated Outline CoCP submitted at Deadline 7. 4.0 – This is noted by the Applicant and suitable revisions to the plans and the Book of Reference will be submitted at Deadline 8. 5.0 - Noted 6.0 and 7.0 – The Applicant confirms that the agreed wording has been included within the Outline CoCP submitted at Deadline 6 (REP6-014).

Interested Party Written Representation	Applicant's Response
included in the outline CoCP.	
8.0 Soil Storage and Treatment: NFU and LIG have set out in Appendix C the reasons for the requirements they would like to see carried out for soil storage and reinstatement. Further it states the NFU and LIGs working methodology for reinstatement and we would like this to be included in the outline CoCP. The working methodology that has been stated is important so that the soils can be restored back to agricultural use as soon as possible. It has also been stated at Appendix C the contractors who worked on Hornsea 1 where long term strip and bunding was used are now proposing to use the preferred methodology we have outlined. Please see Appendix C for details. 9.0 Fault on the Cables: NFU and LIG asked a question as to what was the likelihood of their being a fault on the cable sections during construction. This was not clearly answered by the Applicant but this is being stated as a reason for not being able to restore the top soil in sections over the cable length. 10.0 Severed Land: A question was raised as to what would be the mechanism to initiate the consultation on crossing points to severed land before construction starts. The NFU and LIG believe that this is a role that the ALO should carry out. 11.0 Corridor Widths: The NFU and LIG would like to receive clarification on the corridor widths that will required during construction for the three potential scenarios of installing the cables in two phases as follows: • AC cables and AC cables • AC cables and DC cables • DC cables and DC cables The NFU and LIG believe that this was not made clear at the hearing and it is essential that this is clarified so that no more land is taken for the development than is necessary.	8.0 The Applicant would direct the Examining Authority to their response to Appendix C of the NFU and LIG Written Representation (REP6-079), which sets out the elements of the NFU and LIG's working methodology that have been included in Appendix G of the Outline Code of Construction Practice submitted at Deadline 6 (REP6-014). 9.0 The Applicant notes that cable faults were raised to highlight one of the many issues that might occur if topsoil were to be restored prior to full completion of the testing of the cables. It is far from the only reason and further reasons are outlined in the response to Appendix C. 10.0 The Applicant refers to paragraph 5.1.6.6 of the Outline CoCP submitted at Deadline 6 (REP6-014) where wording has been included in respect of severed land parcels, which was agreed with NFU/LIG prior to its submission. 11.0 The Applicant would refer to Appendix 1 submitted at Deadline 6 (REP6-013) which provides clarification on matters raised at the Compulsory Acquisition Hearing on 31 January 2019 relating to specific parameters of the onshore cable corridor. 12.0 The Applicant would refer to Appendix 1 submitted at Deadline 6 (REP6-013) which provides clarification on the width of the onshore cable corridor at the Norfolk Vanguard crossing, as well as the construction methodology to be utilised by each project (HDD or open cut). 13.0 The Applicant would refer to its submission set out in paragraph 2.1 above and also paragraph 5.7 of the Written Summary of the Applicant's oral case put at ISH6 (REP6-011) and paragraphs 6.3 to 6.5 of the Written Summary of the Applicant's oral case put at Compulsory Acquisition Hearing (REP6-012). 14.0 The Applicant refers to paragraph 4.1.3 of the Outline CoCP submitted at

Interested Party Written Representation	Applicant's Response
12.0 Crossing Point Orsted/Vattenfall: The NFU and LIG believe that it has still not been stated clearly how construction of the different cables will take place at the crossing point for the Orsted development in two Phases and the Vanguard and Boreas proposed developments. 13.0 Hornsea 4: The NFU and LIG do still not understand how it is possible for Hornsea 4 Orsted project team to be able to confirm that the cables will be installed in one phase but that Hornsea 3 Orsted project team are stating that it is essential that the DCO gives them the flexibility to construct the development in two phases. We would like this issue to be considered further as timings of construction and land not being reinstated over an eight year period will have a big impact on the farming businesses. 14.0 Security of the Haul Road: The NFU and LIG would like for it to clearly stated in the outline CoCP that security of the haul road will have to be maintained during the gap between Phase 1 and Phase 2. It is likely that gates will be needed at every road crossing.	Deadline 6 (REP6-014) where wording in respect of security and fencing is provided. The Applicant will provide additional wording to refer to a requirement for haul road security at public highways, where feasible and necessary, in line with NFU/LIG comments, within the updated Outline CoCP submitted at Deadline 7.

Interested Party Written Representation	Applicant's Response
Appendix A: Agricultural Liaison Officer Agricultural Liaison Officer 1.1.1.1 The Agricultural Liaison Officer (ALO) will be will be appointed by the Applicant prior to the commencement of pre-construction activities and will be the prime contact for ongoing engagement about practical matters with landowners, occupiers and their agents before and during the construction process. There may be more than one ALO if required. 1.1.1.2 The ALO will have relevant experience of working with landowners and agricultural businesses and will have knowledge of the compulsory acquisition process (if required) and working on a linear infrastructure project. 1.1.1.3 The ALO (or their company) will be contactable from 7am to 7pm during the construction phase to landowners, agents and occupiers and will provide 24-hour team or company contact details for use in the event of emergency. 1.1.1.4 Post-construction the ALO will remain in place for up to one year in order to manage remediation issues. 1.1.1.5 After that year the Applicant will ensure that ongoing contact details are provided in order for landowners and occupiers to seek consent, if required, in respect of restrictive covenants for the lifetime of the project or to highlight any defects. Information in relation to the process of management of restrictive covenants will be issued to landowners and occupiers upon any change in the person/s responsible for the process on behalf of the Applicant or the OFTO. 1.1.1.6 The ALO will have responsibility for liaising with landowners, agents and occupiers in respect of the following:- • Coordinating drainage surveys and sharing pre and post-construction drainage schemes with landowners or occupiers in advance for their	The Applicant would note that the role and responsibilities of the ALO has been set out in section 5.1.6 of the Outline CoCP submitted at Deadline 6 (REP6-104) and the description of the role is in line with that suggested by the NFU and LIG in their written representation (REP6-079).

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consideration; • Discussing the location, grouping and marking of link boxes, including why they are subject to overriding constraints (such as cable lengths and environmental constraints), with the landowner/occupier; • Coordinating the provision of a detailed pre-construction condition survey to include a soil survey as detailed in paragraph G.3.3.2 in Appendix G as well as a record of condition of the following elements; o existing crop regimes; o the position and condition of field boundaries; o the condition of existing access arrangements; o the location of private water supplies (as far as reasonable investigations allow); o the type of agricultural use taking place; o the yield of crops; o the quality of grazing land; and o the existing weed burden. Advising on risks relating to the translocation of soil diseases and ensuring appropriate protective provisions are implemented; • Ensuring that landowners and occupiers are consulted in respect of requirements relating to field entrances and accesses across the construction strip and land-locked or severed land parcels; • Arrange quarterly meetings with agent representatives of landowners; • Undertake pre-construction and day-to-day discussions with affected parties to minimise disruption, where possible, to existing farming regimes	

Interested Party Written Representation	Applicant's Response
and timings of activities; • Undertake site inspections during construction to monitor working practices and ensure landowners' and occupiers' reasonable requirements are fulfilled; • Discussing and agreeing reinstatement measures following completion of the works.	

Interested Party Written Representation	Applicant's Response
Appendix B – Field Drainage Irrigation 6.8.1.7 Details of the irrigation system on each land holding will be gathered during the detailed design stage and irrigation plans will be developed to inform the management of agricultural land drainage during construction. The Agricultural Liaison Officer will be responsible for consulting with each individual landowner to obtain the relevant information and to be a point of contact to report concerns regarding irrigation systems during construction. The plans will include the following information: • Location of boreholes and water supplies used by each farmer; • Irrigation or impoundment licence granted by the EA; and • System of irrigation applied and the location of irrigation network for each field. Agricultural Land Drainage 6.8.1.8 Particular care will be taken to ensure that the existing land drainage system is not compromised as a result of construction. Land drainage systems will be maintained during construction and reinstated on completion. 6.8.1.9 The ALO will coordinate drainage surveys to establish the existing drainage position including any related farm drainage that may be affected by the scheme. The services of a suitably qualified drainage consultant will be employed by the Applicant to act as a drainage expert during the detailed design process and liaise with landowners or occupiers (through the ALO) to consult on the pre and post drainage schemes required. This will include the design of any land drainage works required during construction, and on the design and timing of any land drainage works required for the subsequent restoration of the land. This process will take due regard of any local and site-specific knowledge.	The Applicant would note that the Outline CoCP submitted at Deadline 6 (REP6-014) includes a description of the surveys and recording of existing drainage, the measures to be taken during construction, the reinstatement of drainage post consent and the roles of the ALO and the drainage consultant. This text is in line with that suggested by the NFU and LIG in their written representation (REP6-079).

Interested Party Written Representation	Applicant's Response
6.8.1.10 Subject to the consultation existing agricultural land drains, where encountered during the construction of each phase, will be appropriately marked. The location of drains cut or disturbed by the construction works will be photographed, given a unique number and logged using GPRS coordinates. The actual condition and characteristics (e.g. depth of installation, pipe type and diameter) of the existing drainage will also be recorded upon excavation. 6.8.1.11 During the construction works, temporary drainage will be installed either side of the cable trenches, within the onshore cable corridor working width, to intercept existing field drains and ditches in order to maintain the integrity of the existing field-drainage system during construction and ensure existing flow is not channelled by the onshore cable corridor. Such measures will also assist in reducing the potential for wet areas to form during the works, thereby reducing the impact on soil structure and fertility. Drainage systems however will not be installed into areas where they are not currently present, e.g. environmental wetlands. 6.8.1.12 Any field drainage intercepted during the cable installation will either be reinstated following the installation of the cable or diverted to a secondary channel. Landowners and occupiers will be informed of the design of drainage works required during construction and following installation of the cables and associated works, including: pipe layout, falls, dimensions and outfalls (if required). The drainage would be reinstated in a condition that is at least as effective as the previous condition and will follow best practice for field drainage installations taking into account site specific conditions. Where it is reasonable for the reinstatement of drainage to involve works outside of the order limits it will be done subject to the agreement of the landowner. 6.8.1.14 Landowners and occupiers will be provided with the opportunity to inspect land drainage works as they progress, subject to health and safety	

Interested Party Written Representation	Applicant's Response
considerations. Furthermore, records of existing and remedial drainage will be maintained by the Applicant with copies provided to the Landowner (and the Occupier, if applicable) following the completion of construction works in each phase. 6.8.1.15 A dispute resolution process will be established including the appointment of a jointly agreed Independent Expert for drainage design and implementation, where required. Where agreement cannot be reached on the appointment of the expert the matter will be referred to the President of the Institution of Civil Engineers.	
Appendix C Soil Storage and Treatment Reasoning • When soil is stored in a bund it is hard to stop surface erosion and control weed growth • Soil takes time to recover its structure and settle into a workable medium with reasonable drainage properties. The sooner it is restored to the working width the sooner the recovery process can start. • An example to illustrate the areas of concern is given below: o 1km between joint bays o Working width of 80m o Restore topsoil over 70m to allow for haul road and variance o Leave 100msq open by joint bay (50m x 2) o Area restored = 70m x 900m = 6.3ha (15.58 acres) o Even at half the working width this is still a significant area. • Over the entire length of the route this would be a significant area of land being returned to good condition at earliest opportunity with option to crop, by agreement between the parties, and this avoid business disruption and reduce claims against the Orsted.	The Applicant would make the following observations on the submission made at Appendix C. For clarity, comments have been made under the same headings as those utilised by NFU/LIG: <u>Reasoning:</u> As identified in section G5 (Soil Storage) of the Outline CoCP submitted at Deadline 6 (REP6-014) and as updated at Deadline 7 the Applicant will place the soils in store using the best practice methods. The Applicant has also proposed seeding (if requested) and that the bunds will be maintained to control weed growth and re-seeding will be carried out as agreed with landowners. The Applicant is also proposing cover cropping post-restoration. The DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites notes on page 28 that *"dry soil that is stored in this manner can remain so for a period of years and it is reuseable within days of respreading".* The Applicant has set out an indicative sequence of construction within the soil management strategy (see Outline CoCP submitted at Deadline 6 (REP6-014)) to provide clarification of when the subsoils and top soils would be stripped and when they would be restored. The Applicant has sought to minimise the duration soil storage where possible whilst taking account of the construction

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• It is understood that contractors who worked on Hornsea 1, where long term strip and bund construction was used, are now proposing to use ongoing topsoil restoration as detailed below under 'preferred working methodology' for the Triton Knoll scheme. • Cover cropping the restored topsoil with specialist soil structuring cover crops will help draw moisture from the soil, improve structure, reinstate natural drainage channels and retain nutrients. • Long term exposure of the subsoil to rain can cause damage and smearing of the upper layers and compaction in the lower layers. This element of the soil profile would normally be protected by topsoil and it is not in its nature to be directly exposed to rain. • Impeded drainage on an exposed subsoil surface can result in ponding of rainwater leading to excessive periods of wetness making the soil more vulnerable to damage. • The haul road will remain in place and therefore the cable route will not be needed for machinery transit once the ducts are installed. • If localised sites need repair or modification access can be gained via the haul road and localised excavations can be used, preferably with smaller diggers than required for the main earthworks, to remedy the faults. • Cables will be pulled in from the joint bays and if they fail they will be pulled out at the joint bays. The only reason for accessing the duct run between the joint bays should be if the cable fails and melts the ducts, or if the cable won't install properly due to a blockage in the duct. The following comments apply: In the event of a heat event resulting in a damaged duct it is accepted that localised repair would be needed using the same working methodology of strip, store, replace, restore, albeit on a smaller scale and using the haul road for access.	programme, as it understands that landowners wish to bring the land back into production at the earliest opportunity. However in the case of Hornsea Three, the early or immediate re-instatement of top soil following the installation of the ducts does not allow for activities such as the installation, jointing and testing of the cables, removal of fencing, the installation of post-construction drainage and measures to reinstate PRoW all of which require the presence of the haul road and access road to provide access for vehicles without damaging the newly re-instated top soil. The early reinstatement of the top soil also increases the potential for re-stripping of the onshore cable corridor should the export cable fail on testing. It is the repeated handling of soils that is likely to lead to both the loss of soil materials and damage to soil structural characteristics. The Applicant also notes that, as well as potentially leading to re-stripping or driving/working over restored topsoil, the suggestion of handing back land in part before construction is complete will create a need for at least two handback processes involving landowners, occupiers, agents, the ALO and the Applicant, which is a significant cost and time burden on all parties and is considered to be both inefficient and uneconomic. <u>Provisions for Long Term Strip and Bund:</u> The Applicant notes the conditions encountered by Dudgeon and East Anglian One Offshore Wind Farms and the preferred approach adopted by Triton Knoll (whilst noting that Triton Knoll have only commenced their onshore cable works and have not yet reinstated, and as such the final techniques to be used have not yet been seen). The Applicant agrees with the NFU/LIG that weed infestation can be a problem and G5.1.1 of Appendix G of the Outline CoCP submitted at Deadline 6 (REP6-014) refers to the requirement for weed control through the use of spraying or through seeding of the bund (unless otherwise requested) and mowing.

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• If the ducts are installed properly there should be no issues with pulling the cables through. • If a duct needs to turn a tight bend and there is a risk of installation problems this area can remain open as there would be good technical and engineering reasons for doing so. • The topsoil would not be reinstated within 50m of each side of joint bay giving room to work at the point. • The provision for the topsoil to remain in a bund where there are good technical and engineering reasons allows the Tenant to avoid reinstating where they reasonably believe there could be need to access the ducts during cable installation and testing. Provisions for Long Term Strip and Bund • Dudgeon Offshore Wind and East Anglian One have shown that long term storage of topsoil can lead to loss of topsoil via surface runoff into the working area and surrounding land. • Weed infestation of the bunds has also been a problem that requires use of non-selective herbicides to control and mechanical weeding. • Stabilisation of the bund with a green cover is a good way to stabilise the soil surface and create a dominant green cover to supress weeds. • Establishing a green cover is difficult due to the recently disturbed nature of the soil, the profile of the bunds (high risk of seed wash off) and increased vulnerability to climatic conditions. • Hydroseeding has been shown to effectively combat the problems noted above, particularly when used in conjunction with biodegradable hessian type erosion control blankets. • Ensuring the green cover is topped regularly and not allowed to see can achieve stabilisation of the bund cover and avoids problems with weed inundation to valuable arable land.	"*Hydroseeding*" and the "*Installation of biodegradable Geo-Jute Erosion Control*" are generally used on permanent works, not temporary storage. Standard seeding has already been proposed and in respect of biodegrable geo-jute the experience of the Applicant's contractors suggest that this type of erosion control material cannot be removed easily and can take some time to degrade, meaning that farmers are often ploughing up geo-jute for years after its installation. It is also installed using wooden pegs or metal pins, which can also cause issues for ploughing or livestock. Silt fences are only required where storage is near to surface watercourses and around storage areas and is not considered to be necessary elsewhere since the other measures proposed for soil stability within the bunds is sufficient. On Orsted's Hornsea Project One offshore windfarm scheme soil was stored for approximately two years along the cable route. There are many examples on sites used for quarrying, where soils are stored for more than 3 years and have successfully been restored to their former use during the aftercare period. The main susceptibility to soil damage occurs when soils are stripped, moved and replaced in inappropriate soil handling conditions and not in accordance with MAFF Soil Handling Guidance (2000), rather than when soil materials are in store. Once soils are in store any further damage predominantly occurs where there is poor site planning and the soil stores are either susceptible to trafficking or are prone to contamination with other materials that have been incorrectly stored alongside. The soil management strategy (see Outline CoCP submitted at Deadline 6 (REP6-014) and as revised for Deadline 7) follows this guidance and commits to measures to avoid damage during stripping, handling, storage and replacement. <u>Soil Specialist:</u> The Applicant would refer to Appendix G, G2.1.3, of the Outline CoCP

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• Vertically entrenched silt fences protect the bund from surface runoff onto the exposed subsoil working area, the surrounding farmland and surrounding watercourses. Soil Specialist • Provision of a soil specialist to act as a 3rd party referee between contractors and the landowner ensures work can proceed in a timely way whilst long term soil damage can be minimised. • The landowner and contractors will at times have directly competing interests and each party is liable to take an entrenched point of view. The soil specialist can give an independent view so the landowner knows that if the soil is damaged he will have a valid and justified claim, and the contractor can avoid situations where they are interrupted because the landowner perceives the conditions to be unsuitable to work. Preferred Working Methodology NFU and LIG's preferred working methodology is as follows: • Topsoil stripped and stored in a bund • Subsoil trenched and stored in separate bund to topsoil • Plastic ducts installed • Subsoil replaced • Topsoil replaced within 3 months of stripping where following conditions are met: • Subsoil is dry and in a suitable condition to take topsoil reinstatement • Landowner does not reasonably object to reinstatement • Restored working width will be seeded with a cover crop of an agreed species mix for the soil type, land use and time of year. Orsted will not be obliged to restore the working area within an area 50m either side of a joining bay, HDD launch area, or any other area where for good technical	submitted at Deadline 6 (REP6-014) which confirms that a soils specialist would be appointed to work alongside the ALO. <u>Preferred Working Methodology:</u> The Applicant notes the conditions that the NFU and LIG are seeking to be included in the soil management strategy. The Applicant notes below where each of these conditions have already been met in the outline CoCP and its Appendix G Soil Management Strategy, or the provides reasoning for why the proposed amendments are not considered appropriate: • Topsoil stripped and stored in a bund' and 'subsoil trenched and stored in separate bund to topsoil' – G5.1.3 of Appendix G states that materials from individual topsoil and subsoil units and within individual land holdings will be stored separately; • Plastic Duct installation – paragraph 1.1.1.7 of the Outline CoCP; • Subsoil replacement - paragraph G.1.2.2 of Appendix G of the Outline CoCP; • Topsoil replacement - The Applicant has made clear that it does not consider that topsoil replacement within 3 months of stripping is necessary, sensible or required to implement the successful restoration of topsoil; • Subsoil restoration – to be carried out in accordance with the Soil Handling and Consistency Test as detailed in section G.7 of Appendix G; • Landowner objections to reinstatement - The provision of a soil specialist (as set out in G2.1.3 of the Outline CoCP) will help determine whether any landowner objection is reasonable; and • Restoration - The requirement for the provision of a cover crop will be assessed in accordance with the Aftercare – Cultivations section at G.8

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and engineering reasons it is not appropriate to do so. [Such as where cables go around a bend, or archelogy, or cross existing/proposed infrastructure]. Following partial restoration of the working width Orsted will not: • Be obliged to install the post scheme drainage works until such time as programmed on the wider scheme • Be obliged to hand back possession of the working area if they do not reasonably consider it appropriate to do so. • Be obliged to pay crop loss or any other loss arising from the farmer choosing to commercially crop the partially restored working area. The restoration of the topsoil will not be full restoration and the conditions associated with full restoration do not have to be met until the appropriate time as agreed. In the event that the decision is taken to strip all of the topsoil and store it in a bund to be reinstated at the completion of the installation of underground electrical apparatus, which for the avoidance of doubt does not mean the completion of joint bay construction as that could reasonably be expected to continue after testing of the cable route, NFU and LIG would like the following conditions to be included: • Topsoil and subsoil are kept separate • Entrenched vertical entrapment fences (Silt Fences) to be installed around the bund as per EA/SEPA Pollution Prevention Guidelines. • Hydroseeding of bunds with an agreed/appropriate grass mix at soonest opportunity recommended by specialist contractors. • Installation of biodegradable Geo-Jute Erosion Control Blanket to stabilise the surface and give a 'key' for the Hydroseeding growing medium. • Assessment to be carried out of where water may pond on subsoil in the stripped working area and, where appropriate, means to drain this water	of Appendix G of the Outline CoCP. The Applicant, as already detailed, does not consider partial restoration to be a sensible working method and would therefore anticipate stripping all topsoil and storing it in a bund until the completion of all cable construction and associated testing works. In respect of the additional conditions suggested by the NFU/LIG that have not already been commented on, the Applicant's comments are: • *"Assessment to be carried out of where water may pond on subsoil in stripped area…"* - the Applicant would refer to G.7 of Appendix G of the Outline CoCP which states that potential for damage to the exposed subsoil within the working corridor would be controlled through only working during suitable soil handling conditions and the use of appropriate haul routes through the working area; • *"Dewatering pits to be located on the haul road side of the working area."* – the Applicant would refer to Appendix B (Outline Method Statement for Crossing Techniques) of the Outline CoCP submitted at Deadline 6 (REP6-014) with regard to dewatering activities. With regard to the role of the drainage consultant, the Applicant would refer to paragraphs 6.8.1.8 to 6.8.1.15 of the Outline CoCP submitted at Deadline 6 (REP6-014) which sets out the input of the drainage consultant with regard to agricultural field drainage. The Applicant would note that it is the role of the soil specialist and the ALO to monitor soil handling and reinstatement. Input from the drainage consultant would be requested on the advice of the soil specialist according to the specific conditions of individual holdings and is unlikely to be necessary of all holdings. In conclusion, the Applicant has sought to incorporate many of the suggestions made by the NFU/LIG, either in the version of the Outline CoCP submitted at

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away installed through the bund if necessary.
• Dewatering pits to be located on the haul road side of the working area.
 	
Orsted has confirmed that a soil specialist would be appointed to work alongside the ALO to monitor soil handling as stated in Appendix G G2.1.3 of the CoCP. NFU and LIG request that the Drainage Consultant is also party to this monitoring during the works to have an input into the preparation, installation and reinstatement of the option area with a brief as follows:
 	
• To agree when conditions in the option area are suitable for operation of the works specifically required at the time of assessment.
• To assess when work can recommence in the following situation:
  ○ There has been more than 12mm of rain falling on the corridor in any preceding 24 hour period.
  ○ There has been more than 20mm of rain falling on the corridor in any preceding 96 hour period.
  ○ Where the thresholds specified above have not been met but long term adverse weather conditions have lead to cumulative wetting of the option area.
  ○ Where the Grantor considers the conditions to be unsuitable for working without unavoidable long term soil damage.
  ○ The advice of the soil specialist will be binding on both parties.
	Deadline 6 (REP6-014), or the updated version submitted at Deadline 7. Where suggestions have not been incorporated, this is primarily due to the Applicant's position that such measures are not necessary to safeguard the quality of the topsoil or ensure that the topsoil can be successfully reinstated. In addition, the Applicant needs to retain flexibility in the specific techniques employed in order to meet its construction programme and to ensure that the commitments in the soil management strategy as well as the requirements of all landowners along the route are met, who may take differing views to those proposed by the NFU/LIG. For example, the Applicant is aware that whilst most landowners along the Hornsea Project One cable route did want the soil storage bunds to be seeded, others did not. Many of the measures suggested by the NFU/LIG would reduce the necessary flexibility to respond to individual landowner requests and as such have not been incorporated within the Outline CoCP. Where appropriate individual landowner requirements can be incorporated in land agreements.
	
	The Applicant is strongly opposed to the NFU/LIG's request for a requirement for land to be handed back prior to the completion of all works, as this would make the cable installation process significantly more complex, less efficient and less economically viable.
	
	The Applicant also considers such a requirement to be unnecessary as landowners will be compensated for the entire duration that the land is required for construction. However, as set out in paragraph 3.1.6 of the Written Summary of the Applicant's oral case put at Compulsory Acquisition Hearing (REP6-012), the Applicant is only permitted to stay in possession of land for as long as is reasonably necessary and no longer than one year beginning with the date of completion of the part of the authorised project for which temporary possession has been taken.

North Norfolk District Council Written Representation (REP6-080)

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These are North Norfolk District Council's written submissions following Issue Specific Hearing 6 on the Draft Development Consent Order. They do not cover in writing all the matters on which oral submissions were made, but expand or elucidate where required. The following material is provided with these submissions: • Draft Landscape Plan (Joint submission by relevant Local Planning Authorities); • Examples from Establishment Management Information System (EMIS) decision tool; • Ecological Site Classification Manual; and • Examples of Planning Applications in North Norfolk where a Ten Year replacement planting condition has been applied	The Applicant has responded to each point in turn below.
HVDC vs HVAC 2.1. For the reasons previously set out by North Norfolk District Council ("NNDC") in response to the Examining Authority's question 2.1.11 (provided on 15 January 2019), NNDC asks that Requirement 6 be amended to require the Applicant to provide a transparent explanation and justification for the choice of transmission system. This does not diminish the flexibility given to the Applicant within the design envelope. It assures the Local Planning Authority that a genuine choice has been exercised. Given the very significant differences in impact to which that choice leads, such assurance is necessary. 2.2. Such a requirement is necessary not to set out what the choice of technology	The Applicant does not agree that a requirement to inform NNDC is necessary or reasonable. Without prejudice to that position the Applicant comments as follows. The Applicant would note that Requirement 7 of the draft DCO requires details of Work Nos (9 and 10) to be submitted for approval. This information would identify which transmission technology had been chosen; for example, it would be clear that HVDC technology had been chosen once details pursuant to the onshore HVDC converter (as opposed to an HVAC substation) were submitted, or vice versa. The phasing of Hornsea Three would not affect the choice of transmission

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is (which is the way in which the Applicant characterised the requirement at the hearing). Rather, it concerns the reasons why the choice of technology has been made. It is well accepted that the need to give written justification for a decision is one way to ensure that the decision has been made conscientiously 2.3 NNDC suggests that the appropriate time for the information to be provided to the Local Planning Authority is when the written scheme setting out the phases of construction is provided, as the choice of HVDC or HVAC will have a significant effect on the phasing scheme. The following wording is suggested: "(4) The authorised development may not be commenced until detailed reasons explaining and justifying the choice of HDVC or HDAC have been provided in writing to the relevant planning authority, either before, or at the same time as, the written scheme referred to in paragraph (1)." 2.4. This wording differs from that put forward at the hearing in two ways. Firstly, it ties the timing of the submission more clearly to the submission of the phasing scheme, but allows the Applicant to submit the reasons earlier than the phasing scheme if it so wishes. Secondly, it secures the requisite level of detail to show that a genuine choice has been exercised by requiring "reasons" which both "explain" – i.e. make clear by giving a description – and "justify" – ie show as warranted. This avoids the lawyerly debate alluded to at the hearing.	system or vice versa. For example, if Hornsea Three is to be constructed in two phases, the transmission system for phase two may not be known at the time that Requirement 6 is discharged. Therefore, the Applicant submits that if the ExA is minded to recommend inclusion of a requirement to inform NNDC, this would best sit in Requirement 7, rather than 6. Requirement 7 could include the drafting proposed by NNDC, amended as follows: *"(4) The connection works in either Work No.9 or Work No. 10 shall not commence until explanation of the choice of HVDC or HVAC for that phase has been provided in writing to the relevant planning authority, either before, or at the same time as, the details referred to in paragraph (1)."* Cable installation would necessarily not occur before the discharge of Requirement 7 because the Applicant would require necessary consents and approvals to be in place for the cable corridor before laying cable.
Landscaping Matters Requirement 8 3.1. Requirement 8, dealing with the provision of landscaping, differs from other such requirements in previous DCOs (eg Hornsea 1, made December 2014; Hornsea 2, made September 2016; East Anglia 3, made August 2017) and from that proposed for the Norfolk Vanguard scheme in that it does not set out a list of	The Applicant would refer to its responses to REP6-081 submitted at Deadline 7.

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details in the landscape plan that will be required. 3.2. During the Issue Specific Hearing, the local authorities met to discuss the suggested wording for Requirement 8. The agreed suggested wording was provided to the Applicant on 31 January 2019. It is: (1) As is (2) As is (3) The landscape plan must include details of— (a) surveys, assessments and method statements as guided by BS 5837 and the Hedgerows Regulations; (b) the location, number, species, size and planting density of any proposed planting; (c) cultivation, importing of materials and other operations to ensure plant establishment; (d) existing trees and hedgerows to be retained with measures for their protection during the construction period; (e) implementation timetables for all landscaping works. (4) The landscape plan must be carried out as approved. 3.3. The list is shorter than in some of the previous DCOs or than is proposed for Norfolk Vanguard, and is in a par with other previous DCOs. The justification for the list is as follows: (e) is already in the draft DCO, but was run together with the requirement for the plan to be carried out as approved; (a) is required because this information has been requested by the planning authorities on a number of occasions but has not yet been provided (the authorities understand because of access difficulties); however in order to understand whether the Landscape Plan is workable and addresses what is required, the initial information needs to be	

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obtained by survey and provided; (b) – (d) should not be controversial given they are basic requirements of the Landscape Plan and the authorities cannot envisage how any material amendment might be required for any of them. 3.4. The Applicant has suggested that the current drafting is justified by the need for flexibility for both parties. If a "shopping list" of requirements were set out, the Applicant contended a danger arose that a non-material amendment application would be needed if either of the parties thought that one of the elements in the list was not actually required in the final Landscape Plan. Details "locked down" in the order may not serve the parties two to three years hence. 3.5. NNDC disagrees that the list will minimise flexibility or will heighten the risk that a non-material amendment will be required. The Applicant has not provided any evidence that such amendments have been caused by the lists in the requirements in previous DCOs Focusing on the wording suggested for this DCO, as already stated, (b)-(e) should not be controversial, either now or in the future, as they are basic requirements for the Landscape Plan. In relation to (a), surveys, assessments and method statements are crucial to understanding the baseline and justifying the proposed landscape measures. They are a key part of the ES process. The need for further surveys is already referred to in the draft plan. (a) is worded broadly, such that the only reason for a non-material amendment would be if either the Applicant or the planning authorities felt that no surveys, assessments or method statements need be referred to in the Landscape Plan, which is unlikely. The Draft Landscape Plan 3.7. As a result of the discussion between the local authorities, a joint suggested amended draft landscape plan has been produced for consideration of the applicant and the ExA. It is enclosed at Appendix 1. Further discussion between the relevant parties on this matter is welcomed.	

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10 Year Replacement Period 3.8. The evidential basis for the 10 year period was given by Cathy Batchelar, Landscape Officer at NNDC, during Issue Specific Hearing 4, setting out the climatic condition in North Norfolk and their impact on growth rates which justify the 10 year period. This was addressed further in NNDC's Deadline 3 Representations, in particular at §§3.3-3.4. 3.9. The Forestry Commission Ecological Site Classification Decision Support System (ESC-DSS) is a PC-based system to help guide forest managers and planners to select ecologically suited species to sites, instead of selecting a species and trying to modify the site to suit. The system is designed to match key site factors with the ecological requirements of different tree species and woodland communities, as defined in the National Vegetation Classification (NVC) for Great Britain. 3.10. Results from two sample sites along the cable route have been included at Appendix 2, using the Establishment Management Information System (EMIS) decision tool option to demonstrate that the prevailing site conditions will result in slow establishment. The following data was required to be inputted: Grid references and soil types: • Cable route location at Kelling (Grid ref: TG 104 409) Soil Type: Freely draining slightly acidic sandy soil. (Brown Earth under the EMIS classification); and • Booster Station location at Edgefield (Grid ref: TG 112 331) Soil Type: Freely draining slightly acidic loamy soil. (Brown Earth under the EMIS classification) 3.11. The sample sheets indicate there are limited species that are suitable for the site conditions and, given the site conditions, yields are not expected to be high. A	The Applicant would refer to its response to the ExA's further written questions (Q2.7.5) submitted at Deadline 4 (REP4-012). The status of discussions with North Norfolk District Council in relation to this point is set out in the Statement of Common Ground submitted at Deadline 7. The Applicant would note that the examples provided in Q2.7.5, relate more directly to the nature of Hornsea Three (i.e. comprise nationally significant infrastructure projects). Furthermore, many of the projects listed in Appendix 4 of NNDC's submission are permanent installations at a singular location, which differs from Hornsea Three which has a linear onshore cable corridor, with two permanent above ground features (the onshore HVAC booster station and the onshore HVDC converter/HVAC substation). As such, the impacts which will occur are different in nature and duration. The Applicant would note that, for the woodland planting at the above ground permanent infrastructure (onshore HVDC converter/HVAC substation and onshore HVAC booster station), the Applicant has committed to replace all plants that die annually at the end of each growing season during the first five years, or when it is agreed that the woodland has established effectively, and individual plant replacement is unnecessary. Thus, although the Applicant maintains that failures after the five-year period is unlikely, the provisions for the replacement of any failed plants may extend to the requested ten years, or beyond, at these locations. This is to maintain the level of mitigation provided by the woodland planting at the onshore HVDC converter/HVAC substation, and onshore HVAC booster station. This commitment is clarified in sections 7.3 and 7.4 of the Outline LP submitted at Deadline 7.

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copy of the Ecological Site Classification Manual is attached at Appendix 3. NNDC are aware that the Forestry Commission specify a standard 10-year replacement period for all new planting that is subject to a Replanting Notice. 3.13. A period of 10 years aftercare and replacement provides for greater formal protection when establishing tree stock. At 10 years growth, a tree will have reached a size where it would be subject to Forestry Commission Felling Licence Regulations (i.e. 8cm girth at 1.3m above ground level). After only 5 years, as proposed by the Applicant, trees would not have reached sufficient maturity to be protected by these Regulations and so could be removed without requiring formal consent. 3.14. In respect of soils, other than in the main river valleys, the Hornsea 3 onshore cable is to be routed through freely draining, slightly acid, sandy to loamy soils, with a small section routed through a shallow lime-rich soil over a glacial chalk outcrop. The principle characteristics of the majority of soil types the cable route passes through are that of a free-draining nature and of low fertility as they are vulnerable to the leaching of nutrients. In general, the principle soil characteristics will have a negative impact on vegetation establishment which will require additional and longer term maintenance to ensure that planting receives sufficient nutrients to thrive and outcompete other undesirable vegetation and does not succumb to drought conditions. The local soil characteristics together with the local climatic stresses (salt tolerance, wind exposure and drought) placed on any new planting in the District means that the additional care and longer term maintenance is crucial to the success of the planting. Soil data for the District has been derived from Cranfield University's free to use Soilscapes dataset. 3.15. It respect of landscaping schemes, it is standard practice within North Norfolk District Council to impose a ten year replacement planting period condition	

Interested Party Written Representation	Applicant's Response
on major developments where landscape planting is an important element of the proposal. Examples of a number of planning decisions in which NNDC has imposed a 10 year period is enclosed at Appendix 4 including for a number of onshore solar farms (50MW). Copies of the actual decision notices can be provided if necessary for the ExA.	
Other Matters Requirement 23 4.1. NNDC suggests the following wording, which was aired at the hearing. Amendments are shown in red: 23.—(1) Within three months of the cessation of commercial operation of the connection works an onshore decommissioning plan must be submitted to and approved by the relevant planning authority. (2) The relevant planning authority must provide its decision on the plan within three months of its submission, of such plan unless otherwise agreed in writing by the relevant planning authority. (3) The decommissioning plan must be implemented as approved unless otherwise agreed in writing by the relevant planning authority.	The Applicant has made text amendments to Requirement 23 in the draft DCO submitted at Deadline 6 (REP6-004). Although this wording differs from that proposed by NNDC, it has the same effect.
Code of Construction Practice 4.2. Communication Plan – Section 4.2.5 sets out the Communication Plan under the CoCP, and §4.2.5.2 describes the complaints procedure. NNDC welcomes the Applicant's proactive approach and agrees that a complaints procedure is needed. In order for that to be fully effective, however, a mechanism needs to be in place for the relevant local authority to be made aware of complaints and also for the relevant local authority to make the contractor aware of any complaints that come direct to the local authority. 4.3. In respect of Appendix A - Communication Plan (A1.1.3), the final two bullet	4.2 – 4.3 The Applicant has expanded the final bullet point of A1.1.3 to reference that the complaints log would identify the location of complaints, any contact details of person reporting (if they have been provided and consent given for them to be shared), a description of complaint, any actions taken by the contractor and if resolution has been achieved. The procedures for ongoing engagement with the Environmental Health Department may vary between local planning authorities, depending on the nature of works within that district. Such details will be developed and incorporated into the final CoCP. 4.4 – The Applicant has made a number of amendments to the Outline CoCP

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points regarding the 24 hour helpline and complaints log need to be expanded to include procedures to engage in a two way process with the relevant Environmental Health Department regarding the location of complaints, any contact details of person reporting (if they have been provided and consent given for them to be shared), a description of complaint, any actions taken by the contractor and if resolution has been achieved. 4.4 Mechanism for Approval – as indicated by the Applicant, it may be sensible for an annex to the CoCP to be provided, setting out the mechanism for approval of matters within the CoCP. That mechanism needs to be flexible, such that it allows for sufficient time for the relevant planning authority to consider the matters submitted, otherwise the oversight function on which the CoCP rests will not function appropriately. 4.5. In respect of Construction Mitigation measures. 6.2.1.3 concerning noise and vibration management measures, this outlines good general principles on noise and vibration management. There are potential benefits for all parties in submitting details of control measures for approval well in advance of works and in advance of the 28 day timescale included in the COPA 1974 legislation. Pre- application consultation and advance discussion of documents or control measures could assist greatly with progressing the project and developing suitable mitigation and control measures. The Applicant's comments on this matter are sought. 4.6. The legislative process in the section 61 of the Control of Pollution Act 1974 does provide a prior approval process for works within a 28 day timescale, with the option of additional conditions or requirements to be added by the local authority and for applicant appeals to the magistrates court. 4.7. In respect of Site Compounds 4.1.7.5 - The provision of secure Heras type fencing is noted. However, the addition of further fencing, screening or enclosures may be required for noise control purposes.	submitted at Deadline 7 (REP6-014), in particular to Section 3 which sets out the plans which have been, or will be, prepared and form appendices to the relevant detailed CoCP(s). The amendments also set out the approval body for each document. 4.5 – 4.6 - The Applicant would welcome early engagement with the relevant local planning authority, and will seek to engage in advance discussion of documents or control measures in order to inform the development of suitable mitigation and control measures as part of detailed design. 4.7 – In response to comments made by NNDC to the same effect during ISH6, the Applicant updated paragraph 4.1.7.9 to reference the potential for equivalent acoustic fencing. 4.8 – In response to comments made by NNDC to the same effect during ISH6, the Applicant updated the seventh bullet points at paragraph 4.1.7.9 and the final bullet point at paragraph 6.2.1.3 of the Outline CoCP submitted at Deadline 6 (REP6-014).

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4.8 Regarding generators, (section 4.1.1.5 on continuous working hours), whilst it is acknowledged that generators may be required to be operated during continuous hours, NNDC requests that details of noise levels and mitigation measures are submitted for approval in advance, given that there is potential for adverse impact on residential amenity, depending on location. This is to ensure low noise plant is selected and suitable screening and other measures are provided. The wording used in the subsequent section (4.1.1.6) is more acceptable, in that there is consultation with the Environmental Health Department on mitigation and requirement for approval of details.	
Appendix 1: Draft Landscape Plan	The Applicant would refer to its responses to REP6-081 submitted at Deadline 7.
Appendix 2: Examples from Establishment Management Information System (EMIS) decision tool Appendix 3 – Ecological Site Classification Manual Appendix 4 - Examples of Planning Applications in North Norfolk where a Ten Year replacement planting condition has been applied	The Applicant has given due consideration to these appendices in the responses provided above.

South Norfolk Council, North Norfolk District Council and Broadland District Council (REP6-081)

Applicant's Comments to the LPAs' suggested edits to the Outline Landscape Plan

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Please find attached the Draft reworded Outline Landscape Plan as requested by the ExA, for submission by Deadline 6. This document has been agreed by the three relevant planning authorities (North Norfolk, South Norfolk and Broadland as a draft. It is not our final drafting and that we wish to make suggestions for changes to the wording of the two relevant articles and removal of Part 2 of Schedule 10.	The Applicant notes the coordinated amendments to the Outline Landscape Plan from the relevant planning authorities. The text provided has been carefully considered and, in many instances, incorporated. Where specific text proposed by the relevant planning authorities has not been incorporated into the Outline Landscape Plan, we have either sought to provide justification in the point by point summary (provided below), or a cross-reference has been provided in the Outline LP to the appropriate outline management plan (e.g. the Outline EMP). This approach has been taken in accordance with matters discussed at Issue Specific Hearing 6, which led to the rationalisation of the management plans to avoid repetition and instead clearly signpost to other plans where appropriate.
The three local authorities have suggested the following wording for Requirement 8: 1. As is 2. As is 3. The landscape plan must include details of— (a) surveys, assessments and method statements as guided by BS 5837 and the Hedgerows Regulations; (b) location, number, species, size and planting density of any proposed planting; (c) cultivation, importing of materials and other operations to ensure plant establishment; (d) existing trees and hedges to be retained with measures for their protection during the construction period; (e) implementation timetables for all landscaping works. 4. The landscape plan must be carried out as approved.	The Applicant would note that, as stated in ISH6, its approach has been to incorporate the principles which must be followed within the Outline Landscape Plan rather than the DCO itself. This secures the details the parties expect to be in the final version of the document but avoids having a prescriptive list of matters included within the DCO Requirement which would allow flexibility for both sides given that the process to amend the DCO is more cumbersome than amending the outline management plans. However, in consultation with the local planning authorities, it has been agreed that some points will be included within Requirement 8. The Applicant has therefore taken the following approach: - 8 (3) (a) This has been incorporated into Requirement 8. - 8 (3) (b) This has been incorporated into Requirement 8. - 8 (3) (c) This has been incorporated into Requirement 8. - 8 (3) (d) This has been incorporated into Requirement 8. - 8 (3) (e) This has been incorporated into Requirement 8.

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	It is noted that the measures for the protection of existing trees and hedges to be retained will be set out in the detailed EMP (in accordance with the principles set out in the Outline EMP). However, the Applicant has incorporated the proposed wording into Requirement 8 on the basis that it may comprise a repeat of information contained within the detailed EMP, or a cross-reference to the detailed EMP. The Applicant has made a number of changes to section 4.2.2 and 4.2.3 of the Outline EMP to respond to comments made by stakeholders. As stated in updated paragraph 4.2.2.4 (updated text shown in underline), *"All buffer zones will prohibit intrusive construction works, the tracking of heavy vehicles, and the storage of vehicles, machinery and soils."* Should specific locations require additional restrictions, this would be determined by the ECoW as set out in updated paragraph 4.2.2.5 (new text shown in underline): *"The ECoW will inform the Site Manager of the locations ~~and~~ requirements and restrictions of buffer zones in each working area prior to the commencement of construction in that area. Where necessary, locations and restrictions will be discussed on site."* In response to concerns raised by South Norfolk Council at ISH 9 on 08 March 2019, the Applicant has also amended paragraph 4.2.2.6 of the Outline Ecological Management Plan to ensure all protective buffer zones associated with trees and/or hedgerows are marked out using a form of fencing, and not coloured tape. The wording of paragraph 4.2.2.6 now reads as follows: *"4.2.2.6 Where considered necessary by the ECoW or Site Manager, buffer zones will be marked out on site (e.g. with high-visibility Netlon fencing or coloured tape, and / or signs describing the prohibitive requirements of the zones) and installed at appropriate locations. All protective buffer zones associated with trees and/or hedgerows (see section 4.2.3 below), will be marked out using either high visibility Netlon fencing, or Heras fencing, with signs describing the prohibitive*

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	requirements of the zones." 8 (4) This has been incorporated into Requirement 8. The Applicant has where possible engaged with the relevant planning authorities to discuss the contents of the proposed drafting, and has provided a point by point response below. This response is intended to be read alongside the amended versions of the Outline LP and Outline EMP as submitted for Deadline 7.
OUTLINE LANDSCAPE ~~MANAGEMENT~~ PLAN	The Applicant has accepted the use of "Outline Landscape Plan (LP)", as suggested by the LPAs, throughout the Hornsea Three documentation.
1. INTRODUCTION 1.1.1.1 This Outline Landscape ~~Management~~ Plan (Outline L~~M~~P) has been prepared on behalf of Ørsted in support of the application for a Development Consent Order (DCO) for Hornsea Three.	Accepted, changes made to 1.1.1.1 of the amended Outline LP submitted at Deadline 7.
1.1.1.2 This Outline LMP sets out the framework within which the following information will subsequently be produced as part of a detailed written Landscape Plan to be agreed under Requirement 8 of the DCO. The detailed landscape plan shall comprise the following elements: a) detailed hedgerow and tree surveys and assessments within the DCO consent area; b) detailed soft landscape design proposals for replacement, mitigation, compensation and enhancement (including heritage, landscape and ecological mitigation), c) implementation and establishment details of all planting d) future management and monitoring.	Paragraph 1.1.1.2 has been amended to provide clarity on the relationship between the Outline LP and the detailed LP(s), and thus reads as follows: *"This Outline LP sets out the framework for the detailed written Landscape Plan to be agreed under Requirement 8 of the DCO. The detailed LP may be provided as a single document or as a number of detailed LPs to cover different elements of Hornsea Three. Each detailed LP will be submitted to and agreed with the relevant planning authorities prior to commencement of the element it relates to in a given phase or any onshore site preparation works relating to each phase. The detailed LP must be implemented as agreed."* In respect to points a-d as proposed, the Applicant would note the following: a) This text has been incorporated into the Outline EMP submitted at Deadline 7 with further clarifications on the extent and methodology of proposed surveys (see paragraph 4.2.3.1 of the amended Outline EMP and paragraph 3.1.1.1 of the amended Outline LP);

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	b) This principle of this text has been incorporated into paragraph 1.1.1.4 of the Outline LP with minor edits for consistency and to avoid repetition: "Detailed soft landscape design proposals for mitigation planting (i.e. reinstatement and new planting) to include the details set out in Section 3 of this Outline LP". c) This text has been incorporated into paragraph 1.1.1.4 of the Outline LP, split across two bullet points for clarity. These read as "An implementation timetable for all soft landscaping works"; and "An establishment method for all planting including cultivation and importing of materials (see Appendix D of the Outline CoCP: Biosecurity)" d) The principle of this text has been incorporated into paragraph 1.1.1.4 with minor edits to provide clarity on management durations. The text reads as follows: "*Detailed management proposals (including maintenance and monitoring to be carried out during the first five years following planting or seeding at the onshore HVAC booster station and onshore HVDC converter / HVAC substation, as well as in the longer term (up to the full operational lifetime of Hornsea Three).*"
This will apply to the following elements of the project: a) the onshore HVAC booster station (if required) b) the onshore HVDC converter/HVAC substation, c) all soft landscape works in association with the onshore cable route.	The principle of this text has been incorporated into paragraph 1.1.1.5 of the Outline LP.
1.1.1.3 This Outline L~~M~~P applies to all land temporarily and permanently impacted or acquired by the Applicant or its agents or contractors.	The principle of this text has been incorporated into paragraph 1.1.1.6 of the Outline LP. The reference to 'the Applicant or its agents or contractors' has been amended to 'Hornsea Three' to ensure it applies to all potentially involved parties (i.e. subcontractors). As such paragraph 1.1.1.6 reads as follows: "*The measures set out within this Outline LP apply to all land temporarily and permanently impacted or acquired for the purpose of Hornsea Three.*"
1.1.1.4 Each detailed L~~M~~P will be submitted to and agreed with the relevant planning authorities prior to commencement of a relevant phase or any onshore	This text has been incorporated into paragraph 1.1.1.2 (as set out above).

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site preparation works relating to a relevant phase.	
1.1.1.6 This Outline L~~M~~P should be read in conjunction with the Outline Ecological Management Plan (Outline EMP) (document reference A8.6) and the Outline Code of Construction Practice (Outline CoCP). The Outline EMP accompanies the DCO application, and describes the ecology and nature conservation mitigation measures that will be implemented prior to, during and post construction of the onshore elements of Hornsea Three, and the long-term management measures to be set in place for reinstated and enhanced habitats. The CoCP sets out the management measures that the Applicant and its construction contractors will be required to adopt and implement for all construction activities associated with Hornsea Three.	Paragraph 1.1.1.7 of the Outline LP has been amended to reflect the proposed text as well as make specific reference to the establishment of buffer zones as requested by South Norfolk District Council: *"This Outline LP should be read in conjunction with the Outline Ecological Management Plan (Outline EMP) and the Outline Code of Construction Practice (Outline CoCP).The Outline EMP describes the ecology and nature conservation mitigation measures that will be implemented (including pre-construction survey and recording of vegetation and establishment of buffer zones around retained trees and hedgerows as well as any pre-planted soft landscaping) prior to, during and post construction of the onshore elements of Hornsea Three, and the long-term management measures to be set in place for reinstated and enhanced habitats. The Outline CoCP sets out the mitigation measures that the Applicant and its construction contractors will be required to adopt and implement for all construction activities associated with Hornsea Three."* In response to concerns raised by South Norfolk Council at ISH 9 on 08 March 2019, the Applicant has also amended paragraph 4.2.2.6 of the Outline Ecological Management Plan to ensure all protective buffer zones associated with trees and/or hedgerows are marked out using a form of fencing, and not coloured tape. The wording of paragraph 4.2.2.6 now reads as follows: *"4.2.2.6 Where considered necessary by the ECoW or Site Manager, buffer zones will be marked out on site (e.g. with high-visibility Netlon fencing or coloured tape, and / or signs describing the prohibitive requirements of the zones) and installed at appropriate locations. <u>All protective buffer zones associated with trees and/or hedgerows (see section 4.2.3 below), will be marked out using either high visibility Netlon fencing, or Heras fencing, with</u>*

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	signs describing the prohibitive requirements of the zones."
2. EXISTING LANDSCAPE CONTEXT 2.1.1.1 Onshore export cables will be buried underground in up to 6 trenches, running in a south / south westerly direction from the proposed landfall area at Weybourne in north Norfolk within the Norfolk Coast AONB for approximately 55 km (6km of which is within the AONB), before connecting into the national grid at the Norwich main substation, south of Norwich. The final corridor will be up to 80 m in width, of which up to 20 m will be used for temporary working areas. It runs across a primarily rural landscape incorporating farmland with fields and roads frequently enclosed by hedgerows, areas of woodland, river valleys and frequent small settlements. 2.1.1.2 The site of the onshore HVAC booster station is west of the village of Edgefield, adjacent to an area of woodland to the east and arable fields enclosed by hedgerows to the west. The landscape within 5 km of the onshore HVAC booster station encompasses the village of Edgefield and a largely rural area primarily given over to agriculture with frequent small blocks of woodland and contains a number of small settlements. The landform is undulating with some shallow valleys. 2.1.1.3 The site of the onshore HVDC converter/HVAC substation lies south of Norwich south of the A47 and east of the B1113. Arable fields enclosed by hedgerows lie to the west and south of the site, and a sand and gravel quarry under restoration lies to the east. Two lines of pylons and overhead electricity cables cross the landscape immediately south west of the site. North of the A47 lies the southern edge of Norwich and its suburbs which are cut through by the River Yare valley and surrounded by wetlands and parkland. To the south of the A47 the landscape becomes more rural and primarily in agricultural use. There are numerous settlements within this rural landscape ranging from hamlets to large villages and the area is scattered with small woodlands. Landform within 5 km of	Section 2 of the Outline LP has been amended to reflect the proposed text. In respect to proposed paragraph 2.1.1.4, the following wording has been added to the Outline LP: *"2.1.1.4 The purpose of this Outline LP is to minimise impacts to heritage, landscape and ecological receptors which may result from the construction and operation of Hornsea Three, and thus seeks to maintain and reinstate the prevailing landscape character as described above."*

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the site of the onshore HVDC converter/HVAC substation gently undulates with two distinct river valleys, those of the Yare and the Tas, cutting through it. 2.1.1.4 The purpose of this Outline LP is to minimise impacts to the landscape as a result of and during construction and to provide proportionate mitigation and compensation in the long-term to maintain and reinstate the prevailing landscape character.	
3. SURVEY AND ASSESSMENT 3.1.1.1 Each detailed LP shall be informed by a detailed survey of all pre-existing trees and hedges along the onshore cable corridor including trees and hedges affected by the onshore booster station and onshore converter/substation. The surveys shall be carried out in accordance with BS5837:2012 and the Hedgerows Regulations 1997 and shall be undertaken at an early enough stage to inform the detailed design of the onshore cable corridor, onshore booster station and onshore converter/substation The full survey will identify important hedgerows (to capture all criteria for importance within the definitions of the Hedgerows Regulations 1997) and veteran and ancient trees which are important for ecological or historic reasons or are important features in the landscape. 3.1.1.2 Section 2.2.7 of the Outline EMP describes that approximately 14.35 km of hedgerows occur within the Hornsea Three onshore cable corridor, many of these would be retained by methods including crossing using trenchless techniques such as HDD and, in total, up to approximately 7.39 km of existing hedgerows would be removed to allow construction of Hornsea Three. Some of these hedges contain trees which will also be removed. 3.1.1.3. Where hedgerows and tree lines are crossed using open cut trenching	The Applicant would note that the ExA requested in ISH6 that the Applicant should seek to avoid overlap between the outline management plans. The function of the Outline Landscape Plan is to set out a framework for the design, implementation and management of the proposed mitigation planting. The Outline EMP and Outline CoCP set out the framework for the protection of existing habitats and features. As such, we consider that text to secure protective measures for hedgerows and trees, is better suited to the Outline EMP. However, in response to feedback from the relevant district councils, the Applicant has included the following text in both the Outline EMP and Outline LP submitted at Deadline 7. **<u>Outline EMP</u>** A new section 4.2.3: Hedgerows and Trees has been added to the Outline EMP in Section 4: Pre-construction mitigation measures: ***4.2.3 Hedgerows and trees*** *4.2.3.1 The protective buffer zones will be informed by a pre-construction survey and record of all trees and hedges along the onshore cable corridor, including trees and hedges affected by the onshore booster station and onshore HVDC converter / HVAC substation. Features included this survey will include width, height, condition, presence of standard trees and the location of any gaps. In addition to the pre-application ecology surveys, the following detailed surveys will be undertaken:* • *Where a hedgerow has not been surveyed due to access restrictions, a full survey (incorporating ecological, landscape and heritage considerations)*

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techniques, measures will be taken to minimise vegetation removal and damage. These measures are likely to include reducing the length of hedgerow removed at crossing points, where this is possible. This is particularly relevant should Hornsea Three be delivered in two phases. Under this scenario, the contractor would seek to minimise the area which would be disturbed twice, once during the construction of each phase. In practice, only the area which is required to construct both phases (e.g. the haul road) would be disturbed during the construction of both phases. Thus, the majority of hedgerows across the onshore cable corridor would only be removed and replaced once regardless of whether Hornsea Three is delivered in one or two phases. 3.1.1.4 In association with Article 34 of the Development Consent Order (DCO), the survey findings and assessment of the trees and hedgerows to be removed and retained as part of the onshore works, together with justifications for each hedgerow or tree that is considered to be reasonably necessary to be removed, shall be submitted to and approved in writing by the relevant planning authority. Where reasonably practicable, all Category A and Category B trees (as set out in BS5837:2012) and Important Hedgerows shall be retained. Where retention is not possible, removal should be justified in writing to the relevant planning authority. The relevant planning authority will expect the following hierarchy to be used except in exceptional circumstances: Tree or hedgerow to be retained by: o rerouting of the cable corridor or o horizontal directional drilling Tree or hedgerow to be removed and the loss mitigated or compensated by replanting (species, location to be agreed by the relevant planning authority). 3.1.1.5 The full survey and assessment will be submitted to the relevant planning authority together with the proposed design for the cable route or Works No 9 or 10 as appropriate.	*according to the importance criteria within the Hedgerow Regulations 1997 will be carried out and the results included in the detailed ecological constraints plan to be provided within the detailed EMP;* • *Where trees within the onshore cable corridor have not been identified for retention through the use of HDD or avoidance, a full arboriculture survey of those trees will be carried in accordance with BS5837 and any trees found to be veteran, ancient or notable will be added to the Ancient Tree Inventory (ATI) and the detailed ecological constraints plan to be provided within the detailed EMP.* *4.2.3.2 Veteran trees and important hedgerows will be clearly identified on a plan showing all vegetation to be retained, which will be provided within the detailed LP(s).* *4.2.3.3 Veteran trees and important hedgerows to be removed will be clearly identified on a plan showing all vegetation to be removed, which will be provided within the detailed LP(s). Details of these features (including whether they meet the criteria for importance due to the presence of standard trees (according to the Hedgerow Regulations 1997)), alongside the justification for their removal, will also be provided in an accompanying schedule.* *4.2.3.4 The principle behind hedgerow and tree mitigation is to minimise vegetation removal during the construction phase wherever practicable. Therefore, where veteran trees are identified within the onshore cable corridor, the Applicant will aim to preferentially protect these features either through the micro-siting of cable trenches or use of alternate construction methodology (e.g. HDD) to cross the feature. Where retention is not possible, these features would be removed, with justification included within the schedule provided as part of the detailed LP(s). The same approach would be applied to important hedgerows which are classified as such due to the presence of standard trees (as replacement trees cannot be planted above the cables).* Outline LP: 3. Pre-construction Surveys and Detailed Design *3.1.1.1 As set out in section 4.2.3 of the Outline Ecological Management Plan, protective buffer zones for hedgerows and trees will be informed by a pre-construction survey and record of all trees and hedges along the onshore cable corridor, including trees and hedges affected by the onshore booster station and onshore HVDC converter /*

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No phase of the connection works or onsite preparation works will commence until the relevant planning authority has confirmed in writing that the connection works have been designed to protect or mitigate or compensate for loss to affected hedgerows and/or trees as far as is reasonable. The protection, mitigation or compensation will include horizontal directional drilling or an adjustment to the route of the cable corridor where achievable and where the relevant planning authority has requested it due to the importance of a hedgerow or tree. 3.1.1.6 The approved surveys and assessments shall inform the detailed landscape plan proposals in Section 4.	*HVAC substation. Features included this survey will include width, height, condition, presence of standard trees and the location of any gaps. The following detailed surveys will be undertaken:* • *Where a hedgerow has not been surveyed due to access restrictions, a full survey (incorporating ecological, landscape and heritage considerations) according to the importance criteria within the Hedgerow Regulations 1997 will be carried out and the results included in the detailed ecological constraints plan to be provided within the detailed EMP;* • *Where trees within the onshore cable corridor have not been identified for retention through the use of HDD or avoidance, a full arboriculture survey of those trees will be carried in accordance with BS5837 and any trees found to be veteran, ancient or notable will be added to the Ancient Tree Inventory (ATI) and the detailed ecological constraints plan to be provided within the detailed EMP.* *3.1.1.2 Veteran trees and important hedgerows to be retained will be clearly indicated on the schedule of trees, hedgerows and other significant areas of vegetation to be retained (which will accompany the detailed LP(s)).* *3.1.1.3 Veteran trees and important hedgerows to be removed will be clearly indicated on the schedule of trees, hedgerows and other significant areas of vegetation to be removed (which will accompany the detailed LP(s)).* *3.1.1.4 Important hedgerows which meet the criteria for importance due to the presence of standard trees (according to the Hedgerow Regulations 1997) will be clearly indicated as such on the schedules outlined in paragraphs 3.1.1.2 and 3.1.1.3.* 3.1.1.5 *Where veteran trees are identified within the onshore cable corridor, the Applicant will aim to preferentially protect these features either through micro-siting of the cable trenches or using alternative construction methodology (such as HDD) to cross the feature. Where retention is not possible for these features, removal will be justified as part of the detailed LP(s). The same approach would be applied to important hedgerows which are classified as such due to the presence of standard trees (as replacement trees cannot be planted above the cables).* A robust route refinement process has been undertaken with one of the principles being the avoidance of hedgerows, trees and woodland, as reported in Volume 1, Chapter 4: Site Selection and Consideration of Alternatives of the Environmental Statement (APP-059). Therefore, although the potential to micro-site the cable trenches within the Order Limits will be

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	considered (as stated in paragraph 4.2.3.5 of the Outline EMP and 3.1.1.5 of the Outline LP), the Applicant would not seek to amend the Order Limits to avoid such features.

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4. DETAILED SOFT LANDSCAPE DESIGN PROPOSALS 4.1.1.1. The detailed Landscape Plan shall include detailed soft landscape design proposals for replacement, reinstatement, mitigation, compensation and enhancement (including heritage mitigation) that shall be informed by the survey and assessment as detailed in Section 3.	Section 3 has been added to the updated Outline LP submitted at Deadline 7 to provide overarching details for soft landscaping proposals.
4.1.1.2. The detailed proposals shall include the following elements: a) Precise location and canopy spread of all trees, hedgerows and other significant areas of vegetation on or adjoining the site to be removed;	This text has been incorporated into paragraph 4.1.1.2 of the Outline LP with 'on or adjoining the site' removed as the scope of the Outline LP is defined in Section 1.
b) Precise location and canopy spread of all trees, hedgerows and other significant areas of vegetation on or adjoining the site to be retained (including species and canopy spread), together with measures for their protection during the course of the development to BS 5837:2012;	This principle of this text has been incorporated into paragraph 4.1.1.2 of the Outline LP. It reads as follows: *"Precise location and canopy spread of all trees, hedgerows and other significant areas of vegetation to be retained (including species), together with measures for their protection during the construction phase in accordance with BS 5837:2012"*
c) Details of all new planting including (though not necessarily limited to): species, seed mixes, location, size, planting density, number and protection measures during establishment;	Noted and incorporated into paragraph 4.1.1.2.
d) Earthworks and ground profiling (including proposed finish levels and contours) if they are to be different to the existing;	Noted and incorporated into paragraph 4.1.1.2.
e) Full details of the operations and activities that will be undertaken to ensure successful establishment of the new planting to independence in the landscape including, but not limited to: ground preparation, planting methods, irrigation, weed control, monitoring, replacement, and removal of sundries. The details should include reference to BS8545 in respect of new trees);	The principle of this text has been incorporated into paragraph 4.1.1.2 of the Outline LP.
f) Full details of long-term management aims, operations and responsibilities. The details are to include, but are not necessarily limited to: height and width parameters for hedges, thinning and coppicing regimes, timings of operations, removal and appropriate reuse/recycling/disposal of redundant planting sundries;	The principle of this text has been incorporated into paragraph 4.1.1.2 of the Outline LP.
g) With regard to Work Areas 9 and 10 only - details of the implementation	The principle of this text has been incorporated into paragraph 4.1.1.2 of the

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timetable for all soft landscape works, including any planting that is to be undertaken prior to and/or during the construction works for the booster/converter/sub stations.	Outline LP
5. IMPLEMENTATION AND ESTABLISHMENT 5.1.1.1 Unless otherwise agreed with the relevant planning authority, all approved tree and hedgerow protection measures for pre-exiting trees and hedgerows are to be installed prior to the commencement of any on-site preparation and/or construction works within any stage of any phase. Thereafter the tree and hedgerow protection measures are to be maintained in good condition and observed throughout the construction period in that particular Stage/Phase.	This paragraph has not been included in the LP as it would relate to the establishment of buffer zones set out in Section 4 (5.2.2.2) and the maintenance of these buffer zones set out in Section 5.3 (6.3.1.1) of the Outline EMP. These existing measures cover the principles of the suggested amendment and provide more detail (for example, 'the ECoW will regularly (at least once every two weeks) monitor adherence to the requirements of buffer zones'). In response to concerns raised by South Norfolk Council at ISH 9 on 08 March 2019, the Applicant has also amended paragraph 4.2.2.6 of the Outline EMP to ensure all protective buffer zones associated with trees and/or hedgerows are marked out using a form of fencing, and not coloured tape. The wording of paragraph 4.2.2.6 now reads as follows: *"4.2.2.6 Where considered necessary by the ECoW or Site Manager, buffer zones will be marked out on site (e.g. with high-visibility Netlon fencing or coloured tape, and / or signs describing the prohibitive requirements of the zones) and installed at appropriate locations. All protective buffer zones associated with trees and/or hedgerows (see section 4.2.3 below), will be marked out using either high visibility Netlon fencing, or Heras fencing, with signs describing the prohibitive requirements of the zones."* A cross-reference to the Outline EMP has also been added to paragraph 3.1.1.6 of the Outline LP, and reads as follows: *"3.1.1.6 Additional details of the buffer zones to be implemented and adhered to for the protection of hedgerows and trees are set out in section 4.2.2 of the*

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	Outline EMP."
5.1.1.2 Unless otherwise agreed in writing with the relevant planning authority, all other soft landscape works are to be implemented within nine months of the completion of construction/installation works within a Stage (as set out under Requirement 6 , except in the case of work areas 9 and 10 which are to be undertaken in accordance with the approved implementation timetable.	The Applicant has committed to implementing soft landscape works in the first available planting season (paragraphs 5.1.2.4, 5.1.3.5 and 6.1.1.3 of the amended Outline LP as provided at Deadline 7). Incorporating a time limit of nine months may preclude the project from planting during a suitable season (should works be completed immediately after a planting season). It is therefore considered that the existing text in paragraphs 5.1.2.4, 5.1.3.5 and 6.1.1.3 provide sufficient comfort that the works will be undertaken in a timely manner.
5.1.1.3 All planting and soft landscape works are to be established in accordance with the operations and activities agreed under 4.1.1.2	This paragraph has been incorporated into paragraph 1.1.1.2 of the amended Outline LP (as provided at Deadline 7).
5.1.1.4 Unless otherwise agreed in writing with the relevant planning authority, if within a period of FIVE [or TEN] years from the date of planting, any tree or plant, or any tree or plant planted in replacement for it, is removed, uprooted or is destroyed or dies, [or becomes in the opinion of the relevant planning authority, seriously damaged or defective] another tree or plant of the same species and size as that originally planted shall be planted at the same place, unless the relevant planning authority gives its written consent to any variation.	This text has been integrated into paragraph 7.3.1.1 (bullet xiv and xv) and 7.4.1.3 (bullet xxvii) of the amended Outline LP (as provided at Deadline 7). The Applicant considers it appropriate to split the commitment to relate to either the landscaping proposals for land temporarily impacted (i.e. onshore cable corridor) or permanently impacted or acquired (i.e. the onshore HVAC booster station and onshore HVDC converter/HVAC substation) for the purpose of Hornsea Three.
6. FUTURE MANAGEMENT AND MONITORING 6.1.1.1 The landscape scheme is to be managed in accordance with the approved details, with the aims of: a) Re-instating removed landscape features to a similar or enhanced condition to those that were removed for the purposes of the development, b) Mitigating and compensating for the effects of the development, c) Realising the long-term landscape and visual effects as anticipated by the viewpoint visualisations, d) Maximising the wildlife benefits and opportunities, e) Ensuring the maintenance and longevity of the features provided in association with the development (and for the development within Work Areas 9 and 10, at least until the development is decommissioned).	The commitment to implement the detailed LP(s) as approved, is set out in paragraph 1.1.1.2 of the amended Outline LP. Clarification on the aims of the detailed LP(s) has also been added at paragraph 7.1.1.2. The Applicant has drafted alternate text to that proposed by the local authorities, for the reasons set out below: a) The mitigation to be achieved by the detailed LP is set out in paragraph 1.1.1.3 and as such the aim has not been repeated within paragraph 7.1.1.1. b) Principle of the text has been incorporated. c) The principle of this text is covered in b) which refers to the maintenance of mitigation required for Hornsea Three. It is noted that the purpose of Section 6 is to set out the management principles only,

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	and not the implementation which is covered in earlier sections of the Outline LP. d) Text has been incorporated with minor edits for consistency with the Outline EMP: "Maximising opportunities for biodiversity enhancement". e) The principle of this text is covered in b) which refers to the maintenance of mitigation required for Hornsea Three.
7. APPENDICES DRAWINGS 8. REFERENCES	No amendments proposed. Therefore, the appendices, drawings and references remain unchanged.

Helen and Chris Monk Written Representation (REP6-082)

Interested Party Written Representation	Applicant's Response
Can we request that you include Cawston in the itinerary for your Accompanied Site Inspection? We feel that this would be the best way to appreciate properly the particular issues around the narrow village streets and the bridges at the edge of Cawston village and on the road to Reepham. Both of these bridges have been damaged in recent traffic incidents. We consider that any attempt in traffic management to make the High Street an unrestricted two way flow will significantly increase the risk of danger to pedestrians and damage to properties, as well as increasing noise to an unacceptable level.	The Applicant would refer to the Rule 13 letter issued by the Examining Authority on 05 February 2019. This identifies Cawston as one of the draft list of locations for the accompanied site inspection (ASI). The Applicant can therefore confirm that the ASI scheduled for 05 March 2019, will travel through Cawston to provide an opportunity for the Examining Authority to observe the local road network, including the bridges referenced. In respect to traffic management, the Applicant would refer to the outline scheme of intervention measures set out within the Outline Construction Traffic Management Plan (CTMP) submitted at Deadline 6 (REP6-015) which has been designed with due consideration given to the management of impacts to pedestrians, amenity and traffic. These measures have been developed following feedback from Cawston Parish Council and seeks to maintain or improve pedestrian amenity, parking provision and the rural nature of the village centre; minimise noise and vibration impacts and improve driver awareness of speed restrictions. Consultation with Norfolk County Council is ongoing and the Applicant will make any necessary updates to the scheme as a component part of the Outline CTMP, prior to the end of the Examination.