Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Appendix 25 to Deadline 1 Submission: Applicant's Responses to the Examining Authority's First Written Questions – EXQ1

Relevant Examination Deadline: 1

Submitted by Vattenfall Wind Power Ltd

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Revision A

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Contents

Annexes referred to

Annex A to this document	Figures related to designated sites for ease of reference
Annex C to Appendix 1	APEM RTD Cumulative & In-Combination Displacement Note
Annex D to Appendix 1	APEM RTD Generic Displacement Note
Annex E to Appendix 1	APEM Gannet & Auks Generic Displacement Note
Annex F to Appendix 1	APEM CRM Variation Note
Annex B to this document	Natural England letter
Annex C to this document	ExQ1.3.5 Crown Land and Consent
Annex D to this document	ExQ1.3.6 Schedule of CA and TP Objections
Annex E -	ExQ1.3.7 PA2008 s127 Statutory Undertakers Land_Rights
Annex F -	ExQ1.3.8 PA2008 s138 Statutory Undertakers Apparatus
Annex G to this document	Vessel Traffic Analysis Plots -Dipping, anchoring and inshore route by draught, length and type
Annex H to this document	Gate Analysis Foxtrot
Annex I to this document	Consultation Matrix
Annex J to this document	Consultation Minutes and Correspondence
Annex K to this document	Pilot Transfer Bridge Simulation – Inception Report
Annex L to this document	Pilot Transfer Track Plots
Annex M to this document	Supplementary ExAQ 1.12.1
Annex N to this document	Supplementary ExAQ 1.12.3
Annex O to this document	Supplementary ExAQ 1.12.4
Annex P to this document	Supplementary ExAQ NRA (ExQ 1.12.8 *et seq*)
Annex Q to this document	Re-presented Hazard Logs
Annex A to Appendix 28	Nautical Chart
Annex B to Appendix 28	NE Spit Sea room
Annex C to Appendix 28	Safety Zone Figures
Annex D to Appendix 28	Minutes from MCA meeting October 2018

1 Applicant's responses to the First Written Questions

1 Following the issue of First Written Questions by the Examining Authority (ExA) outlined in the Rule 8 Letter of 18th December 2018 to the Applicant and other Interested Parties, the Applicant has subsequently responded to each of those questions. Details of Applicant's responses are set out within this document in subsequent sections below.

2 The document sets out answers in a tabulated format as requested by the ExA, with overarching 'sections' and tables for each topic area identified by the ExA. As noted within the ExA Questions (ExQs) a number of topic areas do not have specific questions at this time. For ease of reference the following topic areas do not therefore have sections within this document:

ExQ Section	ExQ Topic area
1.2	Construction
1.4	DCO
1.8	ES General
1.9	Fishing and Fisheries
1.10	Historic Environment
1.13	Public Health
1.14	Other strategic projects
1.15	Socioeconomic effects

2 ExQ1.1 Biodiversity, Ecology and Natural Environment (including Habitats Regulations Assessment (HRA))

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1.1.1	The Applicant	Biodiversity: Cable Landfall Location Chapter 4 of Volume 1 of the Environmental Statement [APP-040] describes the process of identifying the preferred cable landfall location. Areas of search encompassed routes within Joss Bay, Pegwell Bay and Sandwich Flats North / Bay as shown on Figure 4.5 of [APP-040]. a) With reference to Chapter 4, can the Applicant provide further detail to support and explain its decision to screen out the Joss Bay and Sandwich Flats North/Bay locations for cable landfall, with particular reference to the comparative effects on designated nature conservation sites and inter-tidal habitats? b) Could the applicant please explain in full what ecological surveys were undertaken to inform its choice of	A) For the most northerly of the options considered by the Applicant prior to scoping, Joss Bay, it is of note that any subtidal cable burial approaching landfall (and then onward in Indicative Route 1 or 2 as illustrated in Figure 4.5 of the Site Selection and Alternatives Chapter (PINS Ref APP-040/ Application Ref 6.1.4)) would need to cross both the Thanet Coast Marine Conservation Zone (MCZ) and the Thanet Coast Special Area of Conservation (SAC).). These sites are both illustrated in Figure 4.9 of the Site Selection and Alternatives Chapter (PINS Ref APP-040/ Application Ref 6.1.4). Whilst not illustrated within the above referenced chapter it is also worthy of note that Natural England within their responses to scoping and Section 42 (see table 5.5 of the benthic subtidal and intertidal ecology chapter (PINS Ref APP-046/ Application Ref 6.2.5) note that chalk reef is present within the region, and in particular within the designated sites. This is also noted by Kent Wildlife Trust (KWT) in their responses to S42 consultation. In particular KWT note that "Once the removal of a subtidal chalk habitat has taken place, there is no option for the recovery of this habitat; it will be lost in perpetuity, and therefore the conservation objectives of the site would not be met". KWT further note that the cable routing should avoid Thanet Coast MCZ to avoid these potential impacts.

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		landfall option (as described at paragraphs 4.9.24 – 4.9.37 of [APP-040]? c) Could the applicant please respond to the representation of Kent Wildlife Trust [RR-048] that alternative routes with less of an impact on designated areas have not been adequately assessed?	Despite the section of the MCZ that overlaps with the proposed Order Limits being actively dredged for Ramsgate Harbour the Applicant subsequently introduced the cable exclusion zone to avoid potential impacts on the chalk features of the MCZ. To aid in contextualising the locations of the chalk and subtidal rock reefs Annex A "Joss Bay Regional context for ExA" to this response illustrates the extent of the potential chalk and bedrock reef features within the MCZ as presented within the MAGiC web resource[1]. A further Figure "Joss Bay for ExA" also at Annex A shows Joss Bay at a higher level of resolution to further illustrate the potential comparative effects on the designated nature conservation sites and subtidal/intertidal features present. Therefore, as set out above, Joss Bay was removed due to the high likelihood of significant, irreversible effects on chalk reef. This approach is supported by subsequent consultation responses regarding the MCZ from KWT and NE. Further to the South, Sandwich Flats (Indicative Route 5 as illustrated in Figure 4.5 of the Site Selection and Alternatives Chapter (PINS Ref APP-040/ Application Ref 6.1.4))) is characterised by similar levels of designated sites, of a similar nature, to the more southerly 'option 2' landfall that was

[1] The MAGIC website provides authoritative geographic information about the natural environment from across government. Natural England manages the service under the direction of a Steering Group who represent the MAGIC partnership organisations.

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			brought forward at scoping and subsequently dropped prior to publication of PEIR. In this regard Figure 4.10 of the Site Selection and Alternatives Chapter (PINS Ref APP-040/ Application Ref 6.1.4) illustrates the priority habitats present along the coast of Sandwich. To provide greater clarity to the Examining Authority a figure of greater resolution is presented in "Sandwich Flats – higher resolution for ExA" at Annex A of this response, with 'Sandwich Flats' identified in the underlying Ordnance Survey. As noted in section 4.8 of the Site Selection and Alternatives Chapter (PINS Ref APP-040/ Application Ref 6.1.4), in particular from paragraph 4.8.13 onwards t is clear to see that any route through this area would be required to cross not only intertidal mud habitat as a supporting habitat of the SPA, but Priority intertidal mud habitat. It would then be required to cross the designated coastal sand dune habitat (designated as part of the Sandwich Coast SAC and representing a Priority Habitat) before then crossing areas of Priority Habitat Lowland Fens, Priority Habitat deciduous woodland before then crossing the River Stour which is characterised in the provided map by the Priority Habitats (and SPA supporting habitats) of coastal saltmarsh and intertidal mudflats. As noted in Section 4.8 (Table 4.6) of the Site Selection and Alternatives Chapter (PINS Ref APP-040/ Application Ref 6.1.4) a landfall at Sandwich Flats North and the crossing of the River Stour would both require HDD options to be included, with the associated entry/exit pit infrastructure and temporary road ways to reach the works areas. Furthermore, the landfall would require a contingency

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			measure for trenching to be retained due to the uncertainty of the underlying geology and risks to successful HDD. Therefore, as set out above, Sandwich Bay was removed due to the risk of long term negative impacts on a number of designated and priority habitats. It is worthy of note that landfall Option 2, which represented a concern for Natural England with regards comparative negative impacts has been removed from the proposed project design envelope. B) In parallel with the landfall decision making process surveys were being undertaken across both 'northern' and 'southern' option areas. The surveys were twofold, initial 'scoping surveys' which record initial habitat appraisal, prior to secondary more detailed surveys and overwintering/breeding bird ornithological surveys. Initial scoping surveys were completed across both option areas, secondary surveys (with the exception of the overwintering/breeding bird surveys) were only carried across the northern Zone of Influence. The overwintering bird surveys were completed and are reported within Annex 6.5.5.4 (PINS Ref APP-100) of the Environmental Statement (Onshore and Intertidal Ornithology Report), see reference 2.2.1 *et seq* of that report, and more specifically at Appendix 5-4D of that report. The initial scoping surveys were not presented as these had not been reported prior to the decision being made on landfall choice, and were not presented in the final annexes to the biodiversity chapter (Annexes 5.1 to 5.15 of that chapter (PINS

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			Ref APP-095 to APP-111) as they are not of relevance to the predicted Zone of Influence of the proposed project. The decision process at this stage was therefore based primarily on a comparison of high level constraints and understanding of the designated sites and features which are sufficiently significant as to be able to influence a major infrastructure project. The level of granularity of the scoping site surveys, and the data resulting from them would only be used for amendments to an already selected alignment, for fine tuning, and would not be considered driving factors in establishing the relative merits of one "large scale" option over another as was the case here, and in many other similar options studies, including those carried out in the immediate vicinity for the Richborough project. C) It is the Applicants position that the evidence presented within the Site Selection and Alternatives Chapter (PINS Ref APP-040/ Application Ref 6.1.4) demonstrates clearly at Table 4.9 which summarises paragraphs 4.9.24 *et seq* that alternative routes would not result in lesser impacts on designated areas. The consideration of alternatives is well referenced within the ES chapter and in the opinion of the Applicant a proportionate approach has been taken in considering the merits of a number of routes, viable options amongst which have been brought forward for consultation at key stages. This is clearly evidenced by the scoping process having brought forward two options for consideration, followed by design optionality being brought forward for consultation during the formal S42 consultation

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			process; at this latter S42 stage specific options requested by KWT were brought forward for wider consultation. As has been further demonstrated within this response and at paragraphs4.8.13 *et seq* and Table 4.6 of the Site Selection chapter (APP-040), landfalls to the North (Joss Bay) would have a greater potential for permanent damage to internationally designated habitat, landfalls to the South would also potentially cause permanent damage to international designated features (Sandwich Bay SAC). This is clearly illustrated through reference to the figures presented at Annex A to this submission in addition to the figures and narrative presented within the chapter (APP-040). The option at Pegwell Bay represents a number of options amongst which there was the potential for permanent loss of a SSSI feature (saltmarsh). As also noted within the chapter and summarised at Tables 4.6 and 4.9 of the chapter it is important to note that whilst ecological/conservation designations are an important facet within the consideration of alternatives they form one facet of a number of other important considerations which are presented within the chapter that should also be given due weight and consideration. On balance the Applicant considered that of the initial three search areas (Joss Bay. Pegwell Bay, and Sandwich Bay) and then the subsequent two search areas (Pegwell Bay and Sandwich Bay) other options were considered to have greater potential impacts than Pegwell Bay.

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1.1.2	The Applicant and Natural England	Habitats Regulations Assessment: Project Design Parameters Natural England's relevant representation [RR-053] has highlighted some inconsistencies between maximum project design parameters contained within the ES project description, DCO and DMLs. The ExA requests that this point is addressed specifically as follows: a) Summarise in tabular form all of the worst case scenario assumptions as set out in tables 1.4 – 1.35 of [APP-042] and table 5.2 of [APP-031]. Please cross-check the figures included with those presented within the DCO/DMLs. b) The forthcoming statement of common ground between these parties should clearly state any areas where disagreement remains as to any of the presented figures.	A. Annex A, of the Applicants' Response to Relevant Representations (Appendix 1 of the Deadline 1 submission) presents the maximum design parameters of Volume 2, Chapter 1: Project description (Offshore) (PINS Ref APP-042/ Application Ref 6.2.1). This document presents the maximum design parameters in a tabular format, including those in Tables 1.4 to 1.35 of PINS Ref APP-042/ Application Ref 6.2.1. Annex B, of the Applicants' Response to Relevant Representations (Appendix 1 of the Deadline 1 submission) presents an audit of how the design parameters have been transcribed from PINS Ref APP-042/ Application Ref 6.2.1 into the Application documents, including the Report to Inform Appropriate Assessment (PINS Ref APP-031/ Application Ref 5.2). Annex B also presents a cross-check of the design parameters transcribed into the DCO/dML. Where transcription errors have occurred this is presented and considered in both a tabular and written format. B. Annexes A and B of Appendix 1, as presented in the response to 1.1.2.a, have been drafted as part of the Applicants' Response to Relevant Representations of the Deadline 1 submission. The intention of these appendices is to provide clarity and to reach an agreement in the Statements of Common Ground (SoCG) on the design parameters assessed in the Application. The consideration of transcription of the project description within the Application has been included in the SoCG with Natural

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			England, as a matter under discussion, as part of the Applicant's Deadline 1 submission.
1.1.3.	The Applicant and Natural England	Habitats Regulations Assessment: Sweetman II Compliance Section 6 and table 6.1 of [APP-031] set out 'embedded mitigation' in relation to pollution prevention for subtidal and benthic intertidal habitats, marine mammals and onshore biodiversity which appears to be controlled by the Project Environmental Management Plan (PEMP) and Code of Construction Practice (CoCP) and potentially relied upon to rule out likely significant effects (LSE) on European Sites and their qualifying features screened into the assessment. a) With respect to section 7.5 of [APP-031], and having regard to the Sweetman II judgement, please could Natural England comment on the Applicant's approach in this regard? b) Can the Applicant please confirm their position that conclusions of no	The Applicant notes that the approach taken to accidental pollution (pollution prevention) within the Report to Inform Appropriate Assessment (RIAA) as submitted in June 2018 with the application (PINS Ref APP-031/ Application Ref 5.2) was considered appropriate complied with the understanding of Sweetman II at that time, however The Applicant understands that since then, implications of interpretation of the Sweetman II ruling has developed since then and evolved. The Applicant is preparing a revised and updated RIAA, which will be submitted at Deadline II, which includes amendments in further response to the evolving understanding Sweetman II judgment. These amendments include ruling accidental pollution in for Likely Significant Effect (LSE) for appropriate sites/features. These sites/features were identified within the original Screening Report issued in September 2017 (PINS Ref APP-032/ Application Ref 5.2.1), as accidental pollution at that point had remained screened in for LSE. As such, the Applicant would respond as follows: A. Section 7.5 of the RIAA (Section 7.5 of PINS Ref APP-031/ Application Ref 5.2) refers to confirmation of screening. The RIAA submitted with the application in June 2018 was considered appropriate compliant with the interpretation of the Sweetman II ruling at that time. B. b) The Applicant can confirm that the revised RIAA, to be submitted at Deadline II, will be amended to screen accidental

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		LSE have been reached without reliance on avoidance or reduction measures? Natural England has stated section 5.9.1 of [RR-053] that it does not agree with the conclusions at paragraphs 7.5.9 of [APP-031] that no LSE can be concluded in terms of accidental pollution. The Applicant's position as noted above also appears to contradict the evidence in table 1 of Appendix I to the HRA screening report [APP-032], in which the applicant states (in respect of accidental pollution) that "…a Code of Construction Practice (CoCP) which will set out measures to follow, published guidelines and best working practice for the prevention of pollution events…it is acknowledged that until these measures have been agreed, it is not possible to conclude no LSE." c) Can Natural England confirm the European Sites and qualifying features for which these concerns	pollution in for Likely Significant Effect (LSE) for all relevant receptors and taken forward for consideration of adverse effect alone and in-combination. The Applicant does not consider that considering these measures after being screened in will can confirm that the embedded mitigation results in a conclusion of no adverse effect on integrity in any all cases. C. The Screening Report issued in September 2017 (PINS Ref APP-032/ Application Ref 5.2.1) included consideration of accidental pollution. At that time, in the absence of draft versions of the embedded mitigation, accidental pollution was screened in for LSE for all receptors associated with sites in close proximity to the works (in consultation with Natural England. Following production of the CoCP during drafting of the PEIR and ES accidental pollution was screened out on the understanding of the Sweetman II ruling at that time. In line with Natural England's concerns and in light of the revised understanding of the Sweetman II ruling, accidental pollution has been re-screened in for LSE for all relevant sites in the revised RIAA), with that information informing the sites/features screened in for LSE as regards accidental pollution within the revised RIAA to be issued at Deadline II. Consideration of accidental pollution impacts has been made for these sites and features alone and in-combination within the revised RIAA. D. The Applicant can confirm that accidental pollution has now been screened in for LSE alone and in-combination for relevant

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		exist, and whether these concerns also relate to the assessment of in-combination effects. d) Can the Applicant please clarify the apparent contradiction noted above. Table 1 of Appendix I to the screening report [APP-032] (Updated Screening following ECJ Ruling (Sweetman II)) provides limited detail with regard to consideration of in-combination effects in the screening assessment. Section 9 of [APP-032] describes the approach to the assessment of in-combination effects, concluding that "A full assessment of in-combination effects will be undertaken as part of the RIAA and therefore is not presented in this Report". The ExA is seeking to clarify whether the potential for in-combination effects could exist in these circumstances. e) Can the Applicant please explain how in-combination effects have	sites and features (as noted in (c) above) and assessed as appropriate within the revised RIAA, for issue at Deadline Specifically, accidental pollution has been assessed for the following sites for all phases of the development: Thanet Coast SAC; Sandwich Bay SAC; Thanet Coast and Sandwich Bay SPA; and Thanet Coast and Sandwich Bay Ramsar. There is therefore no outstanding contradiction. E. Section 9 of the Screening Report issued in September 2017 (PINS Ref APP-032/ Application Ref 5.2.1) summarised the criteria to be applied when identifying projects for consideration in-combination. Section 8 of the RIAA (PINS Ref APP-031/ Application Ref 5.2) provides further detail to the approach taken to screening in-combination, together with the plans and projects identified per receptor. These plans and projects were identified based on a coarse screening tool, namely distance between Thanet Extension and the designated sites considered for LSE alone, that distance being the maximum screening range relevant to the associated features. Section 12 of the RIAA (PINS Ref APP-031/ Application Ref 5.2) then further considered the plans and projects identified within Section 8, through consideration of: • Level of detail available for project/ plans (to help inform the tiering); • Potential for an effect-pathway-receptor link (where no link exists between effect and receptor, no LSE can be

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		been assessed at the screening stage, particularly for those sites and features for which no LSE has been concluded at the screening stage? f) Does Natural England have any comments to make on this point?	concluded, e.g. as informed by the receptor specific screening range and the location/sensitivity of receptors within a designated site); • Potential for a physical interaction (required for consideration of LSE); and • Potential for temporal interaction (required for consideration of LSE). Section 12 of the RIAA (PINS Ref APP-031/ Application Ref 5.2) applied the above criteria to further refine the list of plans/projects identified in Section 8 of the RIAA (PINS Ref APP-031/ Application Ref 5.2), resulting in a list of plans/projects relevant to be considered through the in-combination assessment with Thanet Extension for individual sites/features. The overall aim was to 'determine the plans or projects that may affect the designated sites considered for potential LSE for the project alone' (paragraph 8.1.8 of PINS Ref APP-031/ Application Ref 5.2). Therefore even if the site/feature had been screened out from LSE for the project alone, these sites/features were still considered through screening in-combination. It is the Applicant's position that there is therefore no potential for in-combination effects to exist in these circumstances. The exception to this is marine mammals, as noted in paragraph 8.3.1 of the RIAA (PINS Ref APP-031/ Application Ref 5.2). That exception is based on the distance to all other relevant designated sites from the Thanet Extension boundary, which is such that it removes the risk of an in-combination effect (being

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			145km, the maximum screening distance applied for marine mammals). F. For Natural England to comment.
1.1.4.	The Applicant	Habitats Regulations Assessment: Methodology Section 7.3.2 of the applicant's Report to Inform Appropriate Assessment [APP-031] describes the definition of the study area for sub-tidal and intertidal benthic habitats including consideration of "Designated sites within the maximum range of relevant effect (being up to 14 km from the project boundary)". However, paragraph 5.4.2 of the Benthic Subtidal and Intertidal Ecology chapter of the ES [APP-046] describes an assessment study area of only a 12km buffer from the proposed development site boundary. Paragraph 7.5.11 of [APP-031] also explains "a range of up to 14 km is noted, subsequently amended to 13km in the ES physical processes chapter". a) Can the Applicant explain these	A. The ExA is correct in that there are different ranges applied with respect to benthic ecology. The 14km figure applied to screening in the RIAA, as noted in the RIAA issued in June 2018 (Paragraph 7.5.10 of PINS Ref APP-031/ Application Ref 5.2), was derived from the physical processes PEIR chapter (issued in November 2017, paragraph 2.10.26 of Volume 2, Chapter 2, Marine Geology, Oceanography and Physical Processes), which provides ~13km as being the spring tidal range for the sediment plume resulting from disturbance during construction predicted at that time – 14km was taken on a precautionary basis in the anticipation of the PEIR being refined through to the ES. That 14km distance was applied during screening of sites where benthic habitats were a designated feature, as a worst case scenario of effect. It is noted that the distance was provided in the physical process chapter for the ES, remaining as ~13km (also presented in paragraph 2.10.26 of Volume 2, Chapter 2, Marine Geology, Oceanography and Physical Processes, PINS Ref APP-043/ Application Ref 6.2.2), although the greater 14km range was retained for screening in the RIAA (PINS Ref APP-031/ Application Ref 5.2) as a precaution (although in practice, the different ranges would not make any difference to the sites/features screened in for assessment given their location relative to Thanet Extension).

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		apparent divergences in the study areas? b) Please clarify the bases on which the defined 12/13/14km study areas were derived. c) In terms of adopting a consistent study area, is it appropriate to conclude that a 12km buffer is the extent that has been fully assessed.	B. As regards the 12km range applied in the benthic ecology chapter of the ES (paragraph 5.4.2 of PINS Ref APP-046/ Application Ref 6.2.5), that range was derived from the draft physical processes modelling produced during the drafting of the ES. A 1km difference in range (12km to 13km) would make no difference to the benthic ecology chapter of the ES, since all habitat types that would occur within that range are assessed within the benthic ecology chapter. C. Within the RIAA, the study area that has been assessed is 14 km. This remains the case even when considering the 12km distance assessed in the ES as there would've been no additional habitats assessed with a 14 km study area. Furthermore, a 14 km study area in the ES would have resulted in a small reduction in the magnitude of the impacts from the project as the volumes of sediment displaced would remain the same but spread over a wider area and the associated depth of sediment deposition being less when considered over the whole area. In the same vein, there would also be a reduction in the percentage of habitats temporarily lost/ disturbed by the works at Thanet Extension with a larger study area for the ES which would equates to a potential reduction in the magnitude of the impact. There would be no difference in sites screened in within the RIAA (PINS Ref APP-031/ Application Ref 5.2) regardless of the 12/13/14km screening range – the difference is too small to make a material difference to the designated sites screened in/out of assessment. With regards the ES, the assessment has considered all relevant habitats in any case such that a slight

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			difference in range at the limit of effect has no material effect on the conclusions. Therefore the assessments (both in the ES (PINS Ref APP-046/ Application Ref 6.2.5) and RIAA (PINS Ref APP-031/ Application Ref 5.2)) address the potential for effect on all relevant benthic habitats and that the potential for impact has been fully assessed in both cases.
1.1.5.	Natural England	Habitats Regulations Assessment: Methodology Does Natural England have any observations on ExQ1.1.4 above and the extent of the study area?	The Applicant would refer the ExA to the Applicant's response to 1.1.4, which is clear that the difference in ranges reflects the evolution of the project (and the understanding of the processes) over time. The range applied in the RIAA (PINS Ref APP-031/ Application Ref 5.2) is effectively very precautionary, with the ES reflecting more refined modelling results. In practice, amending either value would have no material difference on the conclusions, as all relevant habitats, sites and features have been assessed regardless of the range (12km, 13km or 14km) applied.
1.1.6.	The Applicant and Natural England	HRA Methodology: Thanet Coast SAC Table 7.11 of [APP-032] (European and Ramsar sites for which LSE cannot be discounted) lists both "Reefs" and "Submerged or partially submerged sea caves" as relevant features. Table 8.1 and Appendix I of [APP-032] describe consideration of both features of the site, but consideration of LSE is only made in	A. Table 8.1 of the Screening Report (PINS Ref APP-032/ Application Ref 5.2.1) does include the feature 'sea caves' for Thanet Coast SAC. However, the consideration of LSE found potential for LSE for the reef feature only and not sea caves for the majority of effects – with the notable exception of accidental pollution and invasive non- native species (INNS), both effects being screened in for LSE for sea caves and reefs for Thanet Coast SAC in Table 8.1 of the Screening Report (PINS Ref APP-032/ Application Ref 5.2.1). During the drafting of the RIAA (as published in June 2018) (PINS Ref APP-031/ Application Ref 5.2), progress was made with regards the embedded mitigation and a decision was made at that time to screen accidental pollution out from LSE for

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		respect of reefs due to the potential physical overlap. The ExA notes that Natural England table 2.2.2 of [RR-053] does not include the submerged caves feature as a concern. Nonetheless, no direct evidence appears to have been provided by the Applicant to explain the exclusion of the sea caves, or how this qualifying feature fits against the criteria in paragraph 7.3.2 of [APP-032]. a) Could the Applicant please explain the basis upon which the "submerged or partially submerged sea caves" feature of the Thanet Coast SAC has been excluded from consideration of LSE, as listed in Table 7.11 of APP-032? b) Could Natural England please identify whether its non-reference to this feature is an oversight, or whether it is content that there is no LSE?	all receptors – resulting in sea caves being screened out from LSE for accidental pollution. Further, INNS were screened out for offshore in paragraph 7.5.8 of the June 2018 RIAA (PINS Ref APP-031/ Application Ref 5.2) and therefore screened out for sea caves at Thanet Coast SAC. Comment is provided in paragraph 7.5.12 of the June 2018 RIAA (PINS Ref APP-031/ Application Ref 5.2), as follows: *'Specifically in relation to the Thanet Coast SAC, the Screening Report considered the potential for effect on all features, however for clarity it should be noted that where potential for LSE was found (with the exception of accidental pollution and INNS, addressed above), this related to the chalk reef feature only and not submerged sea caves – the latter having been screened out of assessment and therefore not included here'* It is of note that the revised RIAA, to be issued at Deadline II, has screened accidental pollution back in for relevant sites/features including sea caves for Thanet Coast SAC, with sea caves therefore assessed for accidental pollution only within the revised RIAA, concluding no AEoI in all cases. However, INNS remain screened out of LSE for all offshore receptors on the basis that the construction of Thanet Extension does not result in the introduction of a new vector for INNS as the project surrounds the existing Thanet Offshore Wind Farm, therefore, only providing a minor increase to any potential for spread of INNS to that of TOWF and does not introduce a new pathway. The screening and integrity matrices will also be updated for

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			Deadline II to reflect these changes. B. The Applicant would clarify that the exclusion of sea caves in the June 2018 RIAA (PINS Ref APP-031/ Application Ref 5.2) was not an oversight, but purely a function of the screening process as described in a) above. LSE has subsequently been screened in for accidental pollution within the revised RIAA (for submission at Deadline II).
1.1.7.	The Applicant	HRA Screening and Integrity Matrices: Reference to Evidence: The HRA screening and integrity matrices currently contain minimal references to the evidence in the supporting documents, and where it is provided: reference is typically not made to specific paragraphs. a) Please could the Applicant update the screening and integrity matrices presented as part of [APP-033] to provide further cross-referencing to specific paragraphs / tables / figures in the ES chapters and HRA Report. b) Can the Applicant please ensure that the screening matrices present all qualifying features of the sites within the body of the matrix itself	A. The Applicant apologises for providing insufficient cross referencing. The Screening and Integrity Matrices are being updated for issue with the revised RIAA at Deadline II. Additional cross referencing will be added. B. All features associated with designated sites will be checked for the revised matrices to be issued at Deadline II and where missing will be added.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		(for example, the "submerged or partially submerged sea caves" feature of the Thanet Coast SAC does not appear in Matrix 1 of APP-033).	
1.1.8.	Natural England	HRA Screening and Integrity Matrices: Coverage The ExA notes that Natural England has specifically raised the European sites for which outstanding concerns remain in section 2.2 of [RR-053] (with further details later within that document). Specific confirmation as to any other concerns with LSE or adverse effect on integrity (AEoI) conclusions in respect of any of the European Sites would greatly assist the ExA. a) Does Natural England have any specific comments on the Applicant's HRA screening and integrity matrices submitted in [APP-033]? In particular, has the Applicant screened in the correct features and taken the relevant ones forward to appropriate assessment to their	A. It is the Applicants understanding, based on consultation during the drafting of the screening report (PINS Ref APP-032/ Application Ref 5.2.1) and RIAA (PINS Ref APP-031/ Application Ref 5.2), that all sites and features that Natural England expect to see have been screened in for assessment (i.e. all sites/features that should be identified for LSE have been, with the revision of the RIAA for Deadline II amending conclusions on LSE for accidental pollution to conclude LSE and follow through with a full assessment). As regarding the sites for which Natural England have outstanding concerns (identified in section 2.2 of [RR-053]), the Applicant would comment the following in each case. • Thanet Coast and Sandwich Bay SPA – addressed in the Applicants response to Questions 1.1.15, 1.1.37, 1.1.38, 1.1.39 and 1.1.40 and the SoCG with Natural England. • Outer Thames Estuary SPA – addressed in the Applicant's response to Question 1.1.11 and the SoCG with Natural England. • Flamborough and Filey Coast pSPA – addressed in the SoCG with Natural England. • Southern North Sea cSAC - addressed in the Applicant's response to Question 1.1.18, 1.1.22 and 1.1.27 and the SoCG with Natural England.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		satisfaction? b) This may form part of the statement of common ground between Natural England and the Applicant.	• Thanet Coast SAC - addressed in the SoCG with Natural England. • Margate and Long Sands SAC - it is noted that during a meeting between Vattenfall and Natural England on 5th October 2018 to discuss SoCG clarification was sought regarding on this point – Natural England were uncertain as regards the basis for the concern flagged, but considered it likely to be an erroneous inclusion. • Thanet Coast and Sandwich Bay Ramsar – addressed in the Applicants response to Questions 1.1.15, 1.1.37, 1.1.38, 1.1.39 and 1.1.40 and the SoCG with Natural England. B. A Statement of Common Ground is being drafted between the Applicant and Natural England which includes reference to the Report to Inform Appropriate Assessment and other application documents where relevant.
1.1.9.	The Applicant and Natural England	Offshore Ornithology: Collision Risk Modelling The applicant explains that due to uncertainties in data collected and reported by the Offshore Renewables Joint Industry Programme (ORJIP) none of the assessments undertaken by the applicant use the ORJIP data (4.1.142 of APP-045). As a result, the applicant's collision risk modelling is based on the Band (2012) ("Option	A separate note provided in response to Natural England's relevant representation (Annex F to Appendix 1 of this Deadline 1 submission) provides the detailed explanation as to why data from the ORJIP Bird Collision Avoidance project was not incorporated into the CRM assessments within the ES Chapter. Due to ongoing uncertainties in the application of the ORJIP data to the Band (2012) collision risk model Options, which are still apparent at the time of this submission (early January 2019) and with little guidance from the SNCBs on the most appropriate use of the ORJIP data in different Band (2012) model Options, there are no plans for the

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		2") model using only generic bird flight height data (although the applicant explains that Band "option 1" data is also presented as part of the collision risk modelling). In paragraph 5.3.1.10 [RR-053], Natural England states that site specific data could make a "significant difference in the number of predicted mortalities from collision". RSPB raises similar points regarding the use of specific flight height data from the ORJIP study to inform the CRM. a) Please could the applicant respond in detail to the points raised by Natural England and RSPB. b) Could Natural England please set out its position in respect of how any such "significant differences" in the collision risk modelling outputs may have a bearing on the applicant's conclusions in respect of the conclusions of adverse effects on the integrity of the relevant European	Applicant to use these data. It is the considered view of the Applicant that there is a very low likelihood of large changes in the scale of the CRM outputs resulting from the use of ORJIP data to the extent that the assessment would change from being not significant in EIA terms to being significant. This is because the recorded density of flying birds is very low within the Thanet Extension site across all biological seasons.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		sites (from the project alone and in-combination).	
1.1.10.	Natural England	Offshore Ornithology: Use of the Band (2012) Collision Risk Model The use of the Band (2012) Collision Risk Model for offshore ornithology [APP-048], while agreed as the most appropriate with Natural England, is currently under review by Natural England and Marine Scotland, and new guidance is due to be published. • Please can Natural England provide commentary on the applicant's use of the Band (2012) Collision Risk Model and its suitability given that it is currently under review?	It is the understanding of the Applicant that the underlying method of the Band CRM is not 'currently under review'. The Applicant understands that a new software package for inputting data in to the Band model and for that package to facilitate the inclusion of variation (uncertainty) in certain input parameters has been prepared under contract to Marine Scotland. This is the Marine Scotland 'Stochastic Collision Risk Model for Seabirds in Flight' with the software package available at this website: https://dmpstats.shinyapps.io/avian_stochcrm/. The Applicant understands that the outputs from this software package are identical to the Band CRM when parameters are input that have only fixed, single values. The Applicant was informed at a meeting with Natural England that the software package is a 'beta model' and as such guarantees about its performance cannot be provided. To the extent that the software package is not fully tested it can be considered to be 'currently under review' and written guidance on its use might be expected at some point from the SNCBs. The validity of the outputs from the Band CRM model when run in MSExcel with single sets of parameters remains unchanged.
1.1.11.	The Applicant and Natural England	Offshore Ornithology: Displacement Effects on Red-Throated Divers The Applicant's approach to the assessment of displacement effects on red-throated divers has made assumptions based on construction	**a & b)** The Joint SNCB Interim Displacement advice note provides generic guidance on displacement for a range of seabirds in response to activities associated with the construction and operation of offshore wind farms. It does, however, advocate that where site-specific evidence is available it should be used in assessments in addition to the more generic ranges, the latter of which were all provided in Volume 4,

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		monitoring surveys for Thanet Offshore Wind Farm which found that that there was no displacement of red-throated divers beyond the site boundary. Natural England's view is that 100% displacement should be assumed out to a distance of 4km from the site [RR-053] during construction and operation of the proposed development. The RSPB also highlights a divergence in methodologies between the Applicant's approach to displacement assessment and the Joint SNCB Interim Displacement advice note [RR-057]. Given the apparent difference between these methodologies, the ExA is unclear about the evidential basis upon which any appropriate assessment of the project (alone and in-combination) can be made in respect of the relevant sites for which red-throated diver is a qualifying feature.	Annex 4-3: Range of Displacement Matrices for Seabird Species Recorded in Thanet Extension (PINS Ref App-079/ Application Ref 6.4.4.3) of the Environmental Statement. In response to queries over the use of post-consent monitoring data collected at Thanet Offshore Wind Farm (OWF) a further note submitted in response to Natural England's relevant representation (submitted as Annex D to Appendix 1 of this Deadline 1 submission) provides additional assessments through an evidence led approach. The evidence in this note makes use of site-specific data from Thanet OWF, Kentish Flats Extension OWF and that collected for Thanet Extension which covered the operational site of Thanet OWF. The above Annex (Annex D to Appendix 1) provides additional variation on displacement rates using data collected from the sources referred to above in order to support the original assessments within the ES Chapter (PINS Ref APP-045/ Application Ref 6.2.4) accounting for red-throated diver displacement. This additional note (*ibid*) has undergone revision following consultation on the initial draft with Natural England. c) C&d) For Natural England to provide a response. **e)** With respect to the final question on red-throated diver and potential in-combination effects this is covered in a separate note (Annex C to Appendix 1 of this Deadline 1 submission) that contains further detail on how the in-combination assessment has been undertaken and the conclusions reached. That additional note (*ibid*)has been reviewed, revised and updated following consultation with Natural England.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		a) Please could the Applicant respond to the specific concerns raised by Natural England and RSPB in this regard, with clear reference to the underpinning evidence. b) Where the methodology has varied from that advocated within the Joint SNCB Interim Displacement advice note, can the Applicant provide further explanation as to the reasons for this. c) In order that it is before the ExA and all interested parties, can Natural England please submit a copy of the document referred to as "Joint SNCB Interim Displacement Advice Note: Advice on how to present assessment information on the extent and potential consequences of seabird displacement from Offshore Wind Farm (OWF) developments" and explain its status? d) Natural England's comment in relation to point 11.4.14 (page 11 of [RR-053]) is ambiguous. Please could it provide clarified wording in	

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		respect of construction and operational effects? e) In light of the Applicant's approach to the assessment of in-combination effects of displacement of red-throated diver (paragraphs 12.4.11 – 12.4.34 of [APP-031]), and the representations of Natural England [RR-053] and the RSPB [RR-057], can the Applicant provide a response to the points raised by these two bodies to further explain how the in-combination assessment has been undertaken and conclusions reached.	
1.1.12.	The Applicant	Offshore Ornithology: Displacement Effects on Guillemot and Razorbill Natural England has expressed a view that the assessment of displacement effects on guillemot and razorbill during construction and operation should follow its guidance and be extended from a 1km to 2km distance from the proposed development site boundary. • The Applicant is requested to	The Joint SNCB Interim Displacement advice note provides generic guidance on displacement for a range of seabirds in response to activities associated with the construction and operation of offshore wind farms. It does, however, advocate that where site-specific evidence is available it should be used in assessments in addition to the more generic ranges, the latter of which were all provided in Volume 4, Annex 4-3: Range of Displacement Matrices for Seabird Species Recorded in Thanet Extension (PINS Ref App-079/ Application Ref 6.4.4.3) of the Environmental Statement. It is possible that Natural England did not review the original displacement matrices that were provided in ES Annex 4-3 (PINS Ref

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		provide the relevant updated displacement matrices (to supplement those presented in section 11.4 of [APP-031])such that the Examining Authority and parties to the examination can consider the potential range of displacement effects that may arise between the Applicant's and Natural England's advocated approaches.	APP-079 / Application Ref 6.4.4.3). For clarity these matrices are presented again in Annex E to Appendix 1 of this Deadline 1 submission. In response to Natural England's Relevant Representation (RR-053) that questioned the use of post-consent monitoring data collected at Thanet OWF, additional supporting evidence is provided in Annex E to Appendix 1 of this Deadline 1 submission. The evidence in this note makes use of site-specific data from Thanet OWF and that collected for Thanet Extension, which also covered the operational site of Thanet OWF. Annex E to Appendix 1 provides additional variation on displacement rates using data collected from the sources referred to above in order to support the original assessments within Volume 2, Chapter 4 (PINS Ref APP-045/ Application Ref 6.2.4) of the Environmental Statement accounting for gannet and auk displacement. This additional note is currently undergoing revision following consultation on the initial draft with Natural England.
1.1.13.	The Applicant and Natural England	Offshore Ornithology: In-Combination Assessment – Other NSIPs The ornithological in-combination assessment assigns other projects to a "tier" depending on the certainty of their delivery. Both Hornsea Project 3 and Norfolk Vanguard are presented as tier 4 projects in Table 8.4 of [APP-031], which does not reflect the fact that both applications for development	Tier 4 is defined as 'submitted applications not yet determined', so the classification of both Hornsea P3 and Norfolk Vanguard are categorised correctly according to the Tiering system applied in the Report to Inform Appropriate Assessment (PINS Ref APP-031/ Application Ref 5.2). Categorisation as Tier 4 means that 'low confidence' can be placed in the quantitative contribution that these projects make to the in-combination assessment since there are several further iterations that the project will go through (e.g. amendments at the Hearing stage, amendments at detailed design stage and amendments based on award of contract for difference) before it is constructed and its predicted impacts might be realised.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		consent have now been submitted. • Please could the Applicant and Natural England advise the ExA as to intended updates to the in-combination assessment in respect of disturbance, displacement and collision risk effects in light of these changes, and the relevant sites and features for which these apply?	An updated RIAA is to be submitted at Deadline 2 but. However, as since the Tier categorisation of these two projects has not changed, there is no proposal to change the in-combination assessments with respect to the contribution of these two projects.
1.1.14.	The Applicant	Offshore Ornithology: In-Combination Assessment - Other Projects Paragraph 8.5.4 of [APP-031] states that (in respect of the offshore ornithology in-combination assessment) "Projects related to marine aggregate extraction, port dredgings disposal, oil and gas extraction, pipelines, shipping, coastal developments and commercial fisheries have been screened out on a series of factors including those that do not overlap spatially with Thanet Extension, those that do not give rise to effects that are cumulative with relevant effects from Thanet Extension, those that are recurring or ongoing from	The Applicant can confirm that the text about the screening process that is provided in Paragraph 8.5.4 of the Report to Inform Appropriate Assessment (PINS Ref APP-031/ Application Ref 5.2) does only apply to the offshore ornithology assessment.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		before the baseline period and those that are ongoing activities rather than projects with a consenting process" • Could the applicant confirm that this paragraph was only intended to apply in the context of the offshore ornithology assessment (on the basis that such a statement is only made under section 8.5 of the RIAA, and not in sections 8.2 or 8.3, for example)?	
1.1.15.	The Applicant and Kent Wildlife Trust	Offshore Ornithology: Screening in Relation to Saltmarsh Habitat Paragraph 7.5.29 of [APP-031] states that "Temporary disturbance/ loss of intertidal habitat used by non-breeding European golden plover and ruddy turnstone (during construction and O&M) remains screened in and is addressed as part of the benthic intertidal assessment." Paragraph 7.5.25 of [APP-031] screens out the permanent loss of saltmarsh habitat in terms of these qualifying features.	The Applicant can confirm that it proposes to remove landfall Option 2 has been removed from the project envelope and as such there is no longer be any long term loss of saltmarsh during the operational phase of the project. On the balance of evidence within Pegwell Bay drawn from the existing Thanet OWF, and other regional experience, it is the Applicants position that through adherence to the saltmarsh management and monitoring plan recovery will be complete. This is particularly of note when considering the success following installation of the Thanet OWF cables to the north of Pegwell Bay.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		On the basis that salt marsh is a supporting habitat for European golden plover and ruddy turnstone (qualifying features of the sites), Natural England states that the permanent loss during long term operation should be considered as a likely significant effect (LSE), and that the competent authority will need to consider an appropriate assessment in this respect. Natural England considers that the success of restoration in their post-construction experience of similar situations is not such that a total recovery (and therefore no permanent loss) can be assumed and LSE ruled out. • Can the Applicant and Kent Wildlife Trust please respond to these points?	
1.1.16.	The Applicant	Offshore Ornithology: Screening in Relation to Barrier Effects Table 7.3 of the HRA screening report [APP-032] defines the potential for barrier effects (as "The presence of the	Further justification that barrier effects are not likely to be significant can be found in Paragraphs 4.1.153 to 155 of Volume 2, Chapter 4: Offshore Ornithology (PINS Ref APP-45/ Application Ref 6.2.4) of the Environmental Statement with those paragraphs providing summary information about, and reference to, five peer reviewed ornithological

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		operating Thanet Extension could potentially create a barrier to seasonal migratory movements and/ or regular foraging flights"). Table 8.1 of [APP-032] then concludes (on the basis of post-construction studies at operating Offshore Wind Farms) that barrier effects are not assessed as significant, and this potential effect is then not carried forward into the Report to Inform Appropriate Assessment. • Can the Applicant clarify where further justification is provided in the application documents to support the conclusion that barrier effects are not likely to be significant?	publications. The conclusion made in that ES Chapter (Paragraph 4.1.155) was that the significance of the barrier effect for all species assessed was 'negligible adverse'.
1.1.17.	The Applicant	Marine Mammals: Methodology Natural England highlights the value in the JNCC's Joint Cetacean Protocol data with regard to harbour porpoise densities. • Can the applicant explain the extent to which this dataset has	As regards the RIAA (section 1.3 of (PINS Ref APP-031/ Application Ref 5.2)), baseline data is not presented to avoid repetition between project reports, with the relevant project literature referenced instead. Therefore the comment refers to the ES only, with the question addressed in Natural England's Relevant Representation (NE-94). In brief at the time of writing the Thanet Extension ES, there was concern regarding the JCP Phase III densities obtained from the JNCC R software code, as the densities calculated from the code did not match the data

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		been considered as part of the EIA and the RIAA? If it has not been considered, why not?	provided in the corresponding JNCC density surface maps. This meant that the Applicant did not have confidence in basing any quantitative assessment on these values, but they were presented in the baseline for information. Since then, JNCC have confirmed that the error was with the density surface maps and that the R code should be providing the correct density estimate for the user specified area. Therefore, the worst case behavioural disturbance scenario (monopile 5,000 kJ at the East Location) has since been modelled using the average JCP Phase III density estimate of 1.16 porpoise/km^2. A note detailing the results of this assessment is presented in Annex G to Appendix 1 of this Deadline 1 submission. The conclusion of this modelling was that there was no material change to the assessment and the impact significance remains minor.
1.1.18.	The Applicant	Marine Mammals: In-Combination Assessment Paragraphs 12.3.14 – 12.3.19 of [APP-031] explain the approach to the assessment of in-combination effects on marine mammals, and that due to uncertainties in overlapping programmes, tier 2 projects (and above) are excluded from consideration. Because of the Contract for Difference process, Natural England is of the view that other tier 2 projects identified could	The Applicant retains the position that the extreme uncertainty around Tier 2 projects means their inclusion within an in-combination assessment would be excessively precautionary. However, the Applicant recognises the concerns of Natural England based on the RIAA as issued in June 2018 (PINS Ref APP-031/ Application Ref 5.2) and can confirm that the RIAA is being redrafted and will be issued at Deadline II. As part of that redrafting, the marine mammal in-combination assessment has been revisited and the Applicant can confirm that where new information has become available in the public domain regarding projects in-combination (including activities, timescale and project) since June 2018 and until mid December 2018, the assessment has been amended to reflect that.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		overlap with Thanet Extension. Whilst the ExA recognises the applicant's position that there is "extreme uncertainty regarding the potential for the Tier 2, 3 and 4 offshore wind farm projects to come forward in their current form and at a timescale where piling would overlap with UXO clearance and/ or piling activity at Thanet Extension", the information to inform an appropriate assessment must be based on a sufficiently precautionary approach. • Please provide the ExA with a response to Natural England's (RR-053) regarding the exclusion of tier 2 projects.	The Applicant can also confirm that the Southern North Sea cSAC/SCI harbour porpoise in-combination assessment will be revised based on Thanet Extension plus Tier 1 projects (as per the document issued with the application in June 2018 PINS Ref APP-031/ Application Ref 5.), together with Thanet Extension plus Tier 1 and Tier 2 projects, in response to the concerns raised by Natural England. The Applicant can also confirm that a Site Integrity Plan has been drafted and will also be issued at Deadline II to accompany the revised RIAA, to provide certainty in the conclusions of no adverse effect on integrity drawn throughout the revised RIAA with respect to the Southern North Sea cSAC/SCI, including the conclusions in-combination with Tier 1 and Tier 2 projects. The revisit of the in-combination assessment did not identify any Tier 3 or Tier 4 projects with the potential to contribute to an effect in-combination with Thanet Extension (based on project location and/or timescale).
1.1.19.	The Applicant	Marine Mammals: Piling Noise Effects Natural England's relevant representation suggests that the maximum hammer energy used for piling assessed in the ES should be set out within the design parameters of the DCO and DMLs with a view to	A. The Applicant can confirm that: i. the parameters proposed, i.e. the maximum parameters of the foundations and the maximum hammer energy, are proposed on the basis of experience in the construction of OWFs and through an understanding of the technologies likely to be available at the proposed time of construction. These parameters are in turn used

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		ensuring that noise generated by piling activities does not exceed that assessed within the ES. Similarly, the noise effects of UXO detonation assessed in the ES do not appear to be addressed within the DCO or DMLs. a) With particular regard to proposed hammer energies used during the construction phase and the effect on marine mammals, could the applicant please: i. justify the parameters used during the worst case assessment, ii. confirm how these parameters would be secured within the DCO/DML; and, iii. address any discrepancies that exist between the DCO and the assessment in the ES in this regard. b) With regard to the mitigation of noise effects of UXO detonations, please can the applicant describe how a UXO-MMMP (as referenced in table 6.1 of [APP-031]) would be secured.	to inform the modelling of underwater noise which informs the assessment.; ii. The presentation of these parameters is a requirement of the relevant Construction Method Statements, the provision of which is secured within Condition 12(1)(c) of the Generation Assets dML, and Condition 10 (1)(c) of the export Cable Systems dML. The CMS documents are required to demonstrate that the construction methods used at the time of construction are in accordance with those assessed within the ES. Using hammer energy as an example, it is standard practice refer to the hammer energy value consented, the proposed hammer energy to be used for construction, and account made for any discrepancy between the consented and proposed value where necessary (i.e. if the parameters are greater and therefore not in accordance with those assessed within the ES the Applicant would need to demonstrate to the regulator (MMO) that there is no material change in the findings of the assessment as a result of the change in parameter).. iii. It is the Applicant's position that there is no discrepancy in this regard B. The Applicant is not including UXO detonation within the draft Order as applied for. This is because it is not possible at this stage to accurately foresee the exact number of UXO detonations that will be required. As such, the final numbers of UXO requiring clearance for the Project will be confirmed by pre-

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			construction site investigations. If required, a separate Marine Licence for UXO detention will then be applied for and this will include the necessary condition to secure a UXO-MMMP. The MMO will have full control over any such licensable activities.
1.1.20.	The Applicant	Marine Mammals: Construction Noise Assessment The noise impact assessment contained in [APP-048] is based on the worst-case design scenario as at this stage in the project design there is not sufficient information available to inform a full pile drivability assessment across the site. • Please can the applicant provide an update on the full pile drivability assessment, including the likely timeframe within which it is envisaged that this will be undertaken in order to refine the assessment in the ES?	A full pile drivability assessment will require site wide pre-construction geotechnical survey and confirmation of the design of foundations. As such this will not be available until pre-construction. There is however sufficient information available through reference to the existing Thanet OWF and other UK developments to be confident that there is sufficient information and understanding for an assessment to be undertaken of the worst case scenario for any foundation design.
1.1.21.	The Applicant	Marine Mammals: Noise Reduction Technologies The Marine Management Organisation states that noise reduction technologies, such as	A requirement for mitigation is driven by the level of impact. Effectively, mitigation is required where an impact exceeds an acceptable level. Marine mammal mitigation is provided for within the Marine Mammal Mitigation Protocol (MMMP PINS Ref APP-146/ Application Ref 8.11) to address the risk of injury. Consideration of further mitigation (namely

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		bubble curtains and acoustic barriers should be considered as a primary means of reducing the acoustic impact of pile driving operations. • Could the applicant please explain what consideration has been given to the use of these at source noise reduction technologies to mitigate the effects on marine species?	noise mitigation at source), which would only therefore be required should the risk of disturbance exceed acceptable levels, is addressed in response to Natural England's relevant representation NE-102. It is considered that there is no driver for such a mitigation strategy and in any case, there would be no change to the existing conclusion of the ES should such mitigation be instigated (referenced in Table 7.44 of Volume 2, Chapter 7: Marine Mammals, PINs Ref APP-048 /Application Ref. 6.2.7).
1.1.22.	The Applicant and Natural England	Marine Mammals: Deemed Marine Licence (DML) Condition Wording Natural England has suggested amendments to the wording of Condition 16 of the DML at Schedule 11 to, in effect, provide for the cessation of piling activity in the event that construction noise monitoring shows a significantly different impact to that assessed in the ES. a) Can Natural England please comment on this proposed change in respect of the conclusions of AEoI to the Southern North Sea cSAC and other relevant sites (alone and in	A) This question is noted as for Natural England. The Applicant wishes to note that the proposed wording is no longer considered to be the position of Natural England. Furthermore, it is the position of the Applicant that the ability to request cessation of works would not materially alter the conclusions of the Report to Informa Appropriate Assessment with regards effects on the Southern North Sea cSAC. B) As detailed in response to Natural England's RR 49 and MMO's RR 70 it is understood that this no longer represents Natural England 's position (or that of MMO). The proposed wording was brought forward due to uncertainty in the monitoring results associated with another OWF in construction at the time of writing the representation (summer 2018). Immaterial of this change in position it is the Applicant's position that a condition worded with the amendments suggested is unnecessary. The MMO have the ability to enforce a cessation order at any time, and this enforcement mechanism is understood to have been

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		combination)? b) Please could the applicant confirm whether or not it is agreeable to the revised condition wording proposed by NE? • If not, why not? • Is there alternative wording that would be acceptable to both parties?	suggested for the OWF which was in construction at the time of drafting the representation. A further condition explicitly making reference to powers already held by a regulatory authority would therefore not be required. With regards alternative wording on this matter, it is not considered necessary to have any wording for the reasons identified above.
1.1.23.	Natural England, the Applicant and Marine Management Organisation	Marine Mammals: Soft Start Piling Soft start piling is proposed as one form of mitigation for the possible construction noise effects on marine mammals. Natural England's relevant representation refers to emerging evidence that soft start may not be as effective a form of mitigation as previously thought. a) Please could Natural England provide further detail about the latest evidence in this regard? • What does Natural England consider to be the specific implications for Thanet Extension Offshore Wind Farm? b) Could the applicant and Marine	A) As noted in response to ExQ 1.1.22 the Natural England (and MMO) RR reference to uncertainty with regards the effectiveness of soft start piling is understood to be related to the monitoring associated with a different OWF. It is the Applicant's understanding that the emerging evidence referred to by Natural England relates to an OWF under construction in the summer of 2018 that was subject to monitoring challenges which were subsequently addressed to the satisfaction of Natural England and MMO by the developer in question. B) Please note the Applicant's response to part A of this question. C) Soft start piling is presented as a mitigation measure within section 4.5 of the draft Marine Mammal Mitigation Plan (MMMP) (PINS ref APP-146/ Application ref 8.11). The MMMP is secured in the deemed marine licences (dMLs) within the draft Development Consent Order (DCO) (PINS ref APP-022/ Application ref 3.1), specifically in Condition 12(1)(f) of Schedule 11 (Generation Assets dML) and Condition 10(1)(f) of Schedule 12 (Export Cable System dML).

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Management Organisation please respond to Natural England's relevant representation on this matter? c) Please can the applicant demonstrate how mitigation in the form of soft start piling would be secured within the DCO / DMLs?	
1.1.24.	The Applicant	Piling Noise Assessment: Harbour Porpoise Paragraphs 7.4 and 7.5 of the Marine Management Organisation's relevant representation query the use of mean predicted impact ranges, as opposed to maximum impact ranges, in the piling noise assessment for harbour porpoise. • Could the applicant please confirm which impact range it considers to be appropriate in this context and why?	As per the Applicant's response to the MMO relevant representation (MMO-159) the Applicant can confirm that the MMO is correct. The PTS ranges presented in Tables 7.25 and 7.26 of the ES are the mean ranges not the maximum. The mean range was presented in the ES as it is important to note that the mean ranges present an indication of the risk averaged out across all the directions and smooths out the effect of predicted local variations in noise propagation conditions. As such, the average impact ranges present a better indication of the overall risk averaged over space and time. The maximum range indicates the total maximum distance of the impact range but is only accurate for a small number of possible trajectories from the piling site. The impact areas are asymmetrical and as such, use of the maximum range significantly overestimates the overall general extent of the impact. However the MMMP and EPS risk assessment will be updated post-consent to present both mean and maximum ranges before submission to the relevant authorities for approval.
1.1.25.	The Applicant	Cumulative Underwater Noise Effects on Harbour Porpoise: Residual Effects	The initial finding of potential moderate significance resulted from an assessment of medium magnitude combined with a medium assessment of sensitivity. The magnitude assessment of medium was

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		The cumulative effects assessment [APP-039] identifies potentially significant adverse residual effects in terms of cumulative underwater noise impacts on harbour porpoise (as summarised in Annex 3-1 of the ES), but with "no significant long term effect on the size or health of the population". • Please can the applicant provide clarity as to how it is possible to identify potentially significant adverse residual effects and then conclude no significant long term effect.	based on considering the summed number of individuals across all Tier 1 and 2 projects in the cumulative effects assessment, which was a total of 31,455 individuals potentially experiencing disturbance. However, on the basis of current available evidence, expert judgement and modelling exercises, it is not predicted that this level of disturbance, which although potentially affecting a relatively large number of individuals, will result in a significant long term change in the size or trajectory of the harbour porpoise population (Tougaard et al. 2014, Booth et al. 2017, Nabe-Nielsen et al. 2018). In particular, since the production of this ES more recent population modelling using the DEPONS model has demonstrated that the North Sea harbour porpoise population was not affected by the construction of 65 offshore wind farms within the North Sea (Nabe-Nielsen et al., 2018). The modelling results demonstrated that, at the North Sea scale, the population dynamics of the impacted population was indistinguishable from the un-impacted (baseline) population under realistic scenarios. Even when assuming extreme responses, including those which have never been observed in relation to offshore wind farm construction, of large scale displacement of animals to 200 km from the pile driving, resulted in short term effects, with the population size returning to baseline levels shortly after the end of the construction period. Based on this new evidence the Applicant considers the cumulative impact of pile driving on harbour porpoises as being of minor significance.
1.1.26.	The Applicant	Cumulative Underwater Noise Effects on Harbour Porpoise:	Paragraph 7.14.40 of Marine Mammals ES chapter (PINS Ref APP-048/ Application Ref 6.2.7): If the impact of Thanet Extension were to be

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		Mitigation The cumulative assessment predicts that Tier 1 and Tier 2 projects may affect 9% of the harbour porpoise population through disturbance/displacement from underwater noise, and this would lead to a moderate adverse effect on harbour porpoises. The ES states that no additional mitigation is identified, as the relative contribution of the proposed development to the cumulative effect is very low, such that were the impact of the proposed development to be removed, a moderate adverse effect would still be predicted based on the other projects assessed a) Please could the Applicant provide additional justification for the position that no further mitigation is able to decrease the cumulative effect to below moderate? b) If these effects are based on a	removed from this cumulative assessment, a moderate adverse effect would still be predicted for harbour porpoise based on the levels of impact from the other projects considered. Given this, it would not be possible to reduce this conclusion from a Moderate significance in EIA terms by the application of any mitigation specifically at Thanet Extension. A. Even if Thanet Extension were removed from the cumulative assessment, the total number of animals predicted to be affected cumulatively across Tiers 1 and 2 would reduce from 34,455 to 29,575, reducing as a percentage of the population from 9.1% to 8.6%, which is not a material difference. A moderate adverse effect would still be predicted from the combined T1 and T2 projects included in the assessment (under the worst-case concurrent piling scenario). Therefore there are no Project specific mitigation methods that can reduce this significance level as it is very much driven by other Projects. However given the evidence referred to above, it is important to highlight that although 9% in terms of the proportion of the population may be considered a medium magnitude, this is very unlikely to lead to a long term effect on the population. B. As per the Applicants response to Natural England's relevant representation NE-381: The concurrent cumulative scenario is wholly unrealistic, as such numbers do not take into account any spatial overlap in affected areas between projects and does not consider that any effects on individuals are likely to be temporary, reversible and short term. Concurrent piling across

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		"worst case" scenario, is this conclusion the same for all of the foundation piling options? Could the Applicant please provide further detail in this regard.	multiple sites at once is considered unrealistic as there are not enough piling vessels in existence for multiple overlapping concurrent piling scenarios to be realised. However, if we were assessing single vessel piling across Tier 1 and 2 (including Thanet Extension), this would result in a total impact to 5.6% of the porpoise population. This would be assessed as low magnitude and combined with a medium sensitivity, would result in an impact of minor significance. Without the effect of Thanet Extension the equivalent figure is a total impact to 5.1% of the porpoise population, similarly not considered a material difference.
1.1.27.	The Applicant, Natural England and Marine Management Organisation	Southern North Sea cSAC: Review of Consents The ExA is aware that a Review of Consents in respect of the Southern North Sea cSAC is being undertaken1, and that the Department for Business, Energy & Industrial Strategy (and the Marine Management Organisation) has published a draft HRA for consultation. • Taking this into account, can the Applicant, NE and the Marine Management Organisation provide further comments on potential in-combination disturbance impacts to	The Applicant is aware of the Review of Consents (RoC). The Applicant would stress that the document is a draft and issued for consultation. The Applicant would also highlight the overriding conclusion of no adverse effect, alone and in-combination, drawn by the report. The Applicant would also highlight that limited reference to Thanet Extension is made in the report, with comment on Thanet Extension made in Table 2 of the RoC (see Appendix II). This states that an application has been submitted, and that there is no requirement to review the consent in the RoC since as the application was made following the designation of the cSAC and no consent decision was available to review. The RIAA submitted in June 2018 (PINS Ref APP-031/ Application Ref 5.2) made full consideration of the Southern North Sea cSAC, alone and in-combination, including assessment of disturbance impacts on harbour porpoise, and concluded no AEoI in all cases. The Applicant can

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		marine mammals of the Southern North Sea cSAC?	confirm that the revised RIAA, to be issued at Deadline II, will includes an updated in-combination assessment, taking account of project progress and changes in-combination since that date and until mid-December 2018, together with further consideration of Tier 2 projects. The methodology applied to the assessment within the RIAA (PINS Ref APP-031/ Application Ref 5.2) and revised RIAA follows that applied in previous such reports and Appropriate Assessments issued by BEIS (for example see Appendix II) and the MMO (for example see Appendix III), with Natural England agreeing the assessment approach during the Evidence Plan process (see HRA Technical Panel Meeting Minutes dated 02/10/17 contained in PINS Ref APP-138/ Application Ref 8.5.1). The Applicant considers the assessment of disturbance with respect to harbour porpoise and the Southern North Sea cSAC, as presented in the RIAA (PINS Ref APP-031/ Application Ref 5.2) and the forthcoming RIAA, to be full and complete and in compliance with the requirements of Natural England.
1.1.28.	The Applicant	Offshore Ecology: Fish and Fisheries The Marine Management Organisation raises a number of detailed matters in respect of the assessment of effects on fish ecology and fisheries. a) Please could the applicant provide a table which responds in turn to the points raised by the Marine Management Organisation in	A table of responses to the points raised by the MMO in its Relevant Representation (RR-049) (paragraphs 6.2 to 6.17) in relation to the assessment of effects on fish ecology is included at Appendix 1 (Applicant's response to Relevant Representations) to this Deadline 1 submission. In brief, it is the Applicant's position that the findings of the assessment conclude that the potential impacts are not significant. It is understood from the MMO's relevant representation, and the draft Statement of Common Ground, that these conclusions are agreed with the MMO. In light of the impacts being not significant there is no further need for

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		relation to assessment of the effects on fish ecology (in particular Herring, Sole and Sandeel) at paragraphs 6.2-6.17 of its relevant representation (RR-049).	mitigation measures, any such measures would be disproportionate given the scale of predicted effect. It is further worthy of note that the assessment is based on the best available data, approved noise metrics, and as such there is limited uncertainty in the assessment.
1.1.29.	The Applicant	Offshore Ecology: Shellfish The Marine Management Organisation considers that the data indicates that the magnitude of the impact from loss or restricted access to traditional fishing grounds on the potting fleet should be increased from 'minor' to 'medium'.	The potting fishing grounds data illustrated in Figure 3.8 of Annex 9-1: Commercial Fisheries Technical Report (PINS Ref APP-088/ Application Ref 6.4.9.1) was collated by Thanet Fishermen's Association (TFA). This identified potting grounds as being very close to and within the development site. The subsequent Succorfish data obtained during 2017 from TFA members' vessels (Figure 3.21 – 3.29 *ibid*) illustrated that vessels work a wider range of grounds, several of which move through the array area in order to work grounds beyond the site. It is acknowledged, however, that one vessel appears to work along the eastern edge of the site boundary and another in the north-west corner. As listed in Paragraphs 9.17.11 - 9.17.14 of Volume 2, Chapter 9: Commercial Fisheries (PINS Ref APP-050/ Application Ref 6.2.9), the UK potting fleet has a medium sensitivity due to restrictions on operational range, available grounds etc. However, the magnitude is assessed as low due to the limited and temporary nature of the duration of activities and the range of other grounds that can be targeted, as shown by the Succorfish data. Potting has been shown on other projects to successfully return to operational wind farms. Furthermore, scour protection and other measures can provide refuges for commercially important shellfish

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			species, particularly lobsters. This confirms the temporary nature of the magnitude of the impact.
1.1.30.	The Applicant	Benthic Ecology: Subtidal Biogenic Reef Paragraph 2.7.28 of APP-043 states that Drill Stone Reef, within the array area, is thought to be formed by Sabellaria Spinulosa reef. However, APP- 046 indicates that there is no such reef within the study area. a) Could the applicant please clarify whether or not there is believed to be the presence of Sabellaria Spinulosa reef within the study area, providing full reference to the supporting evidence. b) Could the applicant and NE please respond to the suggestion of Kent Wildlife Trust and the Marine Management Organisation that post- construction benthic monitoring, to include monitoring of scour protection / cable protection to measure the presence of biogenic reefs and species on the sediment	A. Paragraph 5.7.10 of Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) of the Environmental Statement identifies that it is thought that Drill Stone Reef has been formed by Sabellaria spinulosa and that reef was found on this feature during the surveys for TOWF. However, it was confirmed within the characterisation surveys undertaken in 2016 that no S. spinulosa reef was identified at that time on the section of Drill Stone Reef within the Thanet Extension array area. However, it is considered likely, based on the results of the TOWF post-construction surveys (Pearce et al., 2014), that S. spinulosa reef exists in the wider study area and may therefore develop within the array area or OECC prior to the start of construction. As such, the Biogenic Reef Mitigation Plan (PINS Ref APP-149/ Application Ref 8.15) to be produced prior to construction will incorporate the pre-construction surveys which will include benthic investigations for S. spinulosa reef. B. The Applicant considers that the post-construction monitoring requirement (at Condition 17 of the Generation Assets dML (Schedule 11) and Condition 15 of the Export Cable Systems dML (Schedule 12)) which requires geophysical survey provides adequate post-construction monitoring of scour protection/ cable protection. The Applicant does not consider that it is necessary to undertake further broadscale benthic species

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		overlaying the cables, should be incorporated into the conditions of the DML.	monitoring as there is limited justification with regards uncertainty or validation of ES predictions to do so. This is also supported by the MMO's 2014 review of post-construction monitoring which confirmed limited value for broadscale benthic monitoring. With regards biogenic reef monitoring the Applicant considers that post-construction monitoring to measure the presence of biogenic reef is only appropriate where biogenic reef is identified within the array area or OECC during the pre-construction surveys as this would then provide evidence of the impact of construction on the reef features and of the recovery of the features. Post-construction monitoring for biogenic reef where no reef has been identified pre-construction is considered to be overly onerous on the Applicant as it would not serve any purpose in confirming the predictions made within the ES. On multiple other offshore wind farm projects that had a requirement for post-construction monitoring for sensitive benthic habitats, this condition has been varied post-consent following pre-construction surveys that have confirmed the lack of any biogenic reef features to remove the need for post-construction monitoring. Therefore, the Applicant considers that any wording of a condition requiring post-construction monitoring for biogenic reef should have the caveat that this only take place where biogenic reef is identified in the pre-construction surveys or in areas identified as core reef through the Biogenic Reef Mitigation Plan (*ibid*).

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1.1.31.	The Applicant	Benthic Ecology: Construction Effects Section 5.8 of APP-046 sets out the key parameters for the assessment of effects on benthic ecology and Table 5.10 presents the worst case scenario that has been defined for the main potential effects assessed, in line with the Rochdale Envelope approach. a) In respect of table 5.10 of APP-046, please can the applicant confirm how the impacts of deposition of sediment from 'pre sweeping', in terms of temporary habitat loss and disturbance, has been taken into account as part of the assessment? b) Please could the applicant respond to the specific points raised by NE in respect of the scale of deposition material, and the effects of that material resulting from sandwave clearance as described at 5.10.33 of APP-046, where it is stated that "The impacts of	A. The assessment has grouped the total volume of sediment that may be disturbed through any construction method as outlined in Table 5.10 of Volume 2, Chapter 5: Subtidal Benthic and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) of the ES and then considered the impacts of this total volume of material in terms of the impacts from increased suspended sediment concentrations (SSC) and sediment deposition in the assessment, including those from pre-sweeping. Sediment deposition from dredging (i.e. released at the sea surface) is not considered to result in temporary habitat loss as the depth of sediment expected to result will not prevent use of the habitat by those species that are present. This is particularly relevant for the infaunal species present which are all identified within the assessment to be tolerant of smothering by sediment. Furthermore, there are high levels of natural sediment transport within the area around Thanet Extension and all species can tolerate variations in SSC and the degree of sediment deposition. Consequently, the sediment released from dredging during pre-sweeping will not result in temporary habitat loss or disturbance as there will be no change in the use of these habitats by those species present. As such, the only consideration of temporary habitat loss and disturbance from pre-sweeping is within the physical footprint of the pre-sweeping which is considered within direct disturbance.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		sediment deposition are not known at this stage as the volume of material that may need to be removed is unknown."	B. The Applicant notes the specific points raised by Natural England on this issue and has responded in full within the Applicants Response to Natural England's Relevant Representations (Appendix 1 of the Applicant's Deadline 1 Submission). In summary, the total volume of material displaced during the construction phase includes that from sandwave clearance (sandwave clearance will result in the removal of up to 1,440,000 m3 of sediment) as described in Table 5.10 of APP-046 and has been taken into consideration in the assessment in a qualitative manner. Furthermore, the assessment goes identifies that any impacts from sediment deposition will be of a temporary and short-term nature and that appropriate buffers will be placed around any habitats of conservation importance (to be agreed post-consent with Natural England through the Biogenic Reef Mitigation Plan) to prevent any smothering of these habitats.
1.1.32.	The Applicant	Benthic Ecology: Operation and Maintenance Effects APP-042 describes a number of maintenance activities in respect of the offshore infrastructure. The effect of these activities does not appear to have been carried through to the benthic ecology chapter (APP-046).	A. The effects of the relevant maintenance effects have been identified within Table 10.5 of Volume 2, Chapter 5: Subtidal Benthic and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) of the ES and consequently carried through to the assessment in Section 5.11 (PINS Ref APP-046/ Application Ref 6.2.5). It is the Applicants position therefore that no further assessment is required. The Applicant notes that whilst Table 10.5 of APP-046 has not duplicated all parameters presented within Volume 2, Chapter 1: Project Description (Offshore) (PINS Ref APP-042/ Application Ref 6.2.1) the assessment is fully based

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		a) Please could the applicant provide an assessment of the effects of these maintenance activities on benthic ecology. • Please include details of the maximum design scenario assessed in line with Table 5.10 of APP-046.	on those parameters. Specifically, the assessment identifies the activities that will take place (e.g. cable repairs along the export cable) and the determination of the magnitude of the effect is noted to be no greater than that of the construction phase as the scale of any works will be smaller. This leads to confirmation of the effects for maintenance activities being of minor adverse effect, which is not significant in EIA terms. B. For ease of reference, full details of the maximum design scenario for maintenance activities is provided within Annex A of Appendix 1 to the Applicant's Deadline 1 Submission – Project Description Audit note.
1.1.33.	The Applicant, Natural England and the Marine Management Organisation	Benthic Ecology: Post-Construction Monitoring Section 5 of [APP-149] states that post-construction monitoring will consist of geophysical surveys of the whole development site, but Table 5.5 of APP-046 states that post-construction monitoring will only be undertaken where core reef is identified within the order limits during pre-construction surveys. The Marine Management Organisation (paragraphs 5.5 -5.8 of its representation) raises concerns with this approach and the methodology	A. The Applicant wishes to note that geophysical monitoring in the context of the Thanet Extension post-construction phase forms dual purposes which should be distinguished from one another but utilise the same data. The Applicant can therefore confirm that monitoring of benthic habitats will be limited to those areas of relevance to the sensitive habitats being monitored, i.e. biogenic reef plans. The Applicant can also confirm however that geophysical monitoring will be conducted across the whole area in which construction was undertaken for the purposes of ensuring other features (such as archaeological features) have been avoided and that the project has been installed as expected (i.e. cables buried, cable protection installed where predicted, scour protection installed where predicted etc. B. The Applicant has noted the MMO (and Natural England as the relevant Statutory Nature Conservation Body) relevant representation and further comments provided on the Biogenic

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		proposed for defining core reef. In addition, the Marine Management Organisation questions whether there is sufficient evidence to demonstrate that only one year of post-construction monitoring is sufficient and recommends post construction monitoring is extended to three years. a) Could the applicant please clarify the approach to post-construction monitoring in this regard? b) Please could the applicant respond to the Marine Management Organisation's concerns about the methodology for defining core reef. c) Please could the applicant explain how the proposed monitoring strategy set out in APP-147 and APP-149 is sufficient to understand the longer term effects of the proposed development? • Comments from Natural England and the Marine Management	Reef Plan. A revised Biogenic Reef Plan (Version B Appendix 43) has been submitted to Natural England for further comment and the subsequent revision (RevB) has been submitted with the Deadline 1 submissions for agreement. C. The monitoring strategy laid out in the Saltmarsh Mitigation, Reinstatement and Monitoring Plan (PINS Ref APP-147/ Application Ref 8.13) has been informed by the data collected during the post-construction of the saltmarsh for TOWF (within a connected area of saltmarsh to that assessed for Thanet Extension). The TOWF surveys clearly demonstrated complete recovery of the saltmarsh within the timescales anticipated for the Thanet Extension surveys. With complete recovery demonstrated, there will be no long term effects from the proposed development on the saltmarsh. In the unlikely scenario that recovery is not complete at the end of the monitoring period, a mechanism for monitoring recovery of the saltmarsh will be agreed with the MMO and Natural England as appropriate. With respect to the Biogenic Reef Mitigation Plan, the purpose of the monitoring is to confirm that there have been no physical impacts from construction on the core reef features. As such, where the monitoring confirms this, there would not be any longer terms effects from the proposed development. If impacts are discovered as part of the monitoring, a way forward would be agreed with the MMO and Natural England.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Organisation are also invited on this point.	
1.1.34.	The Applicant	Benthic Ecology: Decommissioning [APP-046] recognises that direct loss of benthic species and habitats could occur as a result of removal of foundations during the decommissioning phase. • Could the applicant please confirm whether or not it deems it appropriate to include a condition within the DMLs requiring that a survey of any species, habitats and reef structures present on the foundation structures is undertaken prior to decommissioning.	The revised draft Order submitted at Deadline 1 includes a Decommissioning condition in both of the deemed marine licenses (Schedule 11, Condition 20 and Schedule 12, Condition 19). This condition requires the undertaker to submit a plan for the carrying out of decommissioning activities to the MMO for approval at least six months before the intended start of decommissioning. The plan produced in accordance with this condition will include the details of any surveys, which requires the approval of the MMO prior to any decommissioning being undertaken. As such, the condition as currently worded is drafted very widely, requiring as it does any necessary plans (including survey work to demonstrate the appropriateness of those plans) to be submitted to, and approved by, the MMO. Therefore the Applicant does not consider it appropriate to include such an element of specificity in the draft DCO, when the decommissioning plan provides for this.
1.1.35.	Natural England, Marine Management Organisation and all IPs	Subtidal and Benthic Intertidal Habitats: In-Combination Assessment In respect of the Subtidal and Benthic Intertidal Habitat in-combination assessment, paragraph 8.2.4 of [APP-031] states that "…it is considered that there is potential for LSE in-combination with Thanet	The Applicant would like to take this opportunity to clarify the statement made in paragraph 12.2.1 of the Report to Inform Appropriate Assessment (RIAA) (PINS Ref APP-031/ Application Ref 5.2). Table 12.2 of the RIAA (PINS Ref APP-031/ Application Ref 5.2) screens the sites identified as having the potential for an in-combination Likely Significant Effect (LSE) based on the potential for a temporal overlap with the construction, operation and decommissioning stages of Thanet Extension. It is in Table 12.2 that it has been identified that, due to there being no temporal overlap or the chances of a temporal overlap being very low, and all effects on benthic receptors being temporary, there

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Extension. The potential for such an effect will vary, depending on parameters such as the timing of works and the nature of those works, with these to be considered in full in the determination of AEoI". Paragraph 12.2.1 of [APP- 031] then explains that no plans of projects have been scoped into the in-combination assessment (of AEoI) for Subtidal and Benthic Intertidal Habitats. • Are Natural England, Marine Management Organisation and any other parties satisfied that an in-combination assessment of AEoI for Subtidal and Benthic Intertidal Habitat effects has not been undertaken on the basis that no relevant plans or projects are identified (paragraph 12.2.1 of [APP-031])? If not, why not?	will be no potential for an in-combination effect with Thanet Extension. Specifically, the disposal sites are either for construction works for Nemo Interconnector which has now completed construction or primarily for dredging at Ramsgate harbour and it is highly unlikely on the basis of the proximity of the cable route to the harbour that any dredging works would occur during cabling installation or operational works on Thanet Extension. As such no plans or projects have been taken forward to an assessment of the potential for an in-combination adverse effect on integrity on any of the relevant sites. The Applicant notes that an updated RIAA will be submitted for Deadline 2 and this update will include increased clarity on this point.
1.1.36.	The Applicant	Saltmarsh Habitat: Study Approach Table 5.9 of Chapter 5 of Volume 2 of the Environmental Statement [APP- 046] provides details of the	A) The Applicant notes that the omission of saltmarsh from Table 5.9 of Volume 2, Chapter 5: Subtidal Benthic and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) and agrees that this should have been included. However, the Applicant also

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Valued Ecological Receptors within the project's benthic ecology study area. a) Could the applicant please explain why Saltmarsh has not been included in this table? b) Please could the applicant provide full details for Saltmarsh equivalent to those set out in Table 5.9.	notes that the importance of saltmarsh is described in paragraph 5.7.42 alongside the other features described in Table 5.9 (PINS Ref APP-046/ Application Ref 6.2.5) and the omission of saltmarsh in Table 5.9 did not affect the associated sensitivity of the habitat in the conclusions of the chapter. B) The equivalent details for saltmarsh are as follows: Habitat summary – *Saltmarsh*; Representative biotope – *N/A*; Protection status – *SSSI*; Conservation status – *Protected feature within the Sandwich Bay to Hacklinge Marshes SSSI. Identified as a supporting habitat for the Thanet Coast and Sandwich Bay Ramsar. UK BAP Priority Habitat*; Justification and regional importance – *National - included as a protected feature of the Sandwich Bay to Hacklinge Marshes SSSI. International - supporting habitat of the Thanet Coast and Sandwich Bay Ramsar*.
1.1.37.	The Applicant	Saltmarsh Habitat: Effects of Landfall Option 2 Under Landfall Option 2, the sea wall extension would result in the permanent loss of an area of inter-tidal Saltmarsh. Table 5.10 [APP-046] sets out the maximum design scenario assessed. a) What is the evidential basis for the applicant's statement at paragraph	The Applicant wishes to note that it proposes to withdraw Landfall Option 2 has been withdrawn from the project envelope. A document outlining the implications of this for the existing application material is in preparation and will be discussed with relevant stakeholders as part of the statements of common ground process, before submission at Deadline 2. In light of this there is no longer a scenario under which there will be permanent loss of saltmarsh as a result of the proposed project. The following answers have been provided for clarity, noting that the underlying basis for concern (Landfall Option 2) no longer exists.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		5.11.19 (APP-046) that the saltmarsh in this area extends between approximately 45 – 110 m in a seaward direction from the location of the existing sea wall? b) Please could the applicant provide full details of the basis upon which its statements about the quality of the saltmarsh habitat across the Pegwell Bay area, and the landfall location in particular, are made c) Could the applicant please respond to the concerns of the Environment Agency that the seawall extension proposed under Landfall Option 2 could bisect the existing continuous saltmarsh habitat leading to its fragmentation. d) Could the applicant please respond to the concerns of the Environment Agency and Natural England that the seawall extension would cause local erosion / scour of saltmarsh habitats immediately adjacent to it. e) Please could the applicant respond to the Environment	A. The Applicant has undertaken a GIS analysis of the saltmarsh extent data provided by the Environment Agency. This is understood to be the best available data. Further reference has also been made to 2016 satellite data (Google maps via ESRI basemaps) to chart likely saltmarsh extent through reference to the delineation of the sea wall and the intertidal mudflats. B. The basis upon which the statements are made on saltmarsh habitat quality is derived from a combination of intertidal survey, site visits, and the provision of information during the evidence plan process. The latter drew on information provided by Natural England and the Environment Agency which indicated that saltmarsh quality to the North of Pegwell Bay was of a higher quality than that to the south. The former (PINS Ref APP-081/ Application Ref 6.4.5.1 Annex 5-1 Export Cable Route Intertidal Report) provided provisional qualitative data on the extent of 'saltmarsh habitats', noting at paragraph 3.1 that saltmarsh hems the western fringes at the high shore of Pegwell Bay, with this illustrated at Figure 20. With regards site visits a number of informal site visits have been undertaken with the project team noting, and discussing with relevant parties during evidence plan meetings, that immediately adjacent to the seawall, and extending down the shore in an easterly direction the habitat is dominated by tall grasses, cord grasses, and the invasive saltmarsh species *Spartina* rather than low lying high value *Salicornia* saltmarsh. The presence of this species is noted by a number of sources, including the Environment Agency

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Agency's evidence about the value of Saltmarsh at Pegwell Bay in providing a food source and refuge for a range of marine fish species • Please explain how the impact of the permanent loss of saltmarsh on fish and fisheries has been assessed.	during evidence plan meetings and the 'Thanet Coast North East Kent Marine Protected Area' network records. C. The Applicant considers this question to no longer be relevant due to its proposal to withdraw Landfall Option 2 being withdrawn from the application envelope. D. The Applicant also considers this question to no longer apply due to its proposal to withdraw as Landfall Option 2 has been withdrawn from the application envelope. E. The Applicant has responded in detail to the Environment Agency's relevant representation in Appendix 1 of the Applicant's Deadline 1 submission. In brief the Applicant notes that whilst the saltmarsh clearly has ecological value the importance of it, as presented within the ES, is based on its designation as a SSSI and Ramsar habitat. Saltmarsh in other areas within the UK, for example the Wash, forms Annex I designated habitat as a result of its quality, this is an important differentiation that has been captured within the application documents submitted in support of the Thanet Extension proposal. F. The Applicant notes that this question is no longer considered to be relevant as Landfall Option 2 is proposed to be has been withdrawn from the application envelope.
1.1.38.	The Applicant and Natural England	Mitigation of Effects on Intertidal Habitats: Saltmarsh Mitigation, Reinstatement and Monitoring Plan Paragraphs 11.2.20, 11.2.22 and 11.2.25 of [APP-031] state that on	A) The Applicant notes the relevant representation made by Natural England [RR-053] and is content to update the Saltmarsh Mitigation, Reinstatement and Monitoring Plan with the recommendations made with the exception of point a which refers to working during summer months to coincide with low

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		the basis of the Saltmarsh Mitigation, Reinstatement and Monitoring Plan (SMRMP) [APP-147], no potential for AEoI to the intertidal habitats used by the designated features of the Thanet Coast and Sandwich Bay SPA and Ramsar sites exist for the project alone (in relation to temporary habitat loss or disturbance during construction and decommissioning). In their relevant representation, Natural England raises a series of "further mitigation and management measures" that they would like to see implemented. a) Could the applicant respond as to whether or not it intends to incorporate these measures into the SMRMP? b) In light of these additional measures, could Natural England confirm its residual potential concerns (in terms of AEoI) relate to the permanent loss of habitat and assessment of an additional species	tides and dry months. The Applicant wishes to clarify that 'spring tides are low [within the driest months of year]' is not however considered to be accurate as there is not a clear corollary that dry months result in a reduced spring tide height. Furthermore, the Applicant has already committed to a seasonal restriction between October and March which is understood to be the most sensitive period for the SPA (and therefore the supporting habitats). A revised Saltmarsh Mitigation, Reinstatement and Monitoring Plan will be submitted at Deadline 2 following further discussion with Natural England and the Environment Agency. B) The Applicant wishes to note that the mitigation and management measures referred to in the Saltmarsh Mitigation, Reinstatement and Monitoring Plan does not apply to areas of temporary disturbance. The Applicant also wishes to note that decision to remove 'landfall Option 2'means that there will be no predicted permanent loss of saltmarsh. Landfall Options 1 and 3 do not result in a permanent loss of saltmarsh.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		in the Ramsar invertebrate assemblage (bug Orthotylus rubidus)?	
1.1.39.	The Applicant, Natural England, Environment Agency, Kent Wildlife Trust, Kent County Council, Thanet District Council and Dover District Council	Saltmarsh Mitigation, Reinstatement and Monitoring Plan: Effects of Permanent Loss of Saltmarsh The applicant's Saltmarsh Mitigation, Reinstatement and Monitoring Plan [APP-147] relates to the temporary construction effects of the export cable. The document states (para 1.2.1) that 'any permanent loss of saltmarsh will be addressed in a separate document through further consultation with the relevant stakeholders'. a) With regard to this separate document, please could the applicant outline: • its scope and purpose • its current status • the intended timetable for production • whether or not it is intended to be submitted during this examination • any consultation undertaken or	A. The Applicant can confirm that Landfall Option 2 is proposed to be has been removed from the proposed project consent 'envelope. As such the reference to an additional plan/document to address permanent loss of saltmarsh is no longer necessary and as such subsequently the reference will be removed from the Saltmarsh Mitigation, Reinstatement and Monitoring Plan.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		planned; and, • how the measures contained therein would be secured. b) The views of the local authorities, Natural England and the Environment Agency on the above points (i-vi) are invited.	
1.1.40.	The Applicant, Natural England, Environment Agency, Kent Wildlife Trust, Kent County Council, Thanet District Council and Dover District Council	Saltmarsh Mitigation, Reinstatement and Monitoring Plan: Recovery Assumptions NE's relevant representation has referred to the experience of the recent construction of the NEMO link, from which it states that the saltmarsh has been slower to recover than expected. a) In this context, how would the need for further post-construction mitigation (if required, depending on the success of the restoration) be determined and delivered within the provisions of the Thanet Extension Offshore Wind Farm DCO? b) What are the potential options for managing this eventuality?	A. The Applicant can confirm that a revised Saltmarsh Mitigation, Reinstatement and Monitoring Plan will be submitted at Deadline 2. The revision will account for the additional measures requested by Natural England in their Relevant Representations and, where possible, the lessons learnt from the Nemo Interconnector. It is noted that works are still ongoing for the Nemo Interconnector project and as such it may be necessary to delay submission to fully account for any lessons learnt. In the current understanding of the Applicant the updates are likely to be limited to reference to topographical survey of the saltmarsh and measures taken to ensure compression and/reduction in height is minimised through appropriate reinstatement. The mitigation measures proposed within the Saltmarsh Mitigation, Reinstatement and Monitoring Plan, and additional measures to be included in the revised document, are in the view of the Applicant considered to be appropriate and, deliverable. These measures, and are secured in the submitted plan and associated conditions within the dMLS at Schedule 11, Condition 15 and Schedule12 (Part 4 conditions, Condition

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			1315)12 of the DCO. The need for the mitigation measures to be implemented would be determined through consultation with Natural England and the MMO, as the relevant SNCB and regulator respectively. B. The Applicant would draw the ExA's attention to the existing monitoring arrangements in Pegwell Bay for the existing Thanet offshore windfarm. The monitoring was undertaken until agreement was reached that the saltmarsh had recovered to pre-construction quality. This stage of recovery was reached after two years. If at this stage recovery for TEOWF was not complete the monitoring would, in consultation with Natural England and the MMO, be extended for an appropriate period.
1.1.41.	Natural England	Information to Inform an Appropriate Assessment: Conservation Objectives In light of the references to conservation objectives, site improvement plans and supplementary advice for sites considered to be likely to experience significant effects as a result of the proposal (provided in section 9 of the RIAA [APP-031], can NE confirm that all the relevant information is correct such that an appropriate assessment could be made in light of those conservation objectives?	The information was considered correct and up to date at the time of writing (June 2018) (PINS Ref APP-031/ Application Ref 5.2). It should be noted that the information in section 9 of the RIAA (PINS Ref APP-031/ Application Ref 5.2) is being revisited and updated for the revised RIAA (to be submitted at Deadline II). In particular, it has been confirmed that the French sites do not have conservation objectives, that the Southern North Sea cSAC should be referred to as cSAC/SCI, that additional documents are available for the Outer Thames Estuary SPA (SPA citation and Conservation Objectives) and that the Flamborough and Filey Coast is now a SPA (no longer pSPA) and has been merged with the Flamborough Head and Bempton Cliffs SPA. These changes/additions have been reflected in the revised RIAA to be issued at Deadline II. None of these changes alter the conclusions of the assessment.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.1.42.	Natural England and the Applicant	Information to Inform an Appropriate Assessment: Flamborough and Filey Coast pSPA With regard to the Flamborough and Filey Coast pSPA, the ExA is aware that on 23 November 2018 Natural England's published recommendations to DEFRA2 regarding the outcomes of a consultation process on the formal designation of this SPA (as well as the Flamborough Head pSAC, which would not appear to have been identified as being potentially affected by the proposed development). • Can Natural England and the Applicant please comment on the implications of this consultation outcome in respect of: i. The status of the pSPA; ii. Implications on the assessment	With respect to the three questions: i. It is the understanding of the Applicant that the site is now a classified SPA as evidenced by: a. The 'classification citation' of the Flamborough and Filey Coast SPA (accessible[2]) that bears the date of registration as an amendment of 23 August 2018 and the text "*The site was extended and renamed Flamborough and Filey Coast SPA on 23rd August 2018*". b. The map of the boundary of the Flamborough and Filey Coast SPA, published by Natural England as a pdf format map (accessible[3]), that bears the text "*SPA Extension Classified by the Secretary of State for Environment, Food and Rural Affairs. Date: 23/08/2018*" ii. The site was assessed (See section 9.14 of the RIAA (PINS Ref APP-031) as if it were a classified SPA in accordance with Government policy. As a result the assessment does not change and the conclusions of the assessment do not change. iii. The assessment carried out was based on the conservation objectives published by Natural England in 2014. The conservation objectives published by Natural England in 2018 do not differ other than to be re-phrased without the words 'potential' and 'may'. As a result the assessment does not change and the conclusions of the assessment do

[2] http://publications.naturalengland.org.uk/publication/5400434877399040
[3] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/758629/flamborough-filey-coast-spa-final-area-map.pdf

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		undertaken by the applicant (and their conclusions); and, iii. Any other relevant matters that may have a bearing on the Secretary of State's ability to undertake an appropriate assessment in respect of the pSPA (such as revised conservation objectives).	not change. The assessment carried out was based on the named seabird interest feature population figures published by Natural England in 2014. The named seabird interest feature population figures published by Natural England in 2018 do not differ. As a result the assessment does not change and the conclusions of the assessment do not change. It is noted that in light of the removal of landfall Option 2 from the proposed project design envelope the RIAA is being redrafted and submitted at Deadline II; all relevant stakeholders have been informed of this.
1.1.43.	Dover District Council	Habitats Regulation Assessment: Cable Route Selection Dover District Council's relevant representation [RR-029] questions whether sufficient information in relation to the cable route selection has been provided for an Appropriate Assessment to be undertaken. • Please could Dover District Council explain the basis for raising this question and the specific nature of its concerns in this regard?	This matter is now the subject of agreement with DDC and is captured within the associated SoCG submitted at Appendix 3 of this Deadline 1 submission.
1.1.44.	The Applicant	Marine Conservation Zone Assessment: Goodwin Sands In its relevant representation [RR-	In its response to Natural England's' relevant representation [RR-053], the Applicant has outlined its position that a further MCZ Assessment for the Goodwin Sands pMCZ is not required. The then Goodwin Sands rMCZ was brought forward for formal consultation just before the

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		053], Natural England highlights that the Goodwin Sands rMCZ is now a proposed Marine Conservation Zone (pMCZ). It is not satisfied that it can be concluded beyond all reasonable scientific doubt that the project would not hinder the conservation objectives of the Goodwin Sands pMCZ. Paragraph 5.3.3 of the MCZ Assessment [APP-083] states that "MCZs not designated or brought forward for consultation are not required to be considered however the Applicant has undertaken a proxy MCZ assessment for the Goodwin Sand rMCZ…". Chapter 6.2.5 of the ES [APP-046] also explains that… whilst the habitats in the vicinity of Goodwin sands are considered where appropriate the Goodwin Sands rMCZ has not been brought forward for consultation and is not therefore considered within this assessment or the associated MCZ assessment". • Can the applicant please provide a	Thanet Extension application and became a pMCZ after application in July 2018. However, an assessment (in the absence of any specific conservation objectives) was undertaken as part of the MCZ Assessment process (Volume 4, Annex 5-3: Marine Conservation Zone Assessment (PINS Ref APP-083/ Application Ref 6.4.5.3)). The assessment focused on the habitats and features present within Goodwin Sands pMCZ as assessed within the (Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref: 6.2.5) of the Environmental Statement) and found all potential effects to be of no greater than minor significance, including as a result of secondary deposition from sandwave clearance. The nature of overlap between the Thanet Extension Offshore Export Cable Corridor and the Goodwin Sands pMCZ is partial and limited in extent (1.13km2) relative to the overall area of the pMCZ (277km2). All habitats and features within the cable corridor, including those in the area of overlap with the Goodwin Sands pMCZ have been appropriately considered. The MCZ Assessment (Volume 4, Annex 5-3: Marine Conservation Zone Assessment (PINS Ref APP-083/ Application Ref 6.4.5.3) of the Environmental Statement) concluded that any cable rock protection (if required) would become covered by surficial sediments within a matter of weeks to months, depending on local sedimentary deposition rates. The habitats and features in the area of overlap are not expected to be sensitive to the level of increased sedimentary deposition resulting from cable installation activities. Indeed, the "Consultation on Sites Proposed for Designation in the Third Tranche of Marine Conservation Zones" for

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		revised Marine Conservation Zone Assessment to reflect the change in status from Goodwin Sands rMCZ to pMCZ after it was included in Tranche Three of MCZ consultation, which was announced on 8 July 2018.	Goodwin Sands (DEFRA, 2018) concludes that renewable energy and cable activities are not likely to be damaging to the features of interest at this site. In relation to biogenic reefs, DEFRA (2018) 1 identifies that there are no reef features within the area of overlap. Furthermore, the Applicant has committed to undertaking pre-construction surveys with micro-siting around any identified biogenic reef features. In addition, the Applicant has made a commitment to monitoring sensitive biogenic reef features identified.
1.1.45.	The Applicant	Goodwin Sands pMCZ: Benthic Ecology The ES does not clearly set out evidence to demonstrate that no benthic Features of Conservation Importance in the Goodwin Sands rMCZ would be affected by the proposed cable works. • Please could the Applicant clarify the data sources used in arriving at the conclusion that no benthic Features of Conservation Importance in the Goodwin Sands rMCZ would be affected by the cable works, including site preparation works such as sandwave clearance, and	The Applicant has considered all relevant available data sources in the baseline environmental characterisation including site-specific data in the cable corridor section that partially overlaps with the Goodwin Sands pMCZ. The sources used to inform the MCZ Assessment (Volume 4, Annex 5-3: Marine Conservation Zone Assessment (Application Ref 6.4.5.3) of the Environmental Statement) are as follows: • Site-specific data collected for the Thanet Extension baseline characterisation (Figure 5.9 of Volume 4, Annex 5-3: Marine Conservation Zone Assessment (PINS Ref APP-083/ Application Ref 6.4.5.3) of the Environmental Statement); • EU SeaMap broad-scale predictive habitats mapping (Figure 5.9 of Volume 4, Annex 5-3: Marine Conservation Zone Assessment (PINS Ref APP-083/ Application Ref 6.4.5.3) of the Environmental Statement); • Goodwin Sands rMCZ subtidal verification data (Cefas, 2014) (Figure 5.10 of Volume 4, Annex 5-3: Marine Conservation Zone Assessment (PINS Ref APP-083/ Application Ref 6.4.5.3) of the Environmental Statement);

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		provide further explanation as to how this data has informed the assessment.	• Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref: 6.2.5) of the Environmental Statement; and • Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes (PINS Ref APP-043/ Application Ref 6.2.2) of the Environmental Statement. The baseline data indicated that the habitats present within the area of overlap with the Goodwin Sands pMCZ (predominantly clayey to silty sand, with fine to coarse sand and much smaller pockets of gravelly sand and sandy gravel). No circalittoral rock habitats were identified within the area of overlap. No Ross worm (*Sabellaria spinulosa*) reefs or blue mussel beds were identified as being present within the area of overlap with the Goodwin Sands pMCZ. *S. spinulosa* reefs are known to be non-sensitive to light increases in sediment deposition[4]. Therefore, the only features of conservation importance that could be affected by cable works, including site preparation works such as sandwave clearance are subtidal sand and subtidal coarse sediment. The proxy MCZ Assessment for the Goodwin Sands pMCZ draws upon information from the Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref: 6.2.5) of the Environmental Statement, which itself draws upon information from the

[4] http://www.marlin.ac.uk/habitats/detail/377

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes (PINS Ref APP-043/ Application Ref 6.2.2) of the Environmental Statement. As detailed in paragraph 5.10.44 Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref: 6.2.5) of the Environmental Statement, "sandwave clearance and cable installation are likely to occur where the cable corridor passes through the Goodwin Sands rMCZ. The features of the rMCZ that may be affected include subtidal coarse sediment and subtidal sand. It is likely that any impacts from the construction works for Thanet Extension would be limited to tens to hundreds of metres from the source and would not result in the introduction of non-native sediments to the rMCZ. Therefore, it is considered that there will be no significant impacts on the features of the rMCZ." This assessment was also informed by the MarESA[5] assessments on benthic habitats for the impacts of increased Suspended Sediment Concentrations (SSC) and smothering. For the biotopes identified within the area of overlap between the export cable corridor and the Goodwin Sands pMCZ, the sensitivity assessments concluded that these biotopes were not sensitive or had low sensitivity to the impacts of changes to SSC, light smothering and heavy smothering (Table 5.14 of Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref: 6.2.5) of the Environmental Statement).

[5] https://www.marlin.ac.uk/habitats/

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1.1.46.	Marine Management Organisation, the Applicant	Goodwin Sands pMCZ: Other Consents Kent Wildlife Trust's relevant representation [RR-048] refers to an extant consent to dredge part of the Goodwin Sands pMCZ. a) Could the Marine Management Organisation please provide a copy of that consent, including a map showing the extent of the permitted works. b) Please could the applicant clarify to what extent the ES has evaluated the cumulative impacts of the proposed dredging activity as part of the assessment for Thanet Extension Offshore Wind Farm?	The extant consent to dredge part of the Goodwin Sands pMCZ refers to the Dover Harbour Board marine license to use dredged material from the south Goodwin Sands as for land reclamation and berth construction as part of the Dover Western Docks Revival project. This consent was granted on 26th July 2018. Appendix 1 of Volume 1, Annex 3-1: Cumulative Effects Assessment (PINS Ref APP-039/ Application Ref 6.1.3.1) of the Environmental Statement identified an open status aggregate extraction and option area operated by Dover Harbour Board, with high data confidence attributed to the status of this project. At the time of drafting, it was considered that this project would be in the consenting/ pre-construction phase and was therefore considered that there would be no temporal overlap between the two projects. Additionally, any potential overlapping effects from Thanet Extension and the dredging on discrete features of the pMCZ would only be short-term and temporary in nature (i.e. temporary increases in suspended sediment which would rapidly decrease to background levels within hours after the end of activities) as there is no physical overlap between the RLB for Thanet Extension and the dredging area. It is now clear that works are anticipated to be undertaken between September 2019 and 2020. Offshore works for Thanet Extension are anticipated to be undertaken between Q1 2021 and Q2 2023 and as such there is no potential for temporal overlap of activities. The aggregate extraction and option area was screened out of the cumulative assessments for benthic ecology and fish and shellfish ecology.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The Applicant notes that Thanet Extension was not considered as part of the cumulative effects assessment presented in the Dover Harbour Board Marine Licence application[6].
1.1.47.	Natural England	Onshore Biodiversity: Survey Methodology Section 5.6 of [APP-061] describes "Uncertainty and Technical Difficulties Encountered" as part of the onshore biodiversity assessment. Access restrictions prevented access to certain parts of the study area, which has affected a number of surveys including the Phase 1 habitat survey and surveys for great crested newts, reptiles, bats, water vole and otter. In some cases survey restrictions were temporary but in other areas surveying has been prevented entirely. The applicant states that most of these cases refer to areas in which significant effects are unlikely	Although this question is specifically addressed to Natural England, to provide further context and clarity, access restrictions are summarised below in respect of each of the affected surveys: • Phase 1 habitat survey – access was not granted to four areas for Phase 1 habitat survey, although the habitats within all four areas were able to be mapped using recent aerial photography (see Volume 5, Annex 5-10: Additional Phase 1 Habitat Survey Report (PINS Ref APP-106/ Application Ref 6.5.5.10) of the Environmental Statement (ES)). Of these, three are located outside the Red Line Boundary (RLB) and will not be affected by the Project. The other relates to intertidal habitat, which is assessed in Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) of the ES. • Great crested newt (GCN) survey – one waterbody within 250m of the RLB was not accessible for survey (waterbody 196 within Pegwell Bay Country Park) (see Volume 5, Annex 5-11: Additional Great Crested Newt (GCN) Survey Report (PINS Ref APP-107/ Application Ref 6.5.5.11) of the ES). Given the lack of GCN records within 2km this waterbody is very unlikely to support GCN. Furthermore, as a

[6] Goodwin Sands Aggregate Dredging Scheme (https://www.gov.uk/government/publications/goodwin-sands-aggregate-dredging-scheme)

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		or where existing data is available. In addition, changes to the red line boundary have meant that some areas were not subject to a full suite of surveys. This includes the proposed tenant relocation area, which was added to the red line boundary in early 2018. • Please can Natural England provide commentary as to the sufficiency of the Applicant's assessment in the onshore biodiversity aspect chapter, and in particular whether the worst case scenario has been adequately assessed, in light of the survey access restrictions?	precaution, a pre-construction survey of this pond will be undertaken to confirm absence (see Table 5.11 in Volume 3, Chapter 5: Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5) of the ES). • Reptile survey – access for survey was not granted to the Richborough Energy Park (REP) site. However, existing reptile survey data exists for this site and no suitable habitats for these species were present within the parts of the REP site that could be affected by the proposed development in March 2018 (see paragraph 5.7.77 (PINS Ref APP-061/ Application Ref: 6.3.5). • Bat survey – access to Pegwell Bay Country Park and Stonelees Nature Reserve was not permitted for the bat activity surveys undertaken in April and May 2018 (see Volume 5, Annex 5-12: Additional Bat Survey Report (PINS Ref APP-108/ Application Ref 6.5.5.12) of the ES). However, no potential roost features are located within these areas and the areas were covered by bat activity surveys undertaken between August and October 2017. • Water vole and otter survey – a number of watercourses within the wider survey area (i.e. within 500m of the RLB) were not able to be accessed (see Volume 5, Annex 5-2: Water Vole and Otter Survey Report (PINS Ref APP-098/ Application Ref 6.5.5.2) of the ES). However, all watercourses within or adjacent to the RLB, including all watercourses potentially affected by the Project, were accessible for survey. None of the access restrictions set out above have affected the validity of the assessment or the assessment conclusions.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The proposed tenant relocation area was not included in most of the species-specific faunal surveys undertaken in 2017, although it was covered by the Phase 1 habitat survey. A precautionary approach has been taken with regard to this area's potential to support notable invertebrate species, reptiles and bats and no other protected or notable species are likely to be present within this area (see Section 3.2 of PINS Ref APP-106/ Application Ref 6.5.5.10). As stated in paragraph 5.10.76 of PINS Ref APP-061/ Application Ref 6.3.5 the habitats within the proposed tenant relocation area will be retained *in situ* and the land use is expected to be similar to its current use, i.e. vehicle storage. Given the limited potential for impacts and the precautionary approach adopted the lack of survey data for some species groups has not affected the validity of the assessment or the assessment conclusions. The Applicant notes that the implications of the various access restrictions have been discussed through the Evidence Plan process and that Natural England has previously agreed that the survey data obtained are sufficient to inform the assessment. For example, paragraph 3.1 of Natural England's Relevant Representation (PINS Ref RR-053) states "Natural England considers that the documents presented to the Planning Inspectorate, to support the application for Development Consent, are of sufficient quality and detail to allow a considered assessment of the impacts on nature conservation issues…"

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The Applicant also notes that in their letter dated March 8th 2018 (at Annex B of this Deadline 1 submission) Natural England state that "the current NVC survey, plus the addition of the Phase 1 habitat survey has provided sufficient information to determine the baseline conditions and the vegetation communities that occur within the red line boundary of the proposed development." The applicant also refers to the minutes of a telephone conference with Natural England on 17th May 2018, presented within the EIA Evidence Plan (PINS Ref APP-137/ Application Ref 8.5) at which Natural England confirmed that the available data in respect of GCN are adequate for the EIA.
1.1.48.	Natural England and the Applicant	Onshore Biodiversity: Terrestrial Invertebrates Natural England at page 38 of its relevant representation [RR-053] states that "Given the relatively limited invertebrate survey work to date and the potential reliance on embedded mitigation we would advise that a conclusion of no AEOI on the Ramsar invertebrate assemblage through temporary habitat loss / disturbance is premature". a) Could Natural England confirm whether, in light of this comment,	Although part a) is specifically addressed to Natural England, to provide further context and clarity, the Applicant notes that Table 5.11 in Volume 3, Chapter 5: Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5) of the ES states: "a terrestrial invertebrate mitigation strategy (TIMS) will be developed post consent and will form part of the detailed LEMP [Landscape and Ecological Management Plan]. The TIMS will be informed by a detailed invertebrate survey of affected areas prior to production and agreement of the detailed LEMP." Further details regarding the proposed invertebrate survey are provided in Table 5.1 in the Outline LEMP (PINS Ref APP-142/ Application Ref 8.7). Table 5.1 in PINS Ref APP-142/ Application Ref 8.7 also provides details of the proposed survey timing, i.e. May to September, prior to development of the detailed LEMP. The detailed LEMP will be produced and agreed with Thanet District Council and Dover District Council, in

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		they expect further definition of invertebrate surveys and at what stage (eg as embedded mitigation through the OLEMP)? b) Does Natural England consider that further work is necessary to enable the ExA to reach meaningful conclusions around AEoI during this Examination? c) Could the Applicant indicate whether they intend to carry out further work?	consultation with Natural England, post consent but prior to construction commencing. Although part b) is specifically addressed to Natural England, the Applicant notes that Natural England has previously agreed, in their letter dated March 8th 2018 (Annex B to this submission), that "the current assessment [i.e. a draft version of Volume 5, Annex 5-6: Terrestrial Invertebrate Assessment Report (PINS Ref APP-102/ Application Ref 6.5.5.6) of the ES] has provided sufficient data to characterise and evaluate the value of the site for terrestrial invertebrates." The Applicant notes that comments in Section 5.9.1 (Points 7.5.27-28) of Natural England's Relevant Representation (PINS Ref RR-053) regarding consideration of the bug *Orthotylus rubidus*. This species, which is associated with glassworts, is not found on open saltmarshes, but occurs in areas which, though saline, are not regularly inundated by the sea (see Table 3.1 in PINS Ref APP-102/ Application Ref 6.5.5.6). *O. rubidus* is therefore not likely to be present within the area that would be affected by cable laying operations and the works at the landfall, which is characterised by open saltmarsh and mudflats. The above notwithstanding, as the possible presence of this species cannot be conclusively ruled out, an assessment of adverse effect is included in an updated version of the Report to Inform Appropriate Assessment (PINS Ref APP-031/ Application Ref 5.2) (to be submitted at Deadline 2). Given the very low chance that *O. rubidus* is present

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			within the affected area and following the implementation of the embedded mitigation, the assessment concludes that there is no potential for AEoI. With respect to embedded mitigation the Applicant confirms that the TIMS and associated pre-construction invertebrate survey (as referred to in Table 5.11 in PINS Ref APP-061/ Application Ref 6.3.5 and Table 5.1 of PINS Ref APP-142/ Application Ref 8.7) will include *O. rubidus*. With respect to part c) the Applicant confirms that they intend to carry out further survey work for invertebrates. As stated above the survey will be undertaken prior to development of the detailed LEMP, post consent but prior to construction commencing.
1.1.49.	The Applicant and Forestry Commission	Onshore Biodiversity: Trees and Woodlands Please could the applicant provide a comprehensive statement outlining any trees or woodlands that are likely to be lost as a result of the project. a) What mitigation measures are proposed to minimise the risk of net deforestation as a result of the project and how are those measures (if any) secured? b) What compensation measures (if any) are proposed and how are	As set out in Table 5.7 in Volume 3, Chapter 5: Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5) of the ES, 1.24 ha mapped as broad-leaved woodland during the Phase 1 habitat survey is present within the onshore RLB. This is located in three areas (see Figures 5.4a-d in PINS Ref APP-061/ Application Ref 6.3.5): 1. a triangular area of relatively young woodland in the south-west corner of Pegwell Bay Country Park, dominated by the non-native white poplar *Populus alba* with abundant field maple *Acer campestre* and occasional ash *Fraxinus excelsior*; 2. an area of immature, relatively open broad-leaved woodland at the southern end of Stonelees Nature Reserve, with trees including ash and occasional oak *Quercus robur* and white poplar and a number of shrubs such as hawthorn *Crataegus monogyna*; and

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		those measures secured? c) Do the applicant and Forestry Commission consider that any Ancient Woodlands and Ancient or Veteran Trees would be affected by the project? • If so, please provide details.	3. a strip of woodland containing various broad-leaved tree species along the western edge of the proposed tenant relocation area. The strip of woodland along the western edge of the proposed tenant relocation area will not be affected by the Project but some tree removal will be required in the other two areas. The maximum area mapped as woodland that could be affected by the Project is approximately 0.37 ha, although the precise number, species and age of the trees that will be lost within these areas will not be known until the detailed design stage. In addition to the areas mapped as woodland, four lines of trees (mapped as scattered trees in Figures 5.4a-d in PINS Ref APP-061/ Application Ref 6.3.5) will be affected by the Project. These are situated in the following locations: 1. a line of non-native Lombardy poplars *Populus nigra Italica* in the north-west corner of the Baypoint Sports Club site, along its boundary with Stonelees Nature Reserve; 2. a line of trees along the western boundary of the Baypoint Sports Club, along the route of the proposed new access from Sandwich Road; 3. a line of white poplars at the south-eastern corner of the Baypoint Sports Club pitches; and 4. a line of semi-mature trees (mostly white poplar) and shrubs (mostly hawthorn) at the boundary between the Baypoint Sports Club and British Car Auctions sites.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The maximum length of tree line affected by the Project is 95m (i.e. three lengths of up to 30m along the cable route plus 5m at the location of the new access into the Baypoint Sports Club site. The precise number, species and age of the trees that will be lost will not be known until the detailed design stage. <u>Mitigation Measures</u> Mitigation measures will be employed to minimise the number of trees removed and to protect retained trees from inadvertent damage. As set out in Section 4 of the Outline LEMP (PINS Ref APP-142/ Application Ref 8.7) working areas will be kept to the minimum area necessary with the extent of the working area dependent upon the final design solution adopted. All retained trees located directly adjacent to working areas will be protected by Root Protection Areas (RPAs) during construction, in accordance with BS 5837:2012 (British Standards Institution, 2012). Working areas and the location and extent of any RPAs will be specified in the detailed LEMP. In addition, as set out in paragraph 1.6.1 of PINS Ref APP-142/ Application Ref 8.7, a suitably qualified Ecological Clerk of Works will be employed for the duration of the construction period and would oversee the implementation of the mitigation measures. These mitigation measures will be secured via the submission, agreement and implementation of the detailed LEMP, as per Requirement 23 (*Landscape and Ecological Mitigation Plan*) in the draft DCO. <u>Compensation Measures</u>

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			It is not possible to replace felled trees along the cable route for operational reasons, i.e. because access to the cable route may be required and to avoid tree roots damaging cables. However, additional tree planting is proposed to provide screening of the substation (see Section 4 and Figures 2 and 3 in PINS Ref APP-142/ Application Ref 8.7), which will provide compensation for the loss of trees along the cable route and at the new access to the Baypoint Sports Club. The total extent of the proposed tree planting at the substation will be between approximately 0.36 ha and 0.41 ha, with the precise area dependent on the detailed design solution adopted. Although this is likely to be slightly smaller than the area of woodland and tree lines to be lost tree planting is likely to take place at a higher density than the density of trees to be removed. Planting will also feature a higher proportion of native species than will be removed. The Applicant is also willing to carry out additional tree planting, if the number of trees to be removed is greater than the number of trees to be planted at the substation. Additional tree planting would take place within the RLB (away from buried cables) or adjacent to it, in agreement with the relevant landowner(s). Any additional planting would involve native species appropriate to the site. Although this additional tree planting is not proposed within the ES the proposals set out here have been included within an updated version of the Outline LEMP (PINS Ref APP-142/ Application Ref 8.7), also submitted at Deadline 1 (Appendix 42 to Deadline 1. These compensation measures will be secured via the submission, agreement and implementation of the detailed LEMP, as per

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			Requirement 23 in the draft DCO. In addition, the tree planting at the substation will be secured via the submission, agreement and implementation of a substation landscaping management scheme, as per Requirement 12 (*Onshore Substation Landscaping*) of the draft DCO. <u>Ancient Woodland and Ancient or Veteran Trees</u> There are no areas included on the Ancient Woodland Inventory and no areas identified as wood pasture or historic parkland (which can represent ancient woodland but do not always appear on the Ancient Woodland Inventory because their low tree density did not register as woodland on historic maps) within 2km of the RLB. This has been checked by reference to the MAGIC website (Natural England, 2019). No veteran trees, as defined in paragraphs 3.2.4-3.2.5 of Volume 5, Annex 5-1: Extended Phase 1 Habitat Survey Report (PINS Ref APP-097/ Application Ref 6.5.5.1) of the ES, have been identified within 50m of the RLB (see paragraph 4.3.11 of PINS Ref APP-097/ Application Ref 6.5.5.1 and Volume 5, Annex 5-10: Additional Phase 1 Habitat Survey Report (PINS Ref APP-106/ Application Ref 6.5.5.10) of the ES. No ancient woodlands and ancient or veteran trees will therefore be affected by the Project.
1.1.50.	The Applicant	Onshore Biodiversity: Classification of Scrub In describing habitat types within the study area, Tables 5.7 and 5.8 together with Figures 5.4a-5.4d of	Under the Phase 1 habitat survey classification (JNCC, 2010) scrub is defined as "seral or climax vegetation dominated by locally native shrubs, usually less than 5 m tall, occasionally with a few scattered trees." It goes on to state that "the following should, amongst others, be

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Chapter 5 of Volume 3 of the Environmental Statement [APP-061] refer to 'Scrub- Dense/Continuous' and 'Scrub- Scattered'. a) Noting the contents of the relevant representation of the Forestry Commission, please could the applicant provide further clarity sufficient to ensure the correct classification of the identified scrub land. b) In particular, clarity is sought as to the extent to which any of the identified scrub land should be considered to be woodland for the purposes of the EIA regulations.	included in this category: stands of mature *Crataegus monogyna* [hawthorn], *Prunus spinose* [blackthorn] or *Salix cinerea* [grey willow], even if more than 5 m tall…; and all willow carr less than 5 m tall." As set out in paragraph 4.3.8 of Volume 5, Annex 5-1: Extended Phase 1 Habitat Survey Report (PINS Ref APP-097/ Application Ref 6.5.5.1) of the ES, scrub within the Phase 1 habitat survey study area was typically dominated by hawthorn and willow *Salix* sp. with abundant dogwood *Cornus sanguinea*, frequent blackthorn and bramble *Rubus fruticosus* and occasional dog rose *Rosa canina* and ash saplings. The scrub within the study area has therefore been correctly classified under the Phase 1 classification. The Phase 1 classification currently remains the standard method for habitat survey in the UK and its use to inform the EIA was agreed through the Evidence Plan process. The scrub mapped within the study area also meets the definition of scrub used by Mortimer *et al*. (2000), as referenced in Forestry Commission's Relevant Representation (PINS Ref RR-019). Mortimer *et al*. state that: "scrub includes all stages from scattered bushes to closed-canopy vegetation, dominated by locally native or non-native shrubs and tree saplings, usually less than 5m tall, occasionally with a few scattered trees." It is acknowledged that Forestry Commission (PINS Ref RR-019) uses a different definition and that areas within the RLB that were not mapped as woodland in the Phase 1 habitat survey (PINS Ref APP-097/ Application Ref 6.5.5.1), mostly within Pegwell Bay Country Park, are

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			defined as woodland on the National Forest Inventory. However, the Applicant's position is that scrub has been identified correctly in accordance with the widely accepted definitions and the methodologies agreed through the Evidence Plan process. The Applicant also notes that the current Pegwell Bay Country Park Management Plan includes objectives for the control of scrub to promote grassland diversity and prevent trees from maturing and potentially damaging landfill capping (see paragraph 6.1.9 of the Outline LEMP (PINS Ref APP-142/ Application Ref 8.7)). Removal of scrub within the Country Park, much of which is defined as woodland on the National Forest Inventory, is therefore likely to take place whether or not the Project takes place.
1.1.51.	The Applicant	In Principle Monitoring Plan Natural England has raised concerns that there is no In Principle Monitoring Plan (IPMP) included within the application, which it appears to have been expecting to be submitted as part of the application as a result of correspondence through the evidence plan process. The ExA recognises the existence of the Schedule of Mitigation document [APP- 135] but nevertheless requires further clarity on this point. a) Please can the Applicant explain why an IPMP does not form part of	A. It is the Applicant's view that whilst the inclusion of an IPMP may be appropriate for other projects of a larger scale or proposed in new/novel areas, it would be disproportionate for a comparatively small extension project. The Project includes detailed monitoring proposals that are based on the uncertainties present. By virtue of the Project being an extension to an existing wind farm which has been subject to a number of programmes of ecological monitoring since construction, the uncertainties that remain with regards the sensitivity of the receiving environment to change are therefore very limited. The monitoring undertaken includes benthic and geophysical monitoring, and ornithological monitoring. The latter in particular is worthy of note as it was undertaken under the auspices of Offshore Renewables Joint Industry Programme with a view to reducing uncertainty at offshore windfarms.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		the application? b) Could the Applicant please confirm whether or not such a plan will be prepared and if so, by when? c) If an IPMP is not to be made available at Deadline 1, can the Applicant please provide a single document which consolidates all of the monitoring requirement plans and provides clarity as to what relevant monitoring will be carried out to validate conclusions within the ES and HRA Reports. i. Please do so by onshore and offshore topic areas, and in particular in respect of ornithology and benthic ecology. ii. Please set out how each of these monitoring commitments would be secured as part of the DCO/DMLs.	B. Furthermore the Project position on monitoring has been informed by the Marine Management Organisation's review of post-construction monitoring which concluded inter alia that there is limited justification for monitoring of ecological receptors such as fish and shellfish, and monitoring in the wider sense should be focussed on specific questions and uncertainties rather than generic or broad scale monitoring. The monitoring proposals put forward are therefore very focussed, advanced and created to address the very limited areas of uncertainty. The offshore monitoring proposals put forward are the Saltmarsh Mitigation, Reinstatement and Monitoring Plan and the Biogenic Reef Mitigation Plan. C. The Applicant acknowledges the Examining Authority's request for a single document consolidating the monitoring requirement plants. However, as these plans are very concise, to avoid where possible the administrative burden of submitting an additional document, these plans have been clearly set out within this response. If the Examining Authority remains of the view that an additional document will assist, the Applicant is content to provide this document as may be requested. Requirement 35 (Certification of plans etc.) of the draft Order requires the undertaker to submit copies of both the Saltmarsh Mitigation, Reinstatement and Monitoring Plan and the Biogenic Reef Mitigation Plan to the Secretary of State for certification as soon as possible after the Order is made. The Pre-construction monitoring surveys condition in both deemed marine licenses (Schedule 11, Part 4, Condition 15 and

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			Schedule 12, Part 4, Condition 13) requires the undertaker to conduct "appropriate surveys to determine the location and extent of any biogenic reef features (Sabellaria spinulosa) inside the area(s) within the Order limits in which it is proposed to carry out construction works, as provided for in the biogenic reef mitigation plan" before commencement of the licensed activities. The Pre-construction monitoring surveys condition in the export cable license (Schedule 12, Condition 13) requires the undertaker to carry out "appropriate surveys in order to monitor the impact of development authorised by the Order within any areas of saltmarsh, as provided for in the Saltmarsh Mitigation, Reinstatement and Monitoring Plan" before commencement of the licensed activities. The onshore monitoring proposals are secured through the Landscape and Ecological mitigation plan. Requirement 23 (Landscape and Ecological Mitigation plan) requires the undertake to provide a Landscape and Ecological mitigation plan before commencing any stage of the connection works. The Plan is required to include an implementation timetable and must be carried out as approved.
1.1.52.	The Applicant	Project Environment Management Plan (PEMP) The PEMP appears to be relied upon as one form of embedded mitigation to reach a conclusion of no adverse effects on site integrity. DML	A. The Applicant would draw the attention of the ExA the fact that the PEMP relates to works below MHWS and is therefore applicable to the marine environment, rather than the terrestrial/onshore environment. It is therefore appropriate that it is secured within the DML(s) at Schedule 11, Condition 12 (d) and Schedule 12, Condition 10(e). A Construction Environmental

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		conditions include some headline requirements for inclusion in the PEMP, but little further detail has been provided. a) Could the applicant please explain why it is appropriate for the PEMP to be secured through DML condition rather than DCO requirement? b) Can the applicant provide an outline structure for the PEMP and a table itemising the particular environmental performance that will be secured within it?	Management Plan (amongst a number of other onshore management plans) which relates to onshore matters is secured within the DCO. (Requirement 15). It should also be noted that the PEMP will not, in the most recent revision of the RIAA to be submitted at Deadline 2, be relied on as embedded mitigation. The PEMP requires development of *inter alia* marine pollution contingency plans which are a requirement of works within the marine environment and are embedded as such within the EIA. In light of the Sweetman II rulings, despite these types of plans being required by the London Convention (on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter) 1972, they are no longer 'embedded' for the purposes of the RIAA. In light of the above the PEMP is to be secured within the dMLs as it is the MMO as the relevant regulator that is ultimately responsible for the approval of the document. B. The Applicant can confirm that the contents of the PEMP will reflect the condition(s) within the DML(s). The requirements are to provide a marine pollution contingency plan which will provide the Applicant (developer) proposed structure to ensure that pollution events are addressed rapidly and appropriately and in line with strategic and regional marine pollution contingency plans. The additional requirements, to provide a chemical risk assessment, waste management, and disposal arrangements further ensure that the Applicant and any contractors working on behalf of the Applicant will manage chemicals and waste appropriately to ensure that nothing is released to the marine environment. The requirements are

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			underlined by *inter alia* the London Convention (on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter) 1972. In light of the proposed contents of the PEMP being detailed within the dML(s), and the environmental performance it will secure is compliance with either those commitments or other Conventions, the Applicant would request further clarification as to what an outline PEMP should include,
1.1.53.	The Applicant	Ornithology Clarification in Non Technical Summary Please review and clarify [APP-129] Non Technical Summary: Offshore Ornithology para 120, which seems to be incorrectly proofed.	The Applicant acknowledges this proofing error and provides a clarified paragraph as follows (bold text represents revised text): "**The assessment of potential impacts to offshore ornithology is focused on individual birds, populations and colonies, rather than the integrity of nature conservation sites (e.g. SPAs and Ramsars) designated for those ornithological receptors. Only where likely significant effects (in HRA terms) on birds are predicted, are those designated sites taken into account, with a full HRA submitted separately. Nature conservation designations are also considered in Volume 2, Chapter 8: Offshore Designated Sites (Document Ref: 6.2.8).** The offshore ornithology study area includes the operational TOWF array area, the proposed Thanet Extension array area with a 4 km buffer around it, as well as the OECC up to the Mean Low Water Springs (MLWS) mark. The assessment considers potential effects on offshore ornithology in the construction, O&M and decommissioning phases of the proposed development, using existing data, site-specific survey data as well as results from collision Risk Modelling (CRM). A full description

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			of the assessment can be found within the ES (Volume 2, Chapter 4: Offshore Ornithology (Document Ref: 6.2.4)).”
1.1.54.	Natural England	Competent Authority for HRA Point 2 of the Actions arising from Issue Specific Hearing 1 (ISH1) requests that the Applicant provides legal submissions on the question of who is the competent authority for HRA appropriate assessment when the relevant sites are in France. It further seeks views as to whether the Secretary of State can call on UK statutory nature conservation bodies (SNCBs) for advice on these sites. a) Can Natural England (which was not represented at ISH1) please provide its considered opinion in respect of this matter? b) In particular, it would assist the Examining Authority to understand whether Natural England considers its remit to include providing advice as to the likely significant effects of projects in England or English waters	The Applicant refers the Examining Authority to Appendix 27, Annex E of Deadline 1 Submission: Defining "Competent Authority" in relation to Transboundary HRA issues which sets out the Applicant's understanding of the competent authority for HRA appropriate assessment for sites in France. As detailed within the Note, the Applicant confirms that section 1(3) of the Natural Environment and Rural Communities Act 2006 makes clear that "except where otherwise expressly provided, Natural England's functions are exercisable in relation to England (including, where the context requires, the territorial sea adjacent to England] only." This is not expressly stated to the contrary in the Planning Act 2008 or any other associated relevant primary or secondary legislation.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		on European sites in France or French waters?	

3 ExQ1.3 Compulsory Acquisition, Temporary Possession and other Land or Rights Considerations

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.3.1.	Applicant	National Trust Land The Book of Reference [APP-027] Parts 1, 3 and 5 identify that the application proposal affects land or rights held by the National Trust, but seeks in all instances to describe the land or rights sought as 'excluding interests held by the National Trust…' With regard to the outcomes from on-going diligence, the Applicant is asked to confirm that the application proposal does not seek to compulsorily acquire any land belonging to the National Trust which is held by the Trust inalienably and subject to the operation of s130 PA2008.	The Applicant does intend to seek compulsory acquisition powers over the National Trust's interest, as it may need to go through the Special Parliamentary Procedure to obtain authority to exercise them. The Applicant has scheduled land interests belonging to the National Trust in its application BoR in Plots 00/05, 00/10, 01/01, 01/02, 01/05 and 01/06. The application BoR originally 'excluded' the National Trust's interests from the effect of compulsory acquisition with the note "Excluding interests held by The National Trust for Places of Historic Interest or Natural Beauty" placed below the description of the land (the exclusion wording). At the time of submission, negotiations with the National Trust were at an early stage. Indications were positive that a favourable outcome would be reached. The exclusion wording was included in line with normal practice (as is also common for Highways England and Crown interests) to reflect the unlikelihood and undesirability of the Applicant entering into the Special Parliamentary Procedure process, and to avoid entering into a contentious process with the Trust following acceptance of the application. Since the summer of 2018, negotiations have not progressed as steadily as hoped. The Applicant now considers there is a real prospect that it may need to compulsorily acquire all the interests it requires in the land including those of the National Trust. Accordingly the Applicant intends
1.3.2.	National Trust	National Trust Land Does the National Trust consider that the proposed development seeks to compulsorily acquire any land belonging to the National Trust which is held by the Trust inalienably and subject to the operation of the	

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		Planning Act 2008 (as amended) section 130 (s130 PA2008)?	to strike out the exclusion wording, submitting an amended draft BoR in due course. The Compulsory Acquisition Regulations To be clear, the Applicant's view is that the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 (the CA Regulations) are not engaged, because the Trust's interests are not "additional land" under the definition in the CA Regulations. We give the detail below. Statutory rules Section 123 of the 2008 Act states that an Order granting development consent can include compulsory acquisition provisions only if the Secretary of State is satisfied that: • the application for the Order included a request for the compulsory acquisition of the land to be authorised (s123(2)); or • that all persons with an interest in the land consent to the inclusion of the provision (s123(3)); or • that the 'prescribed procedure' has been followed in relation to the land. The CA Regulations apply to proposals "to include in an Order.. a provision authorising the compulsory acquisition of additional land".. "and a person with an interest in the additional land does not consent to the inclusion of the provision" (Regulation 4).

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			"Additional land" is defined in Regulation 2 of the CA Regulations as "land which it is proposed shall be subject to compulsory acquisition and which was not identified in the Book of Reference submitted with the application as land". Plots 00/5, 00/10, 01/01, 01/02, 01/05 and 01/06 are identified in the Land Plans for the dDCO, and are also scheduled in the application Book of Reference. The National Trust is aware that the Applicant needs to acquire rights in its land, and that its land was included in the Order. Furthermore, if the Applicant's DCO is made with the exclusion wording included, this land would be excluded from compulsory acquisition, but would still be subject to the Applicant's development consent and the other statutory powers provided by the Order. The interests of the National Trust do not constitute 'additional land' for the purposes of the CA Regulations, and accordingly cannot be the basis of a "proposed provision" under the CA Regulations. For clarity, the exclusion wording in the Book of Reference can be removed without engaging the prescribed procedure under the CA Regulations, so that the Applicant is able to go through the Special Parliamentary procedure if that should prove necessary, however the Applicant remains committed to seeking to reach an agreement with the National Trust.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.3.3.	Applicant	Commons, open spaces etc. Part 5 of the Book of Reference [APP-027] suggests that the Applicant seeks to acquire land and/or rights in Pegwell Bay Country Park that is defined as public open space. The Applicant is asked to confirm whether the identified land is subject to the operation of s131 PA2008, or rights over such land are subject to the operation of s132 PA2008?	The Applicant acknowledges that the compulsory acquisition of rights over the land known as Pegwell Bay Country Park ("the Park") could potentially be subject to the operation of section 132 of the Planning Act 2008 in relation to open space land (see the Special Category Land Plan (Document 2.4). Plots identified as open space on that plan are being treated as such on a precautionary basis. This approach has been taken albeit that the Park is not entirely accessible to the public, as explained below, due either to being fenced off, or clearly signposted as not for walking due to specific habitats potentially being disturbed. Further, the undertakers for the Nemo Link interconnector installed a berm within the Park to accommodate underground cables running to the Richborough substation; and no issue was raised during the application process to the effect that the Park was open space for the purposes of section 132. The Applicant does not understand there to be any local policy suggesting that the Park is open space. Notwithstanding this precautionary approach, it is the Applicant's view however that under subsection 132(3) of the Act, the compulsory acquisition of rights over this land does not leave the order subject to special parliamentary procedure and that exchange land is not required. Section 132(3) states that section 132(2) does not apply where the Order land will be no less advantageous than it was before to the persons in whom it is vested and the public.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The Applicant expects a five month construction period at the Country Park (as set out within Table 4.12 of Environmental Statement Volume 3, Chapter 4: Tourism and Recreation (APP-060)). Following this, there will be a period of approximately 12 months where the wider onshore cable trenching/HDD and pull-through exercise for the whole project would relate to the Country Park. The Park would not be closed at any point during the entire construction period; and the public would be able to access the Park, including through specified routes. During the pull-through exercise most of the plots would be accessible as the pull through exercise would be undertaken sequentially and on a rolling basis. Only small areas of land within the plots would be cordoned off on a limited and temporary basis. Table 4.1 of the Access Management Strategy (APP-136) contains further information about the implementation of diversions to ensure the retention of a high level of access around the Country Park during this time. This approach is in keeping with the current layout of the Park. As set out on pp 7 of the Access Management Strategy (APP-136), the Country Park is divided into six small fields, of which five are subject to regular grazing. As mentioned above, this means that approximately 46% of the Park's total area is subject to permanent or regular closure. This is part of the management of the Park undertaken by its tenants, Kent Wildlife Trust, to further open up the Country Park and make it more accessible; this also meets the aspiration of Kent County Council in improving access to the Country Park. As access to the Park is infrequent in any event, the altering of routes through the Park during the construction period will not cause the land to be less advantageous to the public. Any

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			temporary altering of routes through the Park during the construction period should be seen in this context and will not cause the land to be less advantageous to the public. Any effects during works affecting the Park are therefore entirely temporary and will not adversely affect the overall use of the land. Following construction, the Applicant will at times require access to the land during anticipated maintenance periods, likely on an annual basis. The maintenance work will be limited to small, discrete parts of the Park which would be affected only intermittently, essentially through the use of created manhole covers. Any works would be of short duration and would not be inconsistent with the ongoing management of the country park by Kent County Council and Kent Wildlife Trust. It is not expected that any intrusive maintenance works will be required. The maintenance periods will in no way diminish the use of and access to the Country Park. Further information about the nature and impact of the anticipated maintenance works can be found at Table 4.12 of Environmental Statement Volume 3, Chapter 4: Tourism and Recreation (APP-060). To the extent that the installation of the cable may have involved the creation of a berm above ground, access to the berms would be maintained and comply with the various guidance and legislative requirements relating to accessibility. For these reasons the land would be no less advantageous than it was before to any person and the public and the exception in section 132(3) is considered to apply.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.3.4.	Applicant	Commons, open spaces etc. With regard to the outcomes from on-going diligence, the Applicant is asked to confirm that the application proposal does not seek to compulsorily acquire any land forming part of a common, open space or fuel or field garden allotment subject to the operation of s131 PA2008, or rights over such land subject to the operation of s132 PA2008, other than the plots already identified.	The Applicant can confirm that the outcomes from ongoing diligence have not led to any additional land which may be form part of a common, open space or fuel or field garden allotment subject to the operation of s131 PA2008, or rights over such land subject to the operation of s132 PA2008, other than the plots already identified.
1.3.5.	Applicant	Crown land With regard to the outcomes from on-going diligence, the Applicant is requested to provide and at each subsequent deadline to maintain and resubmit a table identifying any Crown interests subject to PA2008 s135 with reference to the latest available Book of Reference and the Land Plans, to identify whether consent is required with respect to s135(1)(b) and/or s135(2) and what progress has been made to obtain such consent(s).	The Applicant has provided this table at Annex C - ExQ1.3.5: Crown Land and Consent and a revised table will be provided at subsequent deadlines as requested.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Written evidence of consent(s) obtained must be provided at the first available deadline and in any case by Deadline 6. The table should be titled ExQ1.3.5: Crown Land and Consent and provided with a version number that rolls forward with each deadline. If at any given deadline, an empty table is provided, a revised table need not be provided at any subsequent deadline unless the Applicant becomes aware that the data and assumptions on which the empty table was provided have changed.	
1.3.6.	Applicant	Compulsory acquisition and temporary possession: general With regard to the outcomes from on-going diligence, the Applicant is requested to complete the attached Objections Schedule with information about any objections to the compulsory acquisition and temporary possession proposals in	The Applicant has provided this table at Annex D - ExQ1.3.6: Schedule of CA and TP Objections and a revised table will be provided at subsequent deadlines as requested.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		the application and at each successive deadline to make any new entries, or delete any entries that it considers would be appropriate, taking account of the positions expressed in relevant representations and written representations, giving reasons for any additions or deletions.(See Annex A to ExQ1 below). The Objections Schedule should be titled ExQ1.3.6: Schedule of CA and TP Objections and provided with a version number that rolls forward with each deadline. If at any given deadline, an empty table is provided, a revised table need not be provided at any subsequent deadline unless the Applicant becomes aware that the data and assumptions on which the empty table was provided have changed.	
1.3.7.	Applicant	Statutory undertakers: land or rights The Applicant is requested to review relevant representations and written	The Applicant has provided this table at Annex E - ExQ1.3.7 PA2008 s127 Statutory Undertakers Land Rights V1 and will provide an updated table at subsequent deadlines as requested.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		representations made as the examination progresses alongside its land and rights information systems and to prepare and at each successive deadline update as required a table identifying and responding to any representations made by statutory undertakers with land or rights to which PA2008 s 127 applies. Where such representations are identified, the Applicant is requested to identify: a) the name of the statutory undertaker; b) the nature of their undertaking; c) the land and or rights affected (identified with reference to the most recent versions of the Book of Reference and Land Plans available at that time); d) in relation to land, whether and if so how the tests in PA2008 s127(3)(a) or (b) can be met; e) in relation to rights, whether and if so how the tests in s127(6)(a) or (b) can be met; and	

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		f) in relation to these matters, whether any protective provisions and /or commercial agreement are anticipated, and if so: i. whether these are already available to the ExA in draft or final form, ii. whether a new document describing them is attached to the response to this question or iii. whether further work is required before they can be documented; and g) in relation to a statutory undertaker named in an earlier version of the table but in respect of which a settlement has been reached: i. whether the settlement has resulted in their representation(s) being withdrawn in whole or part; and ii. identifying any documents providing evidence of agreement and withdrawal. The table provided in response to	

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		this question should be titled ExQ1.3.7: PA2008 s127 Statutory Undertakers Land/ Rights and provided with a version number that rolls forward with each deadline. If at any given deadline, an empty table is provided, a revised table need not be provided at any subsequent deadline unless the Applicant becomes aware that the data and assumptions on which the empty table was provided have changed.	
1.3.8.	Applicant	Statutory undertakers: extinguishment of rights and removal of apparatus etc. The Applicant is requested to review its proposals relating to CA or TP of land and/ or rights and to prepare and at each successive deadline update a table identifying if these proposals affect the relevant rights or relevant apparatus of any statutory undertakers to which PA2008 s138 applies. If such rights or apparatus are identified, the Applicant is requested	The Applicant has provided this table at Annex F - ExQ1.3.8 PA2008 s138 Statutory Undertakers Apparatus V1 and will provide an updated table at subsequent deadlines as requested.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		to identify: a) the name of the statutory undertaker; b) the nature of their undertaking; c) the relevant rights to be extinguished; and / or d) the relevant apparatus to be removed; e) how the test in s138(4)can be met; and f) in relation to these matters, whether any protective provisions and /or commercial agreement are anticipated, and if so: i. whether these are already available to the ExA in draft or final form, ii. whether a new document describing them is attached to the response to this question or iii. whether further work is required before they can be documented; and g) in relation to a statutory undertaker named in an earlier version of the table but in respect of	

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		which a settlement has been reached: i. whether the settlement has resulted in their representation(s) being withdrawn in whole or part; and ii. identifying any documents providing evidence of agreement and withdrawal. The table should be titled ExQ1.3.8: PA2008 s138 Statutory Undertakers Apparatus etc. and provided with a version number that rolls forward with each deadline. If at any given deadline, an empty table is provided, a revised table need not be provided at any subsequent deadline unless the Applicant becomes aware that the data and assumptions on which the empty table was provided have changed (for example as a consequence on ongoing diligence).	

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.3.9.	Applicant and National Grid Electricity Transmission (NGET)	Richborough Connection and Substation The application proposal includes land on which the consented Richborough 400kV substation would be constructed within the Order limits. a) NGET [RR-027] states that it is 'concerned' about the prospect of CA and/ or TP affecting this land. It is requested to explain why CA and/ or TP is inappropriate, with reference to the effect that it would have on: i. the intended operational land required for the transmission and substation facilities proposed to be developed in the Richborough Connection; and/ or ii. any other land that NGET may hold that is intended to be non-operational. b) The Applicant is asked to explain why CA and/ or TP is required and whether or not its needs could be met by any alternative provisions, a lease or other legal agreement	A connection agreement is in place between The Applicant and NGET for a 400KV connection between the proposed Thanet Extension Offshore Windfarm and the transmission network. Acquisition of permanent rights (Easement) is required because NGET are not the Freehold owners of the land and might require permission from the landowner to grant Vattenfall an easement for the cables within the substation fenceline to the interface point. The Applicant is not looking to CA the freehold of NGET's operational land just have the ability to lay cables to the interface point. The applicant is working to agree the terms for an option to grant an easement with the Freehold owners and to agree the terms of bespoke Protective Provisions with NGET.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		relating to NGET intended operational and/ or non-operational land. c) NGET is requested to identify whether any alternative provisions, a lease or a legal agreement could address its concerns.	
1.3.10.	Applicant and Nemo Link Ltd.	Nemo Link Onshore Facilities The application proposal includes land on which the Nemo Link interconnector is sited within the Order limits. a) Is Nemo Link Ltd or any related body that might operate the Nemo Link interconnector or facilities related to it classed as a statutory undertaker for the purposes of PA2008? b) Nemo Link Ltd [RR-010] states that it objects to CA and/ or TP affecting this land and related facilities. Nemo Link Ltd is requested to explain why CA and/ or TP is inappropriate, with reference to the effect that it would have on: i. the operational land of the interconnector; and/ or	The Applicant seeks the acquisition of permanent rights (Easement) in certain land where NEMO Link Ltd enjoys easements and other rights. NEMO Link Ltd is not the freehold owner of this land, and the Applicant requires rights from the freehold landowner to install the cables within the relevant land. The only potential onshore crossing of NEMO is within the Richborough Energy Park at plot 02/21 if the north eastern routeing through the energy park is opted for. The Applicant is not seeking to extinguish or relocate any of NEMO Link Ltd's infrastructure or rights, but is seeking rights from the same freehold landowners to lay cables in proximity to NEMO Link Ltd's cables, and rights relating to its cables. CA and TP powers are sought in the event that the relevant landowners do not complete a negotiated agreement with the Applicant. In accordance with practice standard in infrastructure orders, CA and TP powers are sought in parallel with voluntary negotiations in the event that voluntary negotiations fail. The Applicant is working to agree the terms for an option to grant an easement with the freehold landowners.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		ii. any other land that Nemo Link Ltd may hold that is associated with the interconnector. iii. Nemo Link Ltd is requested to identify whether any affected land is operational land and if it contains any apparatus that might be affected. c) The Applicant is asked to explain why CA and/ or TP is required and whether or not its needs could be met by any alternative provisions, a lease or other legal agreement relating to NGET intended operational and/ or non-operational land. d) NGET is requested to identify whether any alternative provisions, a lease or a legal agreement could address its concerns.	In addition, the Applicant is negotiating with NEMO Link Ltd to agree the terms of a crossing and proximity agreement and we understand that, providing agreement can be reached before the end of the examination, NEMO Link Ltd will at that point remove its objection.

4 ExQ1.5 Debris, Waste and Contamination

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.5.1.	The Applicant	Onshore Site Investigation and Contaminated Land and Groundwater Plan Table 6.12 of ES Chapter 6.3.6 [APP-062] states that "The contaminated management plan (CLGP) [sic] will be drafted following SI works", whereas page 13 (item 6.2) of the Schedule of Mitigation [APP-135] states that "Site investigation works to inform final design and potential hazards" will be secured by the Contaminated Land and Groundwater Plan. Can the applicant clarify this apparent discrepancy?	Site investigation including geotechnical surveys are needed to inform the mitigation measures that will form part of the Contaminated Land and Groundwater Plan (CLGP) as set out in the ES chapter. The requirement to undertake these surveys and to use the data gathered to inform the CLGP is set out in the Code of Construction Practice (CoCP) (PINS ref: APP-133). The CLGP must be drafted in accordance with the CoCP as set out in Requirement 19 (Contaminated land and groundwater plan). It is through this mechanism that the requirement for site investigation to inform the plan is secured within the DCO.
1.5.2.	The Applicant	Onshore Site Investigation Please identify what additional site investigation works requiring access to private land still need to be carried out / completed pursuant to applications made under s53 PA2008? In relation to this question, please: a) Identify any plots of land	Notwithstanding the Applicants decision to remove landfall option 2 (surface laid cables covered in a berm) the Applicant intends to conduct geotechnical ground investigations within the former landfill site area of Pegwell Bay Country Park, such that it may provide additional context to the baseline data: A. The plot numbers from the BoR and Land Plans to which access is required are 01/10, 01/11, 01/15, 01/20, 01/60, 01/65, 01/70. B. There are 13 trial pits and 7 boreholes proposed within those land parcels.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		remaining to be investigated (using BoR / Land Plan plot references); b) Itemise the outstanding investigations and explain whether, irrespective of access considerations, there are any elements of these with particular seasonal or timing requirements (and if so please itemise these); c) With regard to the fact that you are now engaged in a separate application process under s53 PA2008, please estimate when investigations are likely to be complete; and d) Where investigations are completed, at the next relevant deadline up to Deadline 6, please provide a report of investigations. e) If any investigations remain incomplete at Deadline 6, please provide a report at that deadline identifying how you intend to address the need for site investigation works that may need to be carried out after the closure of the Examination.	C. All of the proposed site investigations within those land parcels are subject to seasonal restrictions in line with the permits for the works that have been issued by the Environment Agency. D. The Applicant anticipates that the SI works could be complete by end May 2019, assuming that access is obtained by the end of March 2019. It is recognised that this is likely to be too late to introduce the data acquired into the examination. It is, in part, for this reason that the decision to drop landfall option 2 has been made at Deadline 1. E. The Applicant notes the requirement to provide a report on site investigations once they are complete. The Applicant notes the requirement to provide a report at Deadline 6 identifying how they intend to address the need for site investigation works that may need to be carried out after the closure of the Examination. Pre-construction site investigation is a requirement set out in the Code of Construction Practice. This is explained further in response to ExQ 1.5.1.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		It should be noted that it is distinctly preferable for all site investigations to be complete in sufficient time to be reported to the Secretary of State (SoS) by the ExA. However, this question cannot affect the exercise of discretion by the SoS under s53 PA2008 which is a separate matter to this Examination.	

5 ExQ1.6 Electric and Magnetic Fields (EMFs)

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.6.1.	All IPs	Effects on Human Health Public Health England states that it is satisfied that the project would not pose a significant risk to public health in terms of the potential impact of electric and magnetic fields. • Do any IPs disagree with this view? If so, please explain why.	The Applicant notes that it has nothing to add to this ExQ at this time beyond noting that following multiple phases of consultation PHE agreed this position to be accurate.
1.6.2.	The Applicant, Natural England and Marine Management Organisation	Effects on Benthic Ecology The embedded mitigation identified within the ES includes burying offshore cables to a maximum target depth of 3m "where possible" to reduce received Electric and Magnetic Field effects on benthic species. As cables will be buried to a maximum target depth only where possible, there is some uncertainty as to how these embedded mitigation measures will be secured. a) In respect of table 5.11 of APP-046, can the applicant explain (with	The Applicant notes that, due to the inherent uncertainty as to whether burial to the target depth can be achieved, the worst case parameters assessed within Volume 2, Chapter 5: Subtidal Benthic and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) assumed that the full length of all cables installed for the proposed development would be buried to less than 1.5m (i.e. the depth at which electromagnetic fields (EMF) from the cables will be detectable). A. The Applicant will undertake a Cable Burial Risk Assessment (CBRA) as part of the engineering works which will inform the Cable Specification and Installation Plan (CSIP) which is one of the required pre-commencement documents outlined in the dMLs (Condition 12(g) of the Generation Assets dML and Condition 10(h) of the Export Cable System dML). These documents will detail the burial methodologies and how the

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		reference to the DCO, DMLs and/or other documents) how the embedded mitigation measures identified are capable of being secured as part of the scheme design? b) What will be the approach taken in areas where it is not possible to bury cables at the desired depth and where are the EMF effects of this scenario assessed? c) As no significant effects resulting from the proposed development are identified, no further mitigation is proposed as necessary beyond those measures embedded in the project design. Please could NE and the Marine Management Organisation confirm whether or not they are satisfied that no further mitigation is proposed?	target burial depth will be met or what measures will be used if the target burial depth is not achieved. These documents will be submitted to the MMO at least 4 months prior to construction for approval and the MMO will consult with Natural England to ensure that they are content that the methodology is appropriate. B. Where it is not possible to bury the cables to the target burial depth, it is likely that cable protection will be used. This typically comprises of rock deployed in a berm or concrete mattresses, but full detail of this cable protection will be provided to the MMO for approval in the CSIP, based on the information provided in Volume 2, Chapter 1: Project Description (Offshore) of the ES (PINS Ref APP-042/ Application Ref 6.2.1). The worst case scenario for EMF effects is that all cables will be buried to less than 1.5 m depth (i.e. assumed full effects of EMF received by benthic organisms) and this has been assessed in section 5.11 of Volume 2, Chapter 5: Subtidal Benthic and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5). C. The Applicant notes that this question is not directed at them but considers that it would aid the ExA to clarify that the embedded mitigation (i.e. cable protection)will be fully implemented for the project and where the target burial depth is not achieved, cable protection will be deployed to ensure the integrity of the cable, therefore also providing a degree of mitigation for EMF effects.

6 ExQ1.7 Electricity Connections and Other Utility Infrastructure

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.7.1.	The Applicant	Richborough Connection and Substation: Integrity of and access to existing 132kV underground cable: In its Relevant Representation [RR-027], National Grid commented: "Between National Grid's 400kV substation and UKPN's 132kV substation will be a 132kV underground cable. Careful consideration will need to be given by the Thanet Extension Offshore Windfarm project team to ensure none of the proposed works impact on the integrity of this cable. Unfettered access to this cable will also need to be maintained at all times." Please provide a detailed response on this matter?	The Applicant seeks consent for sufficient land within the order limits to provide for 3 cable routing options through Richborough Energy Park. • Option 1 – To The North East of the NEMO HVDC Converter Building approaching the NGET 400KV Richborough Substation from the east. • Option 2 – Between the NEMO HVDC Converter Building and the UKPN 132KV Substation approaching the NGET 400KV substation from the south • Option 3 – A route to the south west of the UKPN substation broadly following the south western boundary of the Richborough A Ltd. ownership The south western option (Option 3) would involve cable laying in proximity to the 132KV underground cable referred to in NGETs Relevant Representation. The Applicant is in discussions with NGET and UKPN to ensure that the routing of this 132KV cable would not preclude installation of its own 400KV cable in the same vicinity. Construction of the Applicant's scheme will also be governed by protective provisions in the Order benefitting NGET, which will ensure that the Applicant's works cannot be commenced until (for example)

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			satisfactory designs and construction methodologies are approved by NGET. The Applicant is engaged in an ongoing process of consultation with Richborough A Ltd. as freehold owner of the energy park and all other energy park stakeholders who enjoy easement and other rights in the common areas thereof with a view to agreeing the optimum cable routing bearing in mind the constraints that exist. Bearing in mind the constraints that exist and the pace of development within the energy park the applicant considers it reasonable and necessary to have sufficient land available within the Order Limits for any of the 3 options to be taken forward in order to allow sufficient flexibility for the constraints to be worked around.
1.7.2.	Nemo Link Ltd.	Nemo Link Onshore and Offshore Facilities Nemo Link Ltd identifies [RR-010] that there is insufficient information in the application document set to enable it to reach a full understanding of the impacts of the proposed development on the Nemo Link interconnector. Nemo Link Ltd is requested to identify: a) Whether additional information is required in relation to works at sea and/ or works on land?	The Applicant notes that this question is for Nemo Link, and has provided a response to ExQ 1.7.3 which responds to the themes of both questions.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		b) What additional information it considers would be necessary to enable the impacts to be fully understood?	
1.7.3.	The Applicant	Nemo Link Onshore and Offshore Facilities With reference to ExQ1.7.2 the Applicant is requested to address responses to that question with additional information and, where appropriate mitigation proposals at Deadline 2.	The Applicant and NEMO Link Ltd. are in engaged in an ongoing process of dialogue with the objective of agreeing a crossing and proximity agreement addressing how the Applicants proposed offshore and onshore works will impact NEMOs rights and assets during the Applicants construction and operational phases and how those impacts can be managed to ensure the integrity of both assets. In common with standard agreements with statutory undertakers, the agreement will require the Applicant to produce documents describing and explaining their detailed project design and construction methodologies and NEMO Link will be required to give timely consideration to these and give approval for the works post consent in advance of construction commencing. This provides the statutory undertaker with the necessary protection for their assets whilst understanding that detailed design information is not available at this time. It is expected that this agreement will in place during the examination. The Applicant and NEMO Link Ltd. expect NEMO Link Ltd. objections to the DCO Application to be withdrawn at the point that agreement is entered into.

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			The Applicant will respond to Nemo Link's specific concerns at Deadline 2.
1.7.4.	The Applicant	Landfall Option 2 Double Berm If the Option 2 landfall were to be adopted, resulting in a "double" berm where the Thanet Offshore Wind Farm Extension cable route runs in parallel with Nemo Link, would the applicant confirm whether this would result in an "M-form" berm? If the answer to this question is yes: • How will drainage of the resulting valley between berm crests be managed.	The Applicant has made the decision to remove landfall option 2 and to commit to undergrounding the cables for the entirety of the onshore cable route. As such there will not a second berm adjacent to the Nemo Link berm. Drainage for the buried cables will be designed and constructed as set out in paragraphs 1.5.89, 1.5.90 and 1.5.93 of the Project Description (Onshore) chapter of the ES (PINS ref: APP-057). The decision to remove landfall option 2 is set in Appendix 45 of the response to Deadline 1.

7 ExQ1.11 Marine and Coastal Physical Processes

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.11.1.	The Applicant	Scour Protection: Volumes The Marine Management Organisation has provided detailed comments in paragraphs 1.12-1.20 and 1.59 of its relevant representation [RR-049] regarding the maximum total volumes of scour protection presented within the ES project description and limited by requirement in the DCO or condition in the DMLs. Uncertainty between these relate to seemingly differing cable protection, scour protection and disposal volumes. a) Please respond to these points using a comparative schedule or similar method of presentation: i. Please clarify the total volume of scour protection that has been assessed within the ES for the turbine structures and offshore substation; ii. Please confirm whether or not these maximum parameters are	A. Annex A, of the Applicants' Response to Relevant Representations (Appendix 1 of the Deadline 1 submission) presents the maximum design parameters of Volume 2, Chapter 1: Project description (Offshore) (PINS Ref APP-042/ Application Ref 6.2.1). This document presents the maximum design parameters in a tabular format, including the total scour protection volume assessed. The Applicant seeks to consent a maximum total scour protection volume of 1,112,647.4 m3 and 39,269.9 m3 for all wind turbine generator (WTG) foundations and the offshore substation (OSS) foundation (if required) respectively. The Applicant notes that there is a discrepancy in the transcription of scour protection volumes into the draft DCO, which is presented in Annex B of the Applicants' Response to Relevant Representations (Appendix 1). The Applicant has submitted a revised DCO (and dMLs) (Appendix 35) which has been updated as per the changes outlined in the DCO changes log (Annex B of Appendix 35) of the of the Applicants' Response to Relevant Representations of the Deadline 1 submission). B. The Applicant can confirm it is seeking the provision of scour protection for the Met Mast. A maximum volume of 39,269.9 m^3 is being sought for the Met Mast. Full details of the maximum design parameters of the Met Mast being sought for consent is

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		correctly reflected within the appropriate DCO requirement and DML conditions; and, iii. If not, please provide an updated version of the relevant DCO requirement and DML conditions. b) Please confirm whether any scour protection is proposed for the offshore met mast foundation? • If so, please: specify the parameters of the Rochdale Envelope, signpost to where this has been assessed within the ES and advise whether and where this should be dealt with in the DCO/DMLs.	provided in Annex A, of the Applicants' Response to Relevant Representations (Appendix 1 of the Deadline 1 submission). Annex A, of the Applicants' Response to Relevant Representations (Appendix 1 of the Deadline 1 submission) presents the parameters for all relevant parameters inclusive of the offshore met mast foundation. As noted in response to part A, a revised DCO (and DMLs) is included in Appendix 35 of the of the Applicants' Response to Relevant Representations of the Deadline 1 submission.
1.11.2.	The Applicant	Cable Protection: Offshore Natural England has raised concerns as to the worst case scenario that has been assessed for the cable protection, which is noted as 25% of the total cable length in the array area and the export cable corridor. Natural England believes that this figure is incorrect in view of the number of developments foreseen in the area.	The Applicant can confirm that 25% of cable length for additional cable protection has been put forward as a conservative upper limit for the amount of cable protection that may be required for the Thanet Extension Cables. The Applicant understands the concerns that the respondents have with regards to excessive amounts of above ground protection and will work to keep such protection to a minimum as it offers less through project life protection for cables and requires additional ongoing monitoring and maintenance over and above that required for buried cables. Noting the project will endeavour to keep cable protection to a minimum it is also felt important to balance this with the request made

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		• Please provide further justification for the worst case scenario that has been assessed for the cable protection (25% of the total cable length). The response should make reference to the maximum permissible volumes for cable protection (and lengths of cabling) that have been specified in DCO requirement 4.	by Natural England to ensure lessons learnt from the existing Thanet OWF and NEMO interconnector are applied. The project has therefore sought to ensure appropriate methods of trenching are included within the design envelope, alongside adequate cable protection.
1.11.3.	The Applicant, Natural England, Marine Management Organisation	Scour Protection: Additional DCO Parameters Natural England's relevant representation [RR-053] states that additional parameters are required such that scour and cable protection should be limited by both volume of material and area of impact. a) Could Natural England please provide further specific detail about the recent experience alluded to in its relevant representation in this regard? • What does Natural England consider to be the implication of this	A. The Applicant can confirm that the introduction of scour protection to the receiving environment has been assessed in the following assessments on the basis of lessons learnt from other projects and consideration of the receiving environment: • Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5); • Fish and shellfish (PINS Ref APP-047/ Application Ref 6.2.6); • Offshore Archelogy and Cultural Heritage chapters (PINS Ref APP-054/ Application Ref 6.2.13); and • and the RIAA (PINS Ref APP-031/ Application Ref 5.2). These assessments concluded that the effects associated with the presence of the requested consent volume of scour protection (1,191,187.2 m^3) was not significant in EIA or HRA terms.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		experience for Thanet Extension Offshore Wind Farm? b) Please could the applicant and Marine Management Organisation respond to Natural England's suggestion that the use of volume parameters alone no longer provides sufficient certainty? c) Could the Applicant please comment as to whether it would be possible and /or appropriate for the DCO and DMLs to provide maximum scour protection areas per turbine.	B. It is the Applicants position that the assessment considers volume, height, and area where relevant within the assessment. As such all parameters associated with scour protection are presented with sufficient clarity to give certainty to the regulatory body. As identified in the Applicant's response to Natural England's Relevant Representation (response to NE-40), the Applicant is content to provide the maximum cable protection volumes and maximum scour protection volumes on the face of the DMLs in the revised draft Order submitted for Deadline 1. A scour protection management and cable protection plan is secured in Schedule 11, Part 4 (12)(e) and Schedule 12, Part 4 (10)(f) of the DCO which will be required to be approved in writing by the MMO and provides amongst other things the opportunity for a 'sense check' of volumes and areas assessed within the ES and the volumes/areas proposed to be utilised as part of the final design. As such the Applicant does not feel that it is necessary to include this information of the face of the DML.
1.11.4.	The Applicant	Effects on Wave Climate Paragraph 2.11.94 of APP-043 states that changes to local wave height as a result of the Thanet Extension Offshore Wind Farm would dissipate over distance towards the coast and be 'immeasurable'.	A. The predicted reduction in significant wave height due to interaction with WTG foundations in the Thanet Extension Array area is approximately 2.5%. This includes the realistic worst-case effect of WTGs in both the Thanet Extension Array area and TOWF. The predicted reduction in the overall sea state wave height is small in both relative and absolute terms. The relative reduction will be smaller than the difference in height between the individual waves that are present at any given time, and smaller than the difference in

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		a) Please could the applicant provide further detail to support this statement and the conclusion that there would be no morphological changes to any of the coastal feature receptors. b) Could the applicant explain how the assessment has taken account of the potential combined effects of turbines from the Thanet Extension Offshore Wind Farm together with those from the existing Thanet Offshore Wind Farm on wave regime in assessing the consequential effects on coastal geomorphology.	significant wave height over time (e.g. from hour to hour, varying from calm to everyday to storm conditions). The predicted small reduction in wave height is the maximum expected reduction, which will occur at the downwind edge of the Thanet Extension Array area. With time and distance downwind of the Thanet Extension Array area, wave height will recover toward unaffected conditions due to further input of energy from wind and wave spreading. Any remaining difference in significant wave height at the adjacent coastlines is expected to be so small that it would not be practicably measurable ('immeasurable') using normal wave measurement technology. Coastal morphological processes are primarily controlled by the wave climate, i.e. the magnitude, frequency and direction of incoming wave energy. As there will be no measurable change to the wave climate at the coast, it is concluded that there will be no measurable change to the naturally occurring rates and patterns of morphological change. B. The method for the assessment of potential impacts on wave height is described in Section 7.4 of Volume 6, Annex 2-1: Marine Geology, Oceanography, Physical Processes Technical Report (PINS Ref APP-070/ Application Ref 6.4.2.1) of the Environmental Statement. The assessment takes account of the potential combined effects of both Thanet Extension and TOWF by accounting for the total obstacle cross section presented by the realistic worst-case and actual installed WTG foundations in the two areas, respectively.

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1.11.5.	The Applicant	Effects of Migration of Sandwaves In Relevant Representation Winckworth Sherwood on behalf of Port of London Authority (PLA) [RR-054] notes ongoing concerns about the "potential migration of sandwaves into navigable waters between the North East Spit and the shore. The proposals would result in an adverse impact on coastal processes, reducing further the amount of sea room…". • Would the Applicant please provide a response?	The naturally occurring migration rate or distribution of nearby sand wave (and sand bank) features are very unlikely to be altered by the presence of turbine foundations in the Thanet Extension Array area. The reasons for this are set out in paragraph 2.11.26 et seq. and paragraph 2.11.77 et seq. of Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes (PINS Ref APP-043/ Application Ref 6.2.2) of the Environmental Statement. In brief, this is because the patterns of sediment transport controlling the morphology and evolution of sand wave features will be primarily determined by the patterns of tidal currents and sediment supply, none of which will be measurably influenced at this distance and orientation from the Thanet Extension Array area. The source of the potential effect has no clear pathway to the receptor in this case.

8 ExQ1.12 Navigation: Maritime and Air

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.12.1.	The Applicant, Port of London Authority, Estuary Services Ltd, London Pilots, London Gateway Port Ltd, Port of Tilbury London Ltd, Trinity House and the Maritime and Coastguard Agency	Navigability of the inshore approach to NE Spit pilot station Several Interested Parties and Other Persons at Issue Specific Hearing 2 (ISH2) raised concerns about continued prudent navigation by deep draught vessels "north-south/south-north" inshore of the proposed Thanet Extension Offshore Wind Farm. Evidence on use of the "inshore route" by large commercial vessels restricted in ability to manoeuvre ("RiAM") by reason of length, type or draught (i.e. on passage between the Dover Strait and the Princes Channel or the Fishermans Gat; to take refuge anchorage at Margate Roads or Tonge anchorages; or to transfer pilots at North East Spit or on passage between the Dover Strait and the northerly extent of the deep-water channels into the Thames at Sunk) as follows: a) what would be a reasonable	The Applicant refers to Supplementary Note at Annex M to this Deadline 1 submission in support of the response to this ExQ

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		maximum size of vessel by length, type or draught that is able to prudently use the inshore route at present in moderate MetOcean conditions? b) What is an estimated existing annualised use of the inshore route by "RiAM" vessels in baseline conditions of sea-room without the Thanet Offshore Wind Farm Extension (TEOWF); c) What would be a reasonably foreseeable annualised future use of the inshore route by "RiAM" vessels based on trend for change of vessel size using the Thames ports and anchorages as a whole in baseline conditions of sea-room without TEOWF; d) What would be a reasonably foreseeable annualised future use of the inshore route by "RiAM" vessels as a consequence of the reduction in sea room due to the pinch-point presented between the NE Spit bank and the proposed TEOWF Red Line Boundary plus 500m. proposed	

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		safety zone during construction and maintenance, with vessel size mix and volume of traffic using the Thames ports and anchorages as a whole as per baseline; e) What would be a reasonably foreseeable annualised future use of the inshore route by "RiAM" vessels as a consequence of the reduction in sea room due to the pinch-point presented between the NE Spit bank and the proposed TEOWF Red Line Boundary plus 500m. proposed safety zone during construction and maintenance with reasonable predictions of change of traffic mix based on trend for change in vessel size and number of vessels using the Thames ports and anchorages as a whole. In responding to this question, please have regard to Annex 3 of MGN:543 – "Shipping Route" Template Notes and indicate whether continued use of the "inshore" channel by "RiAM" vessels	

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		is likely to be intolerable, tolerable on the basis of being ALARP (identifying the risk assessment and mitigation measures that control risk to ALARP) or broadly acceptable.	
1.12.2.	The Applicant	Traffic along the NW façade of the proposed RLB Responding to concerns raised at ISH2 about the survey data presented in the NRA, please present a gate analysis of the surveyed traffic passing SW-NE/NE-SW past the North West façade of the proposed RLB.	The Applicant has created an additional Gate Analysis termed F – see Annex H for details. This Annex contains: • Schematic Plot of Gate F by transit numbers • Chart / graph of Gate F vessel transits by length • Chart / graph of Gate F vessel transits by draught The Gate Analysis shows the distribution of traffic passing the NW façade of the proposed RLB, showing two distance peaks – which relate to vessels passing in and out of the NE Area (either for pilot boarding or to make use of the Margate Road Anchorage) and through traffic continuing directly into or out of the Port of London Statutory Harbour Authority area. The distribution of vessel lengths and drafts also reflects the general use of the area with limited numbers of vessels over 200m in length or 10 m in draft. Reference is also made to the schematic plots from ExA Questions 12.1.1 and Annex G to this Deadline 1 submission showing the distribution of vessel types, lengths and drafts for these routes.
1.12.3.	The Applicant, Port of London Authority, Estuary Services Ltd, London Pilots,	Conditions for pilot transfer simulation Responding to concerns raised at ISH2 about the continued ability to board pilots in adverse MetOcean and draught-constrained vessel	Supplementary note has been prepared at Annex N of this Deadline 1 submission.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
	London Gateway Port Ltd, Port of Tilbury London Ltd, Trinity House and the Maritime and Coastguard Agency	manoeuvering conditions at the existing NE Spit pilot station, please identify whether the Bridge Simulation of feasibility of pilot transfer was adequate or not, covering the following points: a) to what extent can the ExA rely on the conclusions of the Simulation carried out? b) how many simulated runs in different MetOcean conditions would provide a reasonably robust test of feasibility and operating risk? c) what variables in MetOcean conditions would be reasonably representative of baseline normal operating conditions which would enable the NE Spit pilot station to remain "on station" without the proposed Thanet Extension? d) to what extent the exercise represented "real world" conditions in respect to local knowledge and communications ability in English of the actors in the simulation and their learning gained by performing multiple runs during the simulation?	

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		e) to what extent did the exercise incorporate impinging factors such as small vessels without AIS and crossing traffic? f) are there any other relevant factors or considerations that should have been taken into account?	
1.12.4.	The Applicant	Consideration of effects of relocation of NE Spit pilot station: Responding to concerns raised at ISH2, please comment on the opinion recorded in minutes of Dec 2017 meeting with ESL (appended to the NRA [APP-089]) that moving the NE Spit pilot station from its current location would be sub-optimal because it had been carefully located as a consequence of the Thanet Offshore Wind Farm project to be "2nm from all hazards and therefore makes maximum use of the space": a) to what extent the proposed Thanet Extension Red Line Boundary plus safety zone during construction and maintenance would encroach within that zone of 2nm radius from	The Applicant refers to Supplementary Note at Annex O of this Deadline 1 submission.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		the NE Spit pilot station diamond? b) to what coordinates the NE Spit boarding station diamond could be relocated in order to maintain an operating zone of "2nm from all hazards"? c) what hazards or obstacles whether geographic, physical or based on use of the sea space should be considered as bounds for this operating zone? d) What account has been taken of the consultation with Estuary Services Ltd in regard to the effects to pilot operations, to navigational safety and the operating efficiency of commercial shipping, fishing and ports of relocating the NE Spit boarding station. Ref: minutes of Dec 2017 meeting with ESL appended to Section 4 of the [APP-089] NRA.	
1.12.5.	Maritime and Coastguard Agency	Hierarchy of appropriate risk assessment: This MCA/DECC 2013 methodology advises the development of a "hierarchy of assessment" (see	The Applicant anticipates that further information will be placed before the examination at Deadline 1, although notes that no issues have been raised to date by the MCA on the Navigation Risk Assessment methodology and supporting studies.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		Annex D1 p63 Table 1). With respect to this recommended hierarchy of Navigation Risk Assessment would MCA confirm to what extent it is satisfied that for the Thanet Extension Offshore Wind Farm application to date: a) "Site Specific Assessment" has been carried out; and b) This was carried out in compliance with Definition 4 on page 65. Ref.: MCA/DECC 2013 Methodology Annex D1 p63 Table 1	In order to assist the ExA in reviewing the questions please find some notes below. A. "Site Specific Assessment" has been carried out; the Applicant believes the ExA is referring to Table 18 of the guidance which relates to the Hierarchy of Assessment and Trials in support of the Formal Safety Assessment, and has represented the table (above) with an extra column which references the analysis undertaken and the supporting studies that have been conducted in support of the Navigation Risk Assessment.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:

#	Possible Hierarchy of Assessment and Trials in Support of Navigation Risk Assessment		Reference to Hierarchy in Application
1a	Area Traffic Assessment of the Strategic Area leading to	Increasing Human Involvement	NRA Sections 3 Vessel Traffic Survey
1b	Area Traffic Assessment of the OREI Area leading to where necessary		NRA Section 3 NRA Section 5
2a	Specific Traffic Assessment in and around the OREI Area leading to (where necessary and appropriate to the development proposal)		NRA Section 3 NRA Section 5
2b	Specific Traffic Simulation in and around the OREI Area leading to (where necessary and appropriate to the development proposal)		NRA 7.3 Modelling Impact on Collision Risk NRA 7.4 Modelling contact Risk Pilotage Study
3	Specific Traffic Bridge Control Simulation in and around the OREI Area for training and research purposes leading to (where necessary and appropriate to the development proposal)		NRA Section 7.2 Pilotage Simulation Report
4	Site Specific Trials		None

- This was carried out in compliance with Definition 4 on page 65.
- The Applicant wishes to draw attention to the ExA that the MCA have confirmed the NRA has been undertaken in compliance with MGN 543 which references both the:

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• Methodology for Assessing the Marine Navigational Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI) – 2013 • Methodology for Assessing the Marine Navigational Safety Risks of Offshore Wind Farms - 2005
1.12.6.	The Applicant	Cumulative effects of increased density of traffic: Please provide further detail of to what extent the effects of increased congestion of traffic around the development have been assessed to increase the frequency of occurrence of the following risks in reasonable worst case MetOcean conditions in which the navigable water inshore of the proposed Thanet extension can be expected to be used: a) ship collision; b) ship grounding; c) ship stranding; and d) ship/WTG contact.	The Applicant has assessed the increase density of traffic brought about by the development for A. Ship collision; Collision risk has been assessed though identification of 21 construction / decommissioning and 15 operational collision hazards that cover the NRA study area – 5nm buffer of the proposed Thanet Extension Offshore Windfarm. Collision risk modelling (see NRA Section 7.3) was undertaken to assess the change in risk brought about by the development, which includes the inshore route between the extension and the shore. The collision risk modelling was undertaken by using 1 month of AIS data from December 2016 – which accounts for a worst case MetOcean conditions a winter month was used. Vessel tracks were displaced based on the wind farm extension resulting in higher traffic density leading to an increase in the number of vessel encounters logged by the modelling. The change in domain encounters brought about displacing vessel traffic can be seen in NRA Table 12 and NRA Figure 55 on Pg 81 of the NRA report. B. Ship grounding/ (c) ship stranding

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			Ship grounding is when a vessel makes contact with the seabed. The definition of stranding is not widely standardised, though frequently relates to a grounding in which a vessel is not able to re-float within a tidal cycle. Both grounding and standing are treated as vessel groundings in the risk assessment – with a "Most Likely" outcome relating to grounding with minor consequence and "Worst Credible" related to a serious grounding such as a stranding. There were a number of hazards identified for grounding covering the whole study area. Water depths in close proximity to the windfarm are not limiting of themselves, as vessels transiting into the Port of London have to transit the Princess Channel or Fisherman Gat, both of which have shallower charted depths at 8.0m and 8.4m respectively than the waters around the wind farm. Groundings hazards were therefore not identified as needing further investigation through quantitative modelling (which was the case with collisions). C. Ship/WTG contact There were a number of hazards associated with vessels making contact with WTG which are considered within the risk assessment. Further numerical analysis was undertaken against the routes passing the windfarm – see NRA Section 7.4 – Modelling of Impact of Contact (Allision). This geometric modelling was undertaken based on the displaced vessel tracks used in the collision risk modelling and as such utilised data originating in Dec 2016 – which equates to a winter period where worst case MetOcean considerations would be expected.

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1.12.7.	The Applicant	Additive effects of Wind Farm Service Vessels on collision risk: Please clarify the statement in the NRA that the collision risk within 5nm is increased by 54% to one every 4 years plus "a further 9% with the addition (of) WFSVs…"; • does that translate by addition into an increase of risk of 54%+9% = 63%? [APP-089] NRA para 7.3.2	NRA Section 7.3.2 describes the results of the collision modelling undertaken prior to the reduction of the RLB at the western extent. The modelling results showed an increase in the number of encounters between vessels from 246 (Baseline) to 379 (Scenario 3 – with revised RLB), a 54% increase. The Wind Farm Service Vessel modelling, Scenario S1b from Table 12 of the NRA on page 81, was undertaken with the original Red Line Boundary and showed 440 encounters, of which 37 involved wind farm service craft operating between Ramsgate and the Thames Estuary wind farms (9.2% of the total). This modelling includes windfarm service vessels transiting to London Array, Kentish Flats and the existing Thanet Offshore Wind Farms. The modelling made an overly conservative estimate that the number of all WFSV encounters would double (not just those related to Thanet Offshore Windfarm). As this Scenario includes a doubling of all WFSV which was subsequently identified as highly unlikely, and was undertaken against the original Red Line boundary, the results of have limited utility. As the two scenarios identified in the ExA question have different RLB and the assessment of WFSV is overly conservative, it is not correct to translate that the total increase in risk would be 54% + 9% = 63%.
1.12.8.	The Applicant	Effects of reduced margin for error in pilotage operations In regard to pilotage operations the NRA concludes that "reduced margin	The Applicant has addressed the margin for error in pilotage operations within the Hazard Logs. A. The Applicant has re-presented the hazard log in Annex Q to show hazard return periods for the Baseline, Inherent and

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		for error would increase the risk of an incident." Would the applicant please explain: a) how has this increased risk of an incident (due to reduced margin for error) been addressed in the risk assessment? b) what change of frequency of occurrence of the relevant hazards has been applied as a consequence of this reduced margin for error? [APP-089] NRA p129 para 12	Residual risk profiles. This shows that hazard likelihood scores have been increased for hazards associated with pilotage to account for the reduced "margin for error". An example of this is the likelihood scores given to Operational Phase Haz ID #17 – "Contact – Large Commercial Vessel in contact with WTG that had return periods of: • Baseline Hazard Likelihood ○ "Most Likely Occurrence" - 1 in 63 years ○ "Worst Credible Occurrence" - 1 in 6,310 years • b. Inherent Hazard Likelihood ○ "Most Likely Occurrence" - 1 in 25 years ○ "Worst Credible Occurrence" - 1 in 2,510 years These show significant changes to hazard likelihoods. B. The hazard risk scores for likelihood have also been increased to account for the increase likelihood of collision – this is demonstrated in Annex Q. An example of this is the likelihood scores given to Operational Phase Haz ID #7 – "Collision – Large Commercial Vessel in collision with (ICW) a Large Commercial Vessel" that had return periods of: • Baseline Hazard Likelihood ○ "Most Likely Occurrence" - 1 in 25 years ○ "Worst Credible Occurrence" - 1 in 2,510 years • Inherent Hazard Likelihood ○ "Most Likely Occurrence" - 1 in 16 years

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			○ "Worst Credible Occurrence" - 1 in 1,000 years These show significant changes to hazard likelihoods. The ExA should review the hazard scoring example presented as a Supplementary Note in answer to question No 1.12.28 (Annex P) with the re-presented hazard log table presented at Annex Q
1.12.9.	The Applicant	Tolerability of Societal Concerns: In the light of concerns about risks to safe navigation inshore of the proposed Thanet Extension raised at ISH2, please review the Navigation Risk Assessment (NRA) in respect to the MCA/DECC 2013 Methodology on Tolerability of Societal Concerns which recommends "…as a minimum, an overall assessment of societal risk…" as: "An aggregate of all entries in the risk register"; including for "Major risks such as collision, contact, grounding and stranding"; and please state a reasoned assessment of tolerability of societal concerns in regard to the aggregate of hazards of navigation in the following sea areas between the safety zone outside the proposed	The "Tolerability of Societal Concerns" section of the MCA/DECC 2013 Guidance (section 6.2) advises that an assessment should consider societal risk through two mechanisms: 1. An aggregate of all entries in the risk register; and for 2. Major risks such as collision, contact, grounding and stranding Section 6.2 does not however give any specific methodology for considering aggregate risk, but References Annex C4 that explains how Tolerability of Risk can be assessedhis splits Tolerability into two Questions which are focused on aggregating risk and assessing Tolerability. The questions are: 1. Is the risk below any acceptable limit? 2. Has the risk been reduced to as low as reasonably practicable (ALARP)? **Response to Guidance Question 1:** Is the risk below any acceptable limit? There is no guidance on absolute Tolerability limits provided by the MCA, or even the specific risk assessment criteria that need to be

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		Red Line Boundary of the Thanet Extension and: a) NE Spit Bank and the transit between Elbow cardinal mark and E Margate channel mark to the west and north-west of the site; b) the transit between Elbow cardinal mark and NE Goodwin cardinal mark to the south-west and south of the site; c) South Falls bank to the east and south-east of the site; d) The transits between Falls Head cardinal mark and Thanet N cardinal mark and NE Spit cardinal mark; the boundaries described above define sea-room with unobstructed water depth no less than 10 metres below Ordnance Datum. Ref.: MCA/DECC 2013 Methodology p.25 6.2 Tolerability of Societal Concerns.	utilised (e.g. likelihood, consequence and risk classifications, risk matrix set up, consequence categories to be assessed, or use of the "most likely" / "worst credible" concept, etc.). The (MCA/DECC 2013) guidance does give some indication of absolute tolerability and specifies *as a very broad indication*" the Health and Safety Executive individual risk of death of 1 in 100,000 per annum – which should "*represent the dividing line between what could be just tolerable for any substantial category of workers for any large part of working life and what is unacceptable for any but fairly exceptional groups*" (Annex C4). The NRA sought to address this question through Section 8.6.3 as a means of considering overall levels of risk. The Applicant considers the approach in Section 8.6.3 to be consistent with the objectives of the guidance; and the NRA also accords with the underlying approach of ensuring that all relevant hazards are identified and presented in entries that allow for an overall assessment of risk, as the guidance envisages. Note that the analysis conducted in NRA section 8.6.3 includes all hazard types within the risk assessment for both the construction/decommissioning and operational phases of the windfarm including the aggregate assessment of Tolerability by vessel type for: • Large Construction Vessels • Small Construction Vessels • Large Commercial Vessels • Small Commercial Vessels • Fishing Vessels

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• Recreational Vessels The aggregate fatality rates for each vessel type were based on the summing up the hazards fatality rates for each the following hazards: • Collision • Contact • Grounding • Obstruction • Swamping / Capsize The analysis contained within 8.6.3 therefore produces an aggregate fatality rate for each vessel type, showing all vessel types have aggregate fatality rates in line with Tolerability levels given by guidance. It is important to note that this assessment of overall risk is made up of a group of hazards, in the NRA case hazards grouped by vessel type; and not individual hazards or sub-areas of the study area, which would have proportionally lower fatality rates. As NRA Section 8.6.3 shows that no individual vessel type has values exceed the fatality thresholds (especially large and small commercial vessel traffic), then conducting the same analysis on the locations identified in the ExA question would only show lower fatality rates from those already shown to fall below the threshold of tolerability. **Response to Guidance Question 2:** Has the risk been reduced to as low as reasonably practicable (ALARP)?

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The guidance here also focuses on Health and Safety Executive principles, namely that of reducing hazards to As Low as Reasonably Practicable. The ALARP principle forms the basis for tolerability within the presented hazard logs, where every individual hazard is categorised in the risk criteria banding (see Annex B – Pg 7). A table of hazards, developed from the Risk Hazards Logs, which shows where risk controls have been applied is presented as Annex Q to this response. These tables for the Construction/Decommissioning Phase and the Operational Phases hazard logs show that all navigation hazards have risk controls associated with them in either the "inherent" assessment of risk for embedded controls, or the "residual" assessment of risk for the additional risk controls. These risk controls are assessed against the ALARP principle. The Applicant considers that when section 6.2 and Annex C.4 of the guidance are read together, Tolerability of Societal Concerns are therefore inherently embedded within the risk assessment, Section 7 the Impact of the Thanet Extension, the analysis conducted in NRA Section 8.6.3 and the hazard logs themselves. ***Answer to ExA sub-questions a) through to d):*** As regards the areas identified in the question, it is important to note that the individual hazards for the construction/decommissioning phase and Operational phase of the wind farm (total 38 and 29 respectively), cover the whole study area (RLB + 5nm buffer – as agreed with the Maritime and Coastguard Agency).

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			If the hazards were broken down hazards into sub-study areas, they would have lower individual risk scores (relative to the overall hazard risk scores) as likelihood of incident occurrence is directly related to the exposure of the hazard and the sub-area would have a lower vessel exposure – i.e. there would be less vessel transit time exposure in a smaller sub-set of the study area. Section 7 of the NRA – Impact of the Thanet Extension does however detail specific impacts of the development related to different aspects of the study area.
1.12.10.	Maritime and Coastguard Agency and Marine Management Organisation	Acceptability of pollution, loss of vessel, operational downtime: Please advise what considerations in regard to acceptability of risk should be taken into account when the assessed risk has major or catastrophic consequences that are not necessarily loss of life (including Pollution, Loss of Vessel, Major Operational Downtime); and a) at what level of assessed frequency can hazards with major or catastrophic consequences be assessed to be acceptable risks? b) to what extent it is reasonable for acceptability of major risks in confined sea room to be assessed by separate analysis of component	The Applicant anticipates that further information will be placed before the examination by the Interested Parties at Deadline 1. The Applicant will respond in accordance with the examination timetable to any comments made by the MCA and MMO, to whom this question is directed. To assist the ExA with their questions: A. The Applicant would note that in order to ascertain what level of frequency hazards of catastrophic consequences can be assessed to be acceptable it is necessary to review the guidance and standards of hazard definition available. The Applicant draws attention to the detailed risk matrix presented in the supplementary note at Annex P which draws on the best available risk assessment process in order to define acceptability. Where reading from the risk matrix it is possible to determine that a catastrophic consequence hazard which occurred more often that once in 100 years would be regarded as intolerable,

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		hazards as opposed to assessment of combination and interactive effects?	and that the lowest risk score a catastrophic consequence hazard could achieve (at a frequency of greater than once in 1000 years) would be 5.1/10 and would be have to be assessed as ALARP to be acceptable. This is considered to represent an appropriate calibration of the assessment as regards "acceptability" of risks. B. The Applicant would highlight that the assessment as presented within both the NRA and ES identifies individual or component hazards and considers the likely significance of them, either within the context of the EIA or within the NRA through the Formal Safety Assessment in line with guidance requirements (see DTI 2005 Guidance and MCA/DECC 2013 Guidance). As combination and interactive effects, aggregate hazard scores are taken and assessed collectively against vessel type categories for fatality rates as document section 8.6.3 of the NRA. In so far as the individual impacts, these are considered in the analysis contained within Chapters 5, 6 and 7 of the NRA, and include analysis of vessel tracks, gate analysis and incident analysis, where individual features of navigation within the study area are shown. Individual impacts were also assessed in more detail through supplementary studies, where stakeholder concern was raised and include the Pilotage Study, the Pilotage Bridge Simulations and the collision risk modelling. The assessment is structured in such a way as to ensure that effects on a given receptor are assessed 'in the round' and there

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			is, therefore, confidence that the potential effects on that receptor are presented transparently and appropriately. An example of this is the consideration of potential impacts on pilotage as presented in paragraph 10.11.20 *et seq* of the ES Chapter (PINS Ref APP-051/ Application ref 6.2.10) which considers the potential impacts on pilotage operations in the round rather than potential effects from an increase in collision risk, increase in contact (allision) risk etc. Furthermore, in adherence with PINS Advice Note 9 the Applicant can confirm that consideration of interactive effects is an inherent part of the NRA, and indeed the wider ES that has considered, for example, the risk of multiple inter-project effects combining to result in an effect that is greater than its constituent or component parts.
1.12.11.	The Applicant, Port of London Authority, Estuary Services Ltd, London Pilots, London Gateway Port Ltd, Port of Tilbury London Ltd, Trinity House and the Maritime and	Recommendation not to take forward additional risk control Please comment on the concluding recommendation in the Navigation Risk Assessment (NRA) not to take forward additional risk control measures that had been considered in the NRA as further mitigation? [APP-089] NRA 8.5.3 Table 22 items 1, 2, 3 and 4 and Conclusions	The Applicant wishes to draw the attention of the ExA to the NRA conclusions which identified additional risk controls that were not recommended, as hazard risk scores fell into the ALARP or Low Risk categories. It is important to note that these risk controls were identified for the operational phase of the wind farm only, with the highest risk scoring hazards all scored at the lower end of the ALARP category, from 4.00-5.05/10, (the ALARP category ranges from 4.00 – 6.99). All these hazards had Embedded and/or Additional Risk controls in place that ensured navigation risk could be termed ALARP without the need for further controls.

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	Coastguard Agency		Details on the reasons possible additional risk control were not recommended are given in full in NRA Table 22, however in summary they are: • **#1 Construction and Post-Construction Monitoring** - This risk control improves monitoring of the risks but would not necessarily prevent an incident. Real time monitoring is already recommended in other adopted risk controls; • **#2 Relocation of Pilot Boarding Station** - The alteration of pilotage arrangements would incur additional costs, both in terms of pilot hours, and wear and tear on the pilot vessels. Furthermore, it may result in changes to the operation of Ramsgate with only one pilot boat given the increased distance travelled and number of trips. A two-vessel pilot system may therefore be required which would be comparatively costly. Dependent on the revised location there could also be impacts to availability of the relocated pilot station during bad weather conditions, where alternative stations are less sheltered. As the pilotage simulation study concluded that the NE Spit pilot boarding area remained feasible, with the original Red Line Boundary, and with a reduction to the Red Line Boundary in place, it was not considered that the benefit to further reduction in risk outweighed the impacts described above as the assessed risk was already at ALARP. • **#3 Increased Co-Ordination and Situational Awareness of Movements and Pilotage at NE Spit** - The impact associated with increased co-ordination, through for example an increased area of responsibility for an existing stakeholder such as PLA is considered to be disproportionate when considered against the magnitude of the

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			predicted impact. This is particularly pertinent when consideration is given to the pilotage simulation study, which was undertaken in collaboration with current pilots and clearly demonstrated that pilotage was still feasible under a range of representative wind speeds. It is important to further note that the simulation was undertaken employing the former RLB as presented in the PEIR for formal Section 42 consultation. The subsequent revision of the RLB in the western corner demonstrably reduced any loss of searoom and would therefore increase the ability of pilots to continue operations successfully. • **#4 Improved Training and Integration of Pilots, ESL and PLA VTS** – As noted for the increase in co-ordination, this mitigation measure was not brought forward as an additional project risk control as it was considered to be disproportionate given the demonstrable ability of pilotage operations to continue when the simulation was undertaken utilising the former RLB prior to and the subsequent reductions of the RLB in the western corner in order to reduce the potential loss in searoom.
1.12.12.	The Applicant	Adequacy of consultation about the NRA: In the light of concerns raised at ISH2about the adequacy of consultation on the preparation and drafting of the Navigation Risk Assessment (NRA), please provide a document equivalent to a consultation report in matrix form,	A consultation matrix table is provided in Annex I. Minutes of meetings with MCA, THLS, PLA and ESL are provided within Annex J (that are not included within the NRA Report) are also provided together with the Pilot Transfer Bridge Simulation Inception Report at Annex K which was issued prior to the Pilot Transfer Bridge Simulation in order to capture the agreed assumptions to be applied to the simulation exercise. Stakeholders were identified at an early stage of the project and consultation undertaken with a wide range of parties as presented in

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		clarifying who was consulted on method and draft content respectively and reporting on the regard had to consultation responses received.	Table 8 of the Navigation Risk Assessment Application Ref 6.4.10.1 (pp. 34-40). Statutory stakeholders were consulted throughout the assessment, as that Table (and Section 9.14 of the Consultation Report (Application Ref 5.1) explains. Specifically, it is noted that • MCA, PLA, and ESL were consulted with before and during the preparation of the NRA (and bridge simulation) and consultation included discussion of early findings.
1.12.13.	The Applicant	Consultation with RYA In APP-089 NRA 1.3 RYA (Royal Yachting Association) is specifically listed as a key stakeholder in MGN 543 guidance. Would the applicant please guide the ExA to where the RYA is referenced as a consultee in the [APP-028, 029, 030] list of non-statutory consultees and please provide a link to or copy of the most recent consultation communication with RYA.	As requested by the ExA at the Preliminary Meeting, the Applicant has contacted the RYA again, for comment on a draft SoCG. To date, no response has been received.
1.12.14.	The Applicant	Clarification of impact of the development: Can the applicant please clarify the meaning of [APP-089] NRA p130 para. 19 "… whilst the footprints [sic] of the developments [sic] would not cause an adverse impact, the	As noted by the ExA, the NRA states as follows at p. 130 para. 19: "*The cumulative and in-combination impacts were reviewed, and whilst the footprints of the developments would not cause an adverse impact, the extension would impact the routeing and navigational safety of supporting vessels*".

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		extension would impact the routeing and navigational safety of operational vessels."	The NRA has assessed the impact of the Thanet Extension on vessel routeing and navigational safety. In addition to this impact it is recognised that multiple developments such as OWFs can have cumulative and in combination effects on vessel traffic if they are located close together, whereby the impact of several developments is greater than the impact of any one development in isolation. These impacts can be direct, whereby the footprints of multiple developments creates constraints or requires significant and multiple deviations of course for third-party vessels to avoid them; or indirect, whereby one development might impact upon the operations at another. The assessment identified and reviewed the other developments in the Thames Estuary within Section 7.10 of the Navigation Risk Assessment Application Ref 6.4.10.1 and a tiered breakdown is provided within Section 10.13 and Table 10.9 of Volume 2, Chapter 10 (Application Ref 6.2.10) of the Environmental Statement) which concluded that there was significant distance between each development. Therefore, there would be no direct impact on navigation as a result of the cumulative and in-combination effects including those other developments. However, as Ramsgate is the O&M base for London Array, Kentish Flats and Thanet, the Extension may have a degree of indirect impact on the routeing and navigation safety of O&M support vessels to London Array and Kentish Flats. These impacts were assessed and summarised within Sections 10.13.13 through 10.13.18 of Volume 2, Chapter 10 (Application Ref 6.2.10) of the Environmental Statement. It is noted any impacts would be greatest during construction/decommissioning phases (due to increased numbers of movements) and occur along their route

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			to the wind farm and within Ramsgate Harbour. Management and cooperation between operators and developers will be necessary to reduce potential conflicts (as is proposed within the embedded risk controls of Table 20 of the NRA [ID 1 – promulgation of information] and ID 2 [planning and co-ordination between developer and operators] and Table 21 [ID 5 – Communication between project, sub-contractors and fishermen/leisure groups]. It was concluded that these impacts should not be regarded as significant.
1.12.15.	The Applicant	Effect of control on traffic flow around the site: The NRA para 7.3.2 states that the extension of the wind farm with revised RLB would increase the collision risk within 5nm by 54%. Would the applicant confirm if it is correct to understand that introducing control on traffic flow around the site would reduce the risk by 23%? a) Does this mean a reduction in the 54% increased collision risk by subtracting 23% resulting in a residual increased collision risk of 31% (instead of an increase of 54%), or does it mean the product of (54% times (1.00 minus 0.23))? b) What would be the form of such a	NRA Section 7.3.2 Pg 80 describes the results of the collision risk modelling undertaken prior to the reduction of the RLB at the western extent. The modelling results showed an increase of the number of encounters between vessels from 246 (Baseline) to 379 (Scenario 3 – with Revised RLB), a 54% increase. It is important to note that whilst the term collision risk is used in line with common practice, the analysis is in reality based on 'encounters', i.e. the potential for a collision to occur, considered by reference to "domain" areas drawn on a precautionary basis at a distance around the vessels in the model. This does not account, however, for human intervention (i.e. it does not account for the very great probability that a vessel master would seek to avoid the collision). To aid in the contextualisation of this within the narrative the term "encounter" is used throughout. In answer to the ExA questions: A. The Applicant can confirm that Scenario 2 of the modelling investigated the use of the Tongue Pilot station for vessels against the PEIR (pre-application) RLB presented within the PIER for formal consultation. Scenario 2 considered all vessel traffic

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		control on traffic flow? [APP-089] NRA para 7.3.2	using the NE Spit pilot station, that were not passing inshore of the wind farm (i.e. vessels dipping down to NE Spit from routes 1,3 & 6 - see NRA Figure 46). The collision modelling for Scenario 2 showed an increase from 246 (Baseline – no extension) to 310 (Scenario 2 – with extension in place, with original RLB and relocation of NE pilot boarding station). The 23% reduction relates to the reduction between Scenarios 2 (with PIER RLB) and Scenario 1 (which assessed encounters with the PEIR RLB but without increased use of alternative pilotage stations). The encounters associated with Scenario 1 and 2 are 403 and 310 respectively, which gives an overall reduction of 23% in encounters. This reduction is considered as a proxy for the effectiveness of relocating the NE Spit pilot boarding area to the Tongue. B. The Applicant can confirm that under this scenario the form a traffic control would take is to relocate the pilot boarding station, which would have the result of directing vessels and pilots to the existing Tongue Pilot boarding station (that was put in place following the construction of the Thanet Offshore Wind Farm) which as it stops the "dipping" of traffic into the NE Spit pilot boarding area, reduces the likelihood of vessel encounters. Further details on the relocation of the pilot boarding station are given in NRA Table 22 "Possible Additional Risk controls which have not be adopted" # 2 – Relocation of Pilot Boarding Station which is stated as follows: *Relocation of Pilot Boarding Station - Through this assessment it was identified that the sea room surrounding the NE Spit Pilot boarding*

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			station would be reduced. Bridge simulation trials conducted with PLA Pilots, and ESL coxswains in the PLA simulator, identified that it was remained feasible to conduct pilot transfers in this area, albeit with reduced margin for error, therefore with some increase in risk. Consideration was however given to relocating the NE Spit pilot boarding station with pilot boarding split between NE Goodwin, to the south of wind farm extension for vessel utilising the inshore route, and the Tongue, for vessels transiting past the north of the proposed extension. Vessels passing inshore of the wind farm would have the added benefit of taking a pilot at NE Goodwin prior to transiting past the wind farm, enhancing navigation safety. Vessels passing north of the extension could utilise the greater space available around Tongue which would reduce collision risk at NE Spit by removing the practice of vessels dipping down to NE Spit to collect a pilot. For the reasons identified previously in response to ExQ 1.12.11 this measure was not brought forward as it was not considered to bring with it a proportionate benefit when considered in the context of the pilotage simulation conclusions which were that pilotage operations were completed successfully under a range of representative wind conditions and remained feasible at NE Spit pilot boarding area.
1.12.16.	Maritime and Coastguard Agency, Trinity House.	Effects of increased density of traffic inshore at high water: Please comment on the assessment in NRA p70 that the effect of increased density of vessel traffic inshore as a displacement effect of the Thanet Extension would not be	The Applicant notes that this question is directed at other parties and anticipates that further information will be placed before the examination at Deadline 1, to which the Applicant will respond in accordance with the examination timetable.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		significant to the risk to navigational safety and identify whether this conclusion is conditional on state of tide and size of vessels only. Ref [APP-089] NRA p 70	
1.12.17.	The Applicant	Effects of displacement of traffic on risk in other locations: Please confirm how the NRA has accounted for the effects of displacement of traffic as an effect of the Thanet Extension increasing risk to navigation in other locations? [APP-089] NRA para108."cumulative impact of these developments will result in….rerouted into other lanes, increasing the risk elsewhere."	Section 7.10.2 of the Navigation Risk Assessment Application Ref 6.4.10.1 outlines potential cumulative impacts on vessel routing with regards to existing multiple infrastructure developments (including wind farms) in the wider area. Paragraph 108 as referred to in the ExA needs to be read in the wider context of the NRA, including the remainder of paragraph 108 itself which states that "for large commercial shipping, the combination of multiple other projects, given their relative distance to Thanet, is not considered to result in any material alteration of activities". Impacts on routing and re-routing traffic are also addressed within Section 7.1.2 of the Navigation Risk Assessment Application Ref 6.4.10.1 and quantified within Figure 46 and Table 10. Understanding of the baseline existing routing has existing cumulative developments embedded within the data. Analysis of routing and displacement of traffic has been assessed pre and post extension to reflect the change in sea room and delta in route distances. These results show that: • All Baseline existing traffic routes remain viable – specifically, due to sufficient sea room being maintained, there is no requirement for vessels to be displaced or re-route into other locations or seek

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			alternatives to any of the existing traffic routes. It is noted that route 4 – (the inshore route) is also maintained. • All Baseline existing traffic routes which experience increase in route distances incur a minimal increase in route distance that is not considered material. In summary - because the routing analysis demonstrates traffic in existing baseline routes is not displaced into alternative routes there is not considered to be a change in risk attributable to re-routing. The change in risk due to alterations in sea room is assessed separately through traffic simulation and domain analysis as reported within Section 7.3 of the Navigation Risk Assessment Application Ref 6.4.10.1.
1.12.18.	The Applicant	Meaning of risk controls and mitigation: Can the applicant please confirm if it is correct to understand that: "risk controls" referred to in the hazard logs in [APP-129] Navigation Risk Assessment (NRA) mean the same as "mitigation" referred to elsewhere in the ES.	The Applicant confirms that risk controls and mitigation can in general be considered the same. The former term is more commonly used in NRAs whilst the latter aligns more closely with the terminology used in EIA and the wider ES in this case.
1.12.19.	The Applicant	Meaning of Acceptability and Tolerability: Can the applicant please confirm if it is correct to understand that "Acceptability of Risk" referred to [APP-089] NRA 8.6.3 means the	The Applicant confirms this understanding is correct.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		same as Tolerability of Risk as used in [APP-129] NTS para 170 and as used in [APP- 051] Shipping and Navigation and elsewhere in the NRA?	
1.12.20.	The Applicant	Principle of ALARP related to acceptability of risk: Would the applicant please explain how the principle of ALARP (As Low As (is) Reasonably Practicable) applies to subjective judgment of acceptability in relation to risks with major or potentially catastrophic consequence?	The principle of ALARP is applicable regardless of whether hazards have a high consequence outcome or not. The purpose of a risk matrix is to allow risk to be calculated and benchmarked such that more frequent low consequence hazards and less frequent high consequence hazards can be assessed on the same risk scale. Therefore, the ALARP principle in itself is not only related to high consequence hazards. The acceptability or tolerability of hazards is derived from the International Maritime Organisation Formal Safety Assessment process, as mandated by the Maritime and Coastguard Agency guidance (see DTI 2005 Guidance and MCA/DECC 2013 Guidance), which enables both qualitative/subjective data (e.g. local knowledge and expert judgement) and quantitative data (e.g. vessel track analysis, incident analysis, collision and contact risk modelling), to be utilised in the assessment of risk for all hazards. The approach is standard within the maritime industry, both in terms of use for Offshore Renewable Energy Installations and within most major Ports and Harbours in the UK. Examples of its use are as follows: • Offshore Renewable Energy Installations Navigation Risk Assessments: ○ Kincardine Offshore Wind Farm NRA

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			○ Rampion Offshore Wind Farm NRA ○ East Anglia 1 North and 3 Offshore Windfarm Wind Farms ○ Hornsea Project 1 and 2 Offshore Wind Farms • Ports and Harbours Navigation Risk Assessments: ○ Port of London Authority ○ PD Teesport ○ Milford Haven Port Authority The method allows for the identification and assessment of high consequence, low probability hazards that are common focus in the maritime industry, alongside the lower consequence, higher frequency events. The ALARP determination is therefore two dimensional in this regard for Navigation Risk and ensures through the risk matrix that all combinations can be assessed and compared. It is the case that navigation hazards have historically been shown to fall into in-tolerable regions, even within the River Thames – this was the case in the Formal Safety Assessment risk assessment conducted following the collision in 1989 between the Marchioness and the Bow Bell in central London resulting in 51 fatalities. The Applicant does not agree that the assessment of risk and therefore determination of ALARP is purely subjective. Indeed, the Applicant has followed a structured risk assessment processes in line with guidance and has sought wherever possible to quantify numerically those

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			parameters that have subjectively been raised as "high risk hazards" by stakeholders. The basis for calculations of "Worst Credible" hazard outcomes is based on available data and research – see NRA section 8.3.1 and the appended note explaining the build-up of hazard risk scores.
1.12.21.	The Applicant	Narrow band of computed numerical values for risk: The NRA explains that the risk assessment scores were combined into single numerical values using special software. Would the applicant please clarify how the computed single numerical values for risk scores typically lie within a narrow band between 2 and 5 by reference to a specific example of Annex D Hazard 12, explaining in detail as a worked example explain how a value of 5.05 for Inherent Risk (and 4.93 Residual Risk) is computed from the product of: a) a "Most Likely Inherent Frequency rating" of 4.0 ("Likely") and b) a "Worst Credible Consequence" of 4 ("Major")	A detailed explanation related to the build-up of Hazard 12 from Annex D of the NRA at page D-3. - "Collision – Large Commercial Vessel ICW Large Commercial" is contained within Annex P.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		[APP-089] NRA Annex B Methodology page B-8 and [APP-089] NRA Annex D Hazard 12	
1.12.22.	Maritime and Coastguard Agency	Risk computed as addition of Frequency and Consequence ratings Would MCA please explain why the "Formal Safety Assessment" approach to risk management used for NRA does not multiply numbers for Frequency by numbers for Consequence, as is done in other risk management approaches where Risk is computed as Probability (Frequency) multiplied by Impact (Consequence). [APP-089] Annex B Methodology page B-2 "Risk is the product of a combination of the consequence of an event and the frequency with which it might be expected to occur"	Although the Applicant notes that this ExQ is for the MCA a response is included below with a view to assisting the ExA. The Applicant wishes to highlight for the ExA that multiplying categories of frequency and consequence together to determine a risk score (known as a multiplicative matrix) is not well suited to Navigation Risk Assessments in support of offshore wind farm developments, as: A. The likelihood values, when probabilities or return periods are applied, typically step in an exponential manner – e.g. 1 in 1 year, 1 in 10 years, 1 in 100 years, 1 in 1,000 years etc., however a multiplicative function for risk score does not reflect this. B. For a catastrophic consequence hazard a multiplicative matrix would give risk scores from 5 (lowest likelihood score, 1 x 5 = 5) – to 25 (highest possible likelihood score, 5 x 5 = 25) score out of a maximum score of 25. This means that catastrophic hazards can be assessed as 5 / 25 and as such low risk when using multiplicative matrices, and as identified in answer to question 1.12.10 the lowest possible risk score on the matrix used in the NRA for the same hazard would be 5.1/10 and would score as ALARP (Tolerable only with controls). C. Society places greater emphasis / concern on hazards with a high consequence outcome e.g. 10 fatalities from a single

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			coach accident provokes more societal concern than 10 single fatality car accidents even when occurring over the same period and for the same exposure to risk –known as aversion. A basic multiplicative matrix is not able to differentiate this as it is symmetrical in nature between likelihood and consequence. D. The more frequency and consequence categories there are in a multiplicative matrix the greater the risk score range and the wider the risk criteria banding are. It is therefore considered that a basic multiplicative risk matrix does not meet the requirements of an appropriate Navigation Risk Assessment and neither are there any details in the relevant guidance documents (see DTI 2005 Guidance and MCA/DECC 2013 Guidance) which suggest that this approach should be followed.
1.12.23.	The Applicant	Clarification: Meaning of four indices: Can the applicant please confirm if it is correct to understand that "…a single numeric value representing each of the four indices.." in [APP-089] NRA Annex B Methodology page B-8 refers to the scored columns People, Property, Environment and Stakeholders in [APP-089] NRA Hazard Logs Annexes	The Applicant would like to confirm that it is <u>not</u> correct to understand that "…a single numeric value representing each of the four indices" in [APP-089] NRA Annex B Methodology page B-8 refers to the scored columns People, Property, Environment and Stakeholders in [APP-089] NRA Hazard Logs Annexes. The four indices identified within the Hazard Ranking section of Annex B on Pg 8 relate to the combination of 8 individual risk scores ("Most Likely" risk score for People, Property, Environment, Stakeholders and "Worst Credible" risk score for People, Property, Environment, Stakeholders) into a single numeric value, by taking the average of the following risk scores for the hazard:

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• The average risk score of the four categories in the "most likely" set; • The average risk score of the four categories in the "worst credible" set; • The maximum risk score of the four categories in the "most likely" set; and • The maximum risk score of the four categories in the "worst credible" set. The Applicant has also provided an example hazard risk calculation drafted in response to ExA Question 1.12.21, which also covers this in the section on "Scoring of Hazard Risk". Therefore, it should be noted that the indices do not therefore relate to the individual consequence categories of People, Property, Environment or Stakeholders / Business.
1.12.24.	The Applicant	Clarification: Meaning of Ranked Hazard List: Please confirm if it is correct to understand that the evidence presented in section 8.6 of the [APP-089] NRA Annex B Methodology is the "hazard list sorted in order of the aggregate of the four indices to produce a Ranked Hazard List" referred to in page B-8 of [APP-089] NRA Annex B Methodology?	The "Ranked Hazard List" is a tabulated list of hazards, ranked in order of the hazard with the highest risk score. The ranked hazard lists presented in Table 23 and Table 24 of the NRA Section 8.6, Pg 125 for the Construction / Decommissioning Phase and Operational Phase are a summary of the top 10 hazards only. These Ranked Hazard Lists are ranked in order of the Inherent assessment of risk to aid the reader in understanding the 'top ten' hazards.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.12.25.	The Applicant	Sources of evidence used for assessing Likelihood and Consequence of incidents: Please guide the ExA to the sources of evidence used in assessing: a) Likelihood of incidents occurring in different scenarios? b) Potential Consequence of an incident? [APP-089] NRA 8.6.3 Acceptability of Risk: "a significant amount of evidence has been collected, such as through simulation and collision risk modeling to support the assessments of the likelihood of an incident…".	The sources of evidence used for assessing likelihood and consequence are a combination of an understanding of the baseline receiving environment, predicted future baseline of the receiving environment, data records of incidents at local, regional and national scales, and consultation with relevant national and local stakeholders. This evidence base is then used alongside the description of the proposed project to identify the relevant potential impacts, which are again then subject to further validation through consultation, and review by an internal expert panel undertaking the NRA to define. The evidence basis for the risk scoring of hazards as set out in Chapter 2 (Project Description) through to 7 of the NRA report and comprises the following datasets and sources of evidence: • **Overview of the Baseline Environment including:** • Admiralty Charts • Local Ports and Harbours • MetOcean Conditions • Existing Vessel Management • Search and Rescue • Other Offshore Activities • **Consultation including:** • Consultation Meetings • Pilotage Simulation Workshop • **Existing Vessel Traffic and Risk Profile including:** • Data Source • Overall Traffic Profile • Vessel Traffic by Type

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• Commercial Shipping • Passenger Vessels • Fishing Vessels • Recreational Vessels • Service Craft • Vessel Traffic By Size • Commercial Vessel Anchors • Fishing Gear and Recreational Anchors • Gate Analysis • Seasonality • Historical Incidents • **Future Traffic Profile including analysis on:** • National Trade Statistics • Local statistics These datasets are then used to investigate the potential impacts associated with the project, in the case of Thanet extension these were a review of the potential: • Impact on Vessel Traffic Routeing • Impact of Existing Thanet Wind Farm • Impact of Thanet Extension • Transits of Tidally Constrained Vessels • Impact on Pilotage Operations • Possible Alternative Pilotage Options and Impacts • Summary of Impacts on Pilotage Operations • Impact on Navigation of Cable Laying • Impact on Search and Rescue

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• Impact on Visual Navigation and Collision Avoidance • Hindering the View of Other Vessels Under Way • Hindering the View of Any Navigational Feature or Aids to Navigation • Impact on Communications, Radar and Positioning Systems • Cumulative and In-Combination Impacts • Cumulative Impact due to Increased Vessel Activity • Cumulative Impact on Vessel Routeing • Cumulative Impact from Cable Routes The review and consideration of the above potential impacts was facilitated through further evidence, derived from: • An understanding of the previous Relocation of NE Spit • An understanding of the continued Operation of NE Spit • Modelling of Impact on Collision Risk • Modelling of Impact on Contact (Allision) This evidence base identified is in line with the requirements of the International Maritime Organisation (IMO) Formal Safety Assessment (FSA) risk assessment, as presented in section 3.2 of Circular MSC-MEPC.2/Circ.12/Rev.2 (REVISED GUIDELINES FOR FORMAL SAFETY ASSESSMENT (FSA) FOR USE IN THE IMO RULE-MAKING PROCESS). This highlights, amongst other things, that: "*The availability of suitable data necessary for each step of the FSA process is very important. When data are not available, expert judgment, physical models, simulations and analytical models may be used to achieve valuable results. Consideration should be given to those*

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			data which are already available at IMO (e.g. casualty and deficiency statistics)" In addition: "*Analytical modelling has to be used to evaluate rare events where there is inadequate historical data. A rare event is decomposed into more frequent events for which there is more experience available (e.g. evaluate system failure based on component failure data)*" It also notes that: "*The use of expert judgment is considered to be an important element within the FSA methodology. It not only contributes to the proactive nature of the methodology, but is also essential in cases where there is a lack of historical data. Further historical data may be evaluated by the use of expert judgment by which the quality of the historical data may be improved.*" These latter points are particularly pertinent for Thanet Extension given the lack of historical collision data within the area, even given the addition of the existing Thanet OWF. The evidence base is then used in all stages of the assessment as identified further with in the IMO circular which is detailed in Chapter 8 of the NRA and summarised below: • Step 1: Identification of Hazards - NRA 8.2 • Step 2: Hazard Scoring - NRA 8.3 • Step 3: Risk Controls - NRA 8.5 • Step 4: Cost Benefit - NRA 8.5.3 Table 22

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• Step 5: Recommendations - NRA 8.6 Turning to the specific points raised in the ExA's question: A. Likelihood: The different hazard scenarios are identified through the IMO FSA process. A total of 38 hazards for the Construction/Decommissioning phase (see NRA Annex D), and 29 hazards for the operational phase (see NRA Annex E) – these are essentially two separate risk registers with the difference in total hazard numbers due to more vessel types for the construction/decommissioning phases. In order to define the likelihood of each hazard for the purposes of completing the hazard logs and drafting NRA Table 18 (Pg 112), the project team used the following information: • Stakeholder consultation (e.g. MCA Annex C – pg C-2 Item 2.2) • Analysis of traffic (see NRA 5) • Incident data (derives return periods (e.g. See NRA 5.7 - Fig 40) The expert judgment of project personnel was used in a workshop environment to review the evidential base (as identified above) and allocate hazard likelihood and consequence scores for the risk assessment. An example of this process is given in a worked example presented in the Supplementary Note in answer the ExA question 1.12.21 at Annex P. The assessment of likelihood is related to both the

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			"Most Likely" occurrence of a hazard and the "Worst Credible" occurrence. • Historical incident rates from NRA Section 5.7 are converted to return periods and used to calculate "Most Likely" incident rates that are correlated to the likelihood tables. • A key issue is identifying "Worst Credible" frequency rates for hazards where there is no record of historical incidents occurring. Therefore, analysis was conducted on Marine Accident Investigation Branch data to understand how often collisions (which account for the most concerning incident type) results in serious consequences fatalities (see NRA Section 8.3.1 for details). B. For consequence estimates, incident data (both local and national – see Section 8.3.1) is used to classify the consequence categories of individual hazards. The data from the study area showed that no serious consequence incidents had occurred in the Marine Accident Investigation dataset data, and therefore for the "Most Likely" consequence low level hazard consequence values were applied, with variation between hazards primarily associated with the vessel type. The consequence of "high" or "catastrophic" consequence hazards was taken from review of detailed Marine Accident Investigation Branch incident reports into serious incidents that

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			had occurred for similar vessel types and sizes navigating in similar areas compared to those transiting the study area. The consequence of hazards occurring do not change significantly between the Baseline, Inherent and Residual assessment of risk, as most changes in risk come about by the changes in hazard likelihood. Consequence scores are reviewed in conjunction with all hazards to ensure consistency.
1.12.26.	The Applicant	Methodological source for numerical values given to risk criteria Please confirm the evidential basis for the numerical values allocated to risk criteria in the Hazard Logs? [APP-089] NRA Annex B NRA Methodology	Each of the individual hazards for the Construction/Decommissioning Phase, and Operation Phase of the windfarm, for the Baseline assessment of risk, are assessed based on historical incident data, vessel traffic data and following consultation with relevant stakeholders. In line with the IMO guidance a combination of historical data, analytical modelling, and expert judgement is used as the source for the numerical values given to risk criteria. Consultation is then undertaken to validate the scores. The consultation undertaken is presented in Annex I and J of this Deadline 1 submission. In order to answer this question in further detail the Applicant has provided a supplementary note detailing the methodological source of the hazard logs is also presented at Annex P.
1.12.27.	The Applicant	Understanding Marico's Hazman software: Would the applicant please provide or guide the ExA to the provenance and credentials of "…Marico HAZMAN software" used for computation of risk, and in	The risk equations that combine the likelihood and consequence of hazard occurrence to produce a single risk score are derived from HAZMAN II software. A. HAZMAN has been employed in 206 unique navigation risk assessments, inclusive of undertaking studies for the Port of London Authority, and of those, 33 are attributed to projects to

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		particular help us to understand: a) How many NRAs has it been used for? b) Whether the algorithms get modified as a consequence of monitoring and learning from experience? [APP-089] NRA Annex B Methodology page B-2	undertake navigation risk assessment in support of marine infrastructure developments. Examples include: • St. Brieuc Offshore Wind Farm (France; 2012); • East Anglia Offshore Wind Farm (UK, 2012); • Strangford Lough Test & Demonstration Site (UK; 2014); • Blyth Offshore Demonstrator Windfarm (UK; 2015); • Strangford Lough SeaGen Decommissioning (UK; 2016). The HAZMAN system was developed from research undertaken originally by the UK's Maritime & Coastguard Agency (MCA) in their development of Formal Safety Assessment (FSA). Marico Marine Founding Partner, John Riding, undertook this research, and used two standard risk matrices, one with scoring of a 'Most Likely' event and the other with scoring of a 'Worst Credible' event. Mr Riding was also involved in the development of Formal Safety Assessment whilst working for the MCA. HAZMAN was originally developed in 1997-8 for use in quantifying marine risk in Port Authority (PA) waters. Its development occurred in parallel with the application of the FSA process to the port of Milford Haven (MH), following the grounding of the tanker Sea Empress in 1996. MH PA incident data set over 25 years was used to validate the HAZMAN output. HAZMAN II was further developed in 2013-4 when a risk reduction module was developed to quantify the risk reduction estimates associated with contemporary risk management practises. HAZMAN II is used extensively for offshore waters, where it competes with a not too dissimilar approach used by the International Association

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			of Marine Aids to Navigation and Lighthouse Authorities (IALA) in their IWRAP solution. The HAZMAN system employs averaging across a dual risk matrix to output a risk score which can take account of incident or accident data from marine events. This approach allows risk data to be produced that gives context around the range of incident outcomes that could occur, in order for it to generate a list of risks in rank order. The system is represented by the risk matrix presented in NRA Annex B P-5. Across the UK, there are over 30 Port Authorities who use HAZMAN by subscription as their primary navigational risk assessment solution (Port Marine Safety Code in the UK). Examples include: • The Port of London Authority (PLA); • Bristol Port; • Milford Haven; • Aberdeen Harbour; and • Teesport. Examples of HAZMAN use outside of the UK include: • Fremantle Port, Australia; • Port of Wellington, New Zealand; • Quantifying risks for consent and infrastructure development at Port Headland in Australia - the world's largest iron ore export facility; and • Elsewhere in New Zealand, it has been used to obtain consent under the NZ Resource Management Act for marine development.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			HAZMAN II is thus an internationally proven risk assessment/risk management package that caters to the specific hazard management needs of maritime risk. It continues to support navigation risk assessments for offshore renewable energy installations, oil and gas installations and port infrastructure developments world-wide. B. The underlying algorithm within Hazman II used in this assessment is the risk matrix which enables the ability to combine likelihood scores that fall in between the five likelihood categories with the consequence categories. This algorithm is not modified and remains fixed. is not modified. The risk scoring used in the assessment were set using guidance see DTI 2005 Guidance and MCA/DECC 2013 Guidance. "Learning from experience" is however incorporated into the assessment of risk in the form of experience generated conducting NRA's, particularly around identification of hazard likelihoods generated from available data (including supplementary studies), stakeholder input and experience of the user, and determination of future traffic risk profiles for key hazards (e.g. collisions) through modelling. These learnings are then built into the assessment of risk in the Formal Safety Assessment methodology.
1.12.28.	The Applicant	Mitigation of echoes on radar requiring users to reduce gain: [APP-089] NRA Annex to Section 4 (minutes of Dec 2017 meeting with	Further detail on impact on communications, radar and positioning systems is provided in Section 7.9 of the Navigation Risk Assessment Application Ref 6.4.10.1

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		RYA and Chamber of Shipping) refers to a consultation concern that "…echoes on radar which requires users to reduce gain, thereby losing smaller targets (i.e. small boats)…". a) Can the Applicant please confirm where in the NRA to find mitigation response.	The assessment drew upon industry publications and practical trials that determined effects were not 'significant enough to either raise concern for navigational safety nor inhibit vessels tracking one another' and that 'navigators are able to effectively track other vessels from both within and behind the area of the wind farm' and 'small craft were detectable except when in very close proximity to a turbine'. The concerns raised by the RYA in consultation on reflections and radar echo were noted albeit no evidence has been made available to suggest extant issues or effects as described with the existing wind farm. Furthermore, and comparative to the existing wind farm, the larger WTGs within the extension (relative to the existing wind farm) will provide a clearer radar picture, distort targets less and reduce potential for reflections and radar echo. The assessment concluded that the extension of the wind farm will not adversely affect the use of radar for collision avoidance and therefore assessed impacts as likely and negligible and minor in significance. Consequently, no mitigation for effects on radar are proposed, although the following mitigation measures are relevant to recreational vessels (also presented in Table 10.11 of Volume 2, Chapter 10 (Application Ref 6.2.10) of the Environmental Statement): Embedded Mitigation • Promulgation of information • Approval of layout Plan Additional Mitigation to reduce the risk to ALARP: • Communication between project, sub-contractors and fishermen/leisure groups.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• Maintain lines of orientation and symmetry in the wind farm
1.12.29.	The Applicant	Record of navigation risk workshop [APP-089] NRA Annex to Section 4 (minutes of Dec 2017 meeting with MCA) refers to a navigation risk workshop. Please confirm if this workshop has taken place and if it has where in the NRA to find the output and outcomes of this workshop.	An internal navigation risk workshop was held in accordance with the risk assessment methodology (see Annex B of the Navigation Risk Assessment Application Ref 6.4.10.1 and Section 8.1) and involved Marico Marine personnel. It drew upon the stakeholder consultation, traffic analysis, incident analysis, modelling and other supporting studies. The outputs of this workshop are principally the hazard logs as presented in Annex D and E of the NRA. A workshop run through with MCA and THLS was proposed by Marico Marine at the meeting held with MCA on 05-Dec-2017 and agreed by the meeting attendees. This was followed up by Marico Marine on 30 & 31-Jan-2018, in order to review the developing risk assessment and undertake technical hazard scoring with a qualified expert although was subsequently declined by the MCA (ref email dated 31-Jan-2018 in Appendix 6 which was followed up by phone between Jamie Holmes and Capt David Turner). The meeting held on 15-Feb-2018 (see minutes in Annex J) was therefore focussed on: • Presenting NRA to date • Presenting routes analysis (from vessel traffic data) • Collision risk modelling and relationship with NRA • Scoring criteria and hazard definition • Sources and utilisation of incident data • Example hazard – basis of scoring (Hazard ID 6- Collision between 2x large commercial vessels – a hazard ID of concern) • Risk control review • Section 42 responses

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			• Next steps: inc agreement to share draft NRA prior to submission (done in Mar/Apr)
1.12.30.	The Applicant	Questions on Minutes of the Jan 2018 meeting with MCA and Trinity House appended to Section 4 of the NRA Please confirm: a) Minute item 10.8: to whom "Incidents and near misses are reported…" b) Minute item 10.11: who will have the specific responsibility for maintaining "continuous watch of site by radar, AIS…." c) Minute items 10.21: Is there an agreement in existence specifying who will relocate buoyage and when?	The Applicant has not been able to reference Minute Items 10.8, 10.11 and 10.21 as referred by the ExA and therefore Iit is understood this question relates to the embedded risk controls and risk controls recommended to reduce risks within ALARP as per Tables 20 and 21 of the Navigation Risk Assessment Application Ref 6.4.10.1.It should also be noted that a Schedule of Mitigation accompanies this Deadline 1 submission. A. Table 20 - Risk Control ID No. 5: "Incidents and near misses are reported and investigated by developer and operators". ANSWER: Incidents and near misses are reported to the developer and operator and investigated in accordance with project protocols. In addition, those incidents/near misses are reported to the MAIB in accordance with criteria is published on (https://www.gov.uk/government/organisations/marine-accident-investigation-branch/about#regulations-and-guidance) and to the relevant Statutory Harbour Authority in accordance with their requirements.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			B. Table 20 - Risk Control ID No. 7: "Continuous watch of site by radar, AIS, VHF, DSC and CCTV during construction by project's Marine Coordinator". ANSWER: The project will take responsibility for providing a continuous watch during the construction phase of the project. C. Table 21 - Risk Control ID No. 7: "The existing wind farm is marked by two Cardinal marks; Thanet North (to the north) and Drill Stone (to the east). Both marks keep vessel traffic at least one nautical mile from the boundary of the existing wind farm and would require relocation or removal. The relocation of these would be determined following the finalisation of the WTG positions and the development of the layout plan and in consultation with the MCA and Trinity House". ANSWER: It is recognised by MCA and Trinity House that relocation of buoyage (identified as Thanet North and Drill Stone) would be determined following finalisation of WTG positions and the layout plan and would be agreed in consultation with the MCA and Trinity House.
1.12.31.	The Applicant	Moveable exclusion zone Would the applicant please confirm its response to suggestions raised in minutes of Dec 2017 meeting with TFA appended to Section 4 of the [APP- 089] NRA of "a 500m moveable exclusion zone around the	The Applicant can confirm that the assessment assumes a moving safety zone of 500m radius will apply during construction, extension or decommissioning of a wind turbine, or of major maintenance works and it is noted this is not an exclusion zone around the entire cable corridor (or array area). For the purposes of clarification, the Applicant can further confirm that the moving 500m safety zone will be the subject of an application under the Energy Act 2004, and requires the final locations to be submitted to

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		actual construction vessel" rather than along the whole cable corridor.	the relevant authority. Additionally a 50m exclusion zone, to apply during the operational phase around fixed above sea infrastructure (i.e. foundations) may be applied for. Further information is provided in the Safety Zone Statement (Application Ref 7.2, PINS ref APP-132. The Navigation Risk Assessment presents this information at Table 21 (Risk Control ID No 1 refers to the 500m safety zone and Section 9.2) and the commercial fisheries chapter (PINS Ref APP-050/ Application Ref 6.2.9) presents these assumptions in Table 9.10, noting that the terminology employed in the Commercial Fisheries chapter (*ibid*) is "an advisory safety area of 500m during construction", and a "50m safety zone radius during operation". Annex C to Appendix 28 of this Deadline 1 submission contains two schematics of the respective zones in relation to the indicative turbine layout. It should be noted that the schematics identify a 450m buffer from the proposed RLB rather than a 500m buffer. This is because the WTG locations, due to the length of the blades needing to be within order limits, will be at least 50m within the proposed RLB. Therefore, the 500m safety zone when applied to the construction of a given WTG location will only ever extend up to 450m from the proposed RLB.
1.12.32.	UK Chamber of Shipping	Effects to Vessel Traffic Routing UK Chamber of Shipping Relevant Representation [RR-009] opposes the view that impact of TEOWF on Vessel Traffic Routing will be minor and believes that the NRA lacks sufficient detail. Would the UKCoS	The Applicant wishes to note that within the Chamber of Shipping SoCG (Appendix 23 to this Deadline 1 submission) accepts the view of the MCA that the NRA has been undertaken in line with the requirements of MGN 543.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		expand on their objections, ideally citing particular shortfall in detail?	
1.12.33.	The Applicant	Mitigation of Echoes on Radar Requiring Users to Reduce Gain [APP-089] NRA Annex to Section 4 (minutes of Dec 2017 meeting with RYA and Chamber of Shipping) refers to a consultation concern that "…echoes on radar which requires users to reduce gain, thereby losing smaller targets (i.e. small boats)…". Please confirm where in the NRA to find mitigation response to this point?	The Applicant refers the ExA to the response to Question No 1.12.28.

9 ExQ1.16 Townscape, Landscape, Seascape and Visual

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.16.1.	Kent County Council, Thanet District Council, Dover District Council and local business and resident Interested Parties	Onshore and Seascape Landscape and Visual Impact Assessment Has the Applicant proposed adequate siting and design landscape and visual mitigation measures for onshore works, taking account of public access to and recreational use of the Pegwell Bay Country Park, National Nature Reserve and foreshore areas? If not, what additional measures should be taken and why?	The Applicant notes that this is a question to Kent County Council, Thanet District Council, Dover District Council and local business, residents and Interested Parties, however the following response is put forward by the Applicant to help the ExA understand the rationale for the proposals. 3 options for the landfall and cable works within Pegwell Bay Country Park were presented in the ES Chapter 1: Project Description (Onshore) (PINS Ref APP-057/ Application Ref 6.3.1). Option 2 is no longer part of the design envelope. The surface laid berm within Pegwell Bay Country Park included as part of Option 2 is therefore no longer proposed. The onshore cable will be trenched through Pegwell Bay Country Park and NNR as described in the landfall and cable works Options 1 and 3 presented in the ES Chapter 1: Project Description (Onshore) (PINS Ref APP-057/ Application Ref 6.3.1). Proposals to trench the onshore export cable and re-establish the existing ground profile and groundcover along its route are considered to be suitable siting and design mitigation measures, taking account of public access to and recreational use of the Pegwell Bay Country Park/National Nature Reserve. Option 1 uses Horizontal Directional Drilling from the Pegwell Bay Country Park to the Intertidal Mudflats; and Option 3 uses open trenching through the existing sea wall.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			In both options, the onshore export cables will be buried for the entirety of the onshore cable route, avoiding the need for a surface laid berm through the Country Park. This therefore results solely in short-term and temporary effects during construction, and largely avoids long-term and permanent effects on the landscape and visual amenity of the Country Park during operation. Under Options 1 and 3, habitats would be reinstated following construction of the landfall and installation of the cables. The overall aim of the reinstatement would be to enable either the re-establishment of existing grassland habitats or the creation of species-rich grassland. The omission of Option 2 in favour of Option 1 and 3 is considered to achieve good practice in accordance with guidance (GLVIA3), insofar as it achieves mitigation at the highest possible level in the hierarchy i.e. one of prevention/avoidance, with primary mitigation measures to avoid a surface laid berm within the Country Park, now embedded into the project design. It is considered that the design mitigation measures for the onshore works are 'reasonable' insofar as the National Policy Statement (EN-1, Paragraph 5.9.8 and 5.9.16) is concerned having been 'designed carefully, taking account of the potential impact on the landscape' and 'providing reasonable mitigation where possible and appropriate' in order to 'minimise harm on the landscape'. The landscape and visual mitigation measures for the onshore works are therefore considered to be adequate by the Applicant, but also in accordance with relevant standards for landscape mitigation.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.16.2.	Kent County Council, Thanet District Council, Dover District Council, Kent Wildlife Trust, Natural England, National Trust, local business and resident Interested Parties	Outline Landscape and Ecological Management Plan (Onshore) Application document [APP-142] sets out outline landscape management measures to be delivered in tandem with ecological measures. a) Are the proposed landscape screening measures at the substation set out in Chapter 3 adequate to address the landscape and visual impacts of the proposed substation (Work No.13) and if not, what changes should be made to the document; and b) Are any other landscape screening or enhancement measures to address the onshore landscape and visual effects of the proposed development required and if so, why and in what terms should they be added to the document?	The Applicant notes that this is a question to Kent County Council, Thanet District Council, Dover District Council and local business, residents and Interested Parties, however the following response is put forward by the Applicant to help the ExA understand the rationale for the proposals. The proposed landscape screening measures at the substation, set out in Chapter 3 and Figures 2 and 3 of the OLEMP (PINS Ref APP-142/ Application Ref 8.7), are considered by the Applicant to be adequate to address the landscape and visual impacts of the proposed substation. Whilst not considered to be necessary mitigation, due to the industrial context of the substation site, general absence of sensitive receptors and the presence of existing tree belts that provide screening around the boundary of the substation site, further woodland/shrub belt planting is proposed to the north and east of the substation site (Figure 2 and 3 of the OLEMP). Tree planting to the north of the proposed substation has been included as specific visual enhancement through consultation with Dover District Council. Planting is proposed to screen views of the substation experienced by motorists and walkers from the Richborough Roundabout/Ramsgate Road (A256) (Viewpoint 1)). This would also strengthen existing screening from more distant views, such as from the England Coastal Path, near Shell Ness (Viewpoint 4). The Applicant considers that the proposed screen planting for the onshore substation would be effective and deliverable, in order to address the onshore landscape and visual effects of the proposed substation.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.16.3.	Kent County Council, Thanet District Council, Dover District Council, Kent Wildlife Trust, Natural England, National Trust, local business and resident Interested Parties	Landscape and Visual Effects of Cable Alignments in Pegwell Bay Country Park and National Nature Reserve Have adequate siting and design mitigation measures been taken to address the landscape and visual effects of cable alignments in Pegwell Bay Country Park and National Nature Reserve? If not, please identify if any additional measures are sought and for what purpose. In particular, please provide your assessment of the adequacy of the following measures. If you conclude that any are not adequate, please identify how you recommend that the measures should be changed. a) Changes to the sea wall at the landfall location in Pegwell Bay Country Park (Work No.3B); b) Reinstatement and management of the cable alignment from the landfall location through Pegwell Bay south west to the boundary of	The Applicant notes that this is a question to Kent County Council, Thanet District Council, Dover District Council and local business, residents and Interested Parties, however the following response is put forward by the Applicant to help the ExA understand the rationale for the proposals. Three options for the landfall and cable works within Pegwell Bay Country Park were presented in the ES Chapter 1: Project Description (Onshore) (PINS Ref APP-057/ Application Ref 6.3.1). Option 2 is no longer part of the design envelope. The surface laid berm within Pegwell Bay Country Park included as part of Option 2 is therefore no longer proposed. The onshore cable will be trenched through Pegwell Bay Country Park and NNR as described in the landfall and cable works Options 1 and 3 presented in the ES Chapter 1: Project Description (Onshore) (PINS Ref APP-057). Responses are provided to parts (a), (b) and (c) as follows. A. In respect of changes to the sea wall at the landfall location, Option 1 uses Horizontal Directional Drilling from the Pegwell Bay Country Park to the Intertidal Mudflats; and Option 3 uses open trenching through the existing sea wall. Option 1 will negate the need to interact with the sea wall and saltmarsh, as cables will be installed underneath the sea wall connecting the transition joint bays (TJBs) (sited below ground) to offshore punch-out locations seaward of the existing sea wall. Option 3

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		the National Nature Reserve (Works Nos.4 and 4A); and c) The landscape and visual relationship between the cable alignment from the landfall location through Pegwell Bay south west to the boundary of the National Nature Reserve and the adjacent existing Nemo Link cable alignment (Works Nos.4 and 4A).	requires the installation of a temporary cofferdam and temporary removal of the sea wall, however the sea wall would be reinstated to its pre-construction condition, TJBs will be installed below ground (as with Option 1) and cables would be buried. Potential changes to the sea wall associated with Option 3 are therefore short-term and temporary. The landscape and visual siting and design mitigation measures to address the changes to the sea wall at the landfall location are therefore considered by the Applicant to be adequate. B. In respect of reinstatement and management of the onshore export cable, under Options 1 and 3, habitats would be reinstated following construction and installation of the cables. The overall aim of the re-instatement would be to enable either the re-establishment of existing grassland habitats or the creation of species-rich grassland, as detailed in the OLEMP (2.1.7 – 2.1.12). Revegetation of reinstated soils is most likely to take place via natural colonisation but could also take place via seeding. Reinstated habitats will be subject to an initial aftercare period of 12 months following reinstatement. The methods of aftercare are likely to include the management of undesirable weeds and (if seeding is used) at least two cuts during the initial 12 month aftercare period, with seeded areas protected from disturbance by people or grazing animals. Following this initial aftercare period, it is envisaged that ongoing management would revert back to the existing management regimes.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			C. In respect of the landscape and visual relationship of the onshore export cable alignment with the existing NEMO Link cable alignment, the onshore export cable will be trenched for both Options 1 and 3, avoiding the need for a surface laid berm through the Country Park. The potential landscape and visual effects of an additional surface laid bund, adjacent to the existing NEMO Link bund, have therefore been avoided through the primary mitigation measures now embedded into the project design. The cable route has been aligned to run parallel to the Nemo bund, thereby consolidating and limiting the spread of effects into the wider country park and NNR. Proposals to trench the onshore export cable and re-establish the existing ground profile and groundcover along its route are considered to be suitable siting and design mitigation measures. The omission of Option 2 in favour of Option 1 and 3 is considered to achieve good practice in accordance with guidance (GLVIA3), insofar as it achieves mitigation at the highest possible level in the hierarchy i.e. one of prevention/avoidance. These design mitigation measures for the onshore export cable works are also 'reasonable' insofar as the NPS (EN-1, Paragraph 5.9.8 and 5.9.16) is concerned having been 'designed carefully, taking account of the potential impact on the landscape' and 'providing reasonable mitigation where possible and appropriate' in order to 'minimise harm on the landscape'.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The landscape and visual siting and design mitigation measures to address the landscape and visual effects of cable alignments are therefore considered by the Applicant to be adequate, but also in accordance with relevant standards for landscape mitigation.
1.16.4.	Kent County Council, Thanet District Council, Dover District Council, Kent Wildlife Trust, Natural England, National Trust, local business and resident Interested Parties	Offshore Works Has the Applicant proposed adequate siting and design, seascape, landscape and visual mitigation measures for offshore works and particular wind turbine generator (WTG) arrays, taking account of their relationship with the existing Thanet Offshore Wind Farm and the potential differences of scale between the installed and proposed WTGs? If not, what additional measures should be taken and why?	The Applicant notes that this is a question to Kent County Council, Thanet District Council, Dover District Council and local business, residents and Interested Parties, however the following response is put forward by the Applicant to help the ExA understand the rationale for the proposals. The siting and design of the Offshore WTG Array has incorporated mitigation to reduce the scale of the project and the resulting landscape and visual effects. This is described in section 12.9 of Chapter 12 of the ES (PINS Ref APP-053/ Application Ref 6.2.12)). The siting of the Offshore WTG Array minimises effects on valued landscapes, entirely avoiding significant effects on any national and local landscape designations. The careful siting of the Offshore WTG Array around the existing TOWF is a mitigating factor, insofar as the apparent changes occur in the presence of an existing offshore wind farm influence. The Offshore WTG Array will be assimilated into views of the existing WTGs, increasing the influence of WTGs that are already present in existing views, without introducing entirely new or uncharacteristic elements.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			Seascape, landscape and visual mitigation measures have been included to reduce these impacts. In particular, the north-western extent of the Offshore Wind Farm area boundary was modified, which reduced the lateral extent of the Offshore WTG array in this north-western area and mitigated the potential effects relating to the visual merging of TOWF and London Array. These changes also contributed to reducing the partial enclosure of the open aspects of the Sandwich and Pegwell Bay area and created a larger separation between the coast and the Offshore WTG Array. These changes in the Rochdale Envelope WTG layout (Figure 12.1a) assessed in the Environmental Statement, have reduced the scale of the project and helped to mitigate seascape, landscape and visual effects (in accordance with NPS EN-1 and EN-3). It is acknowledged by the Applicant that the proposed WTGs are larger in scale than those of the existing TOWF. However, reducing the scale of the WTGs will would result in a significant reduction in function, in terms of the electricity generation output. The Applicant has sought to find a balance between utilising the most recent technology, cost efficiency and the visual impacts of the Offshore Wind Farm. Larger WTGs are important in that context in terms of costs to consumers, since these larger WTGs are more efficient and can produce much significantly more electricity. Larger than smaller WTGS, which reduces the costs to consumers. This increased efficiency also means that the number of larger WTGs allow less overall number of WTGs required in the Offshore WTG Array is fewer to achieve the same generating capacity., as the larger WTGs are more efficient and are important in terms of reducing costs to consumers.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The potential differences of scale between the installed and proposed WTGs is illustrated in the photomontage visualisations in Figures 12.27 – 12.55 (PINS Ref APP-127 and APP-127). The realistic worst-case layout shown in the photomontages and assessed as the project design envelope for the SLVIA is the 28 x 12 MW optimum space layout (as shown in Figure 12.1a). The larger blade tip height of the 12 MW WTG (250 m blade tip) and larger rotor diameter (220 m) will have the most apparent scale differences when viewed in combination with TOWF (115 m blade tip). This layout was agreed as the 'worst-case' in terms of visual effects with stakeholders as part of the Evidence Plan consultations. It is weighted to have the maximum number of WTGs located in the areas within the site boundary that are closest to the coast. WTGs located in closer proximity to the coast, located on the coastal side of TOWF, will appear larger in scale and have a more marked scale difference, than WTGs located behind TOWF on the seaward side of the operational WTGs. Consultation responses noted that due to the increase in height of the new WTGs their appearance would have some effect on the skyline beyond Margate in views from the west; however stakeholder responses noted that the significance of these views would be limited and that, as with the existing turbines, they will be assimilated as part of the skyline views. The apparent differences of scale between the installed and proposed WTGs does vary between geographic areas and with distance.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The Applicant considers that the Project has been designed carefully with reasonable mitigation, taking account of environmental effects on the landscape and other relevant constraints, to minimise harm to the landscape and that in this regard it accords with NPS EN-1.

10 ExQ1.17 Transportation and Traffic

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.17.1.	The Applicant	Construction Traffic Effects: Construction Shore Base for Offshore Works Please confirm that the construction base for offshore works is not yet known. What if any steps should be taken to ensure that the construction traffic effects of the onshore base for offshore works are taken into account and managed?	The Applicant can confirm that the construction base for offshore works is unknown. The Applicant infers to the construction base for offshore works as the "Base Port" as identified in Paragraph 8.10.9 of Volume 3, Chapter 8: Traffic and Access (PINS Ref APP-064/ Application Ref 6.3.8) of the Environmental Statement. It is assumed that very few construction trips would route to the Base Port and therefore likely to result in negligible impact compared with construction trips associated with onshore cable works and substation. The CTMP is secured within the DCO at Requirement 21, which requires the Plan to be submitted to and approved by the Kent County Council as the relevant highway authority.
1.17.2.	The Applicant	Construction Traffic Effects: Onshore Effects on Sandwich Road Para 8.18.2 of [APP-064] ES Chapter 8: Traffic and Access identifies that there could be 'Major Adverse' effects of construction-related traffic to Sandwich Road before "proposed embedded mitigation" whereas Table 8.17 shows 'Minor Adverse' effects to Sandwich Road. Would the applicant please confirm:	A. The Applicant can confirm that Table 8.17 of Volume 3, Chapter 8: Traffic and Access (PINS Ref APP-064/ Application Ref 6.3.8) of the Environmental Statement showing "Minor Adverse" effects is indeed subject to embedded mitigation as identified in Paragraphs 8.17.1 and 8.18.3 of (PINS Ref APP-064/ Application Ref 6.3.8). B. Embedded mitigation is identified in Section 8.9 of (PINS Ref APP-064/ Application Ref 6.3.8). Mitigation measures have been secured in the Code of Construction Practice (CoCP) in (PINS Ref APP-133/ Application Ref 8.1) which recognises the need to manage traffic.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		a) If Table 8.17 is showing 'Minor Adverse' effects subject to embedded mitigation; b) In which case, identify the embedded mitigation and confirm that it will bring about the change to effects suggested; and c) If all the "proposed embedded mitigation" needs to be activated in order for the adverse effects to be reduced to "Minor"	Paragraph 8.9.2 of (PINS Ref APP-064/ Application Ref 6.3.8) identifies the measures and principles incorporated into the COCP. It should be noted that the changes that mitigation measures bring cannot be quantified but are based on professional judgement and would be approved by with Kent County Council, as highway authority. Measures include: • Traffic Routing Strategy; • Traffic Timing Strategy; • Temporary Traffic Signage Strategy; • Traffic Marshals; • Temporary Traffic Management; and • Staff Travel Plan C. Following the deployment of the embedded mitigation measures, the level of effect experienced for Driver Delay, Public Transport Delay, Pedestrian Amenity, Pedestrian Severance and Public Rights of Way is considered to be of minor adverse significance. The Applicant confirms that all proposed embedded mitigation measures need to be activated, as and when required (to be discussed with the Highway Authority) in order for the effects to be reduced.
1.17.3.	The Applicant	Operational Traffic Effects: Offshore Servicing Port Please confirm that the offshore	The Applicant can confirm that the offshore servicing port for the operational stage of Thanet Extension is unknown.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		servicing port for the operational stage is not yet known. What if any steps should be taken to ensure that the operational traffic effects of the servicing port are taken into account and managed?	Table 8.11 of Volume 3, Chapter 8: Traffic and Access (PINS Ref APP-064/ Application Ref 6.3.8) of the Environmental Statement identifies the Operation & Maintenance (O&M) vehicle movements expected with each construction activity. Due to the low number of light vehicle and HGV trips associated with O&M, the assessment of operational traffic has been scoped out.
1.17.4.	Kent County Council in its capacity as Highway Authority, Thanet District Council and Dover District Council	Management of Construction Traffic Effects From your standpoint as a Highway Authority and LPA, are you content that construction traffic effects are adequately managed?	The Applicant notes that this is a question to Kent County Council in its capacity as highway authority. To provide further context, the Applicant summarises the management of construction traffic effects as follows. Section 8.9 of Volume 3, Chapter 8: Traffic and Access (PINS Ref APP-064/ Application Ref 6.3.8) of the Environmental Statement sets out the embedded mitigation measures that are further defined within Section 9 of the Code of Construction Practice (CoCP) (PINS Ref APP-133/ Application Ref 8.1). Measures and principles include, traffic routing strategy, traffic timing strategy, temporary signage, traffic marshals and travel planning measures. The Relevant Representations received from Kent County Council (PINS Ref RR-038), recognises that principles of traffic management and mitigation during construction are acceptable and would need to be agreed through the submission of a Construction Traffic Management Plan. Section 9 of the Code of Construction Practice (CoCP) (PINS Ref APP-133/ Application Reference 8.1) identifies best practice measures that would be incorporated and expanded upon (where required) within a Construction Traffic Management Plan (CTMP). The CTMP would be

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			secured through the DCO and subject to consultation and approval with Kent County Council, as Highway Authority.
1.17.5.	Kent County Council in its capacity as Highway Authority, Thanet District Council and Dover District Council	Management of Operational Traffic Effects From your standpoint as a Highway Authority and LPA, are you content that any operational traffic effects that might arise within you area of responsibility are adequately managed?	The Applicant notes that this is a question to Kent County Council in its capacity as highway authority. To provide further context, the Applicant summarises the management of operational traffic effects as follows. Table 8.11 of Volume 3, Chapter 8: Traffic and Access (PINS Ref APP-064/ Application Ref 6.3.8) of the Environmental Statement identifies the Operation & Maintenance (O&M) vehicle movements expected with each construction activity. It is anticipated that less than one round trip staff movement per week is predicted to be made in relation to the O&M for the onshore cable works and onshore substation. It is anticipated that there could be in the region of 50 round trip light vehicle movements per day and 48 round trip HGV movements per year in relation to the O&M of the Offshore Wind Farm (OWF). Due to the low number of light vehicle and HGV trips associated with O&M, the assessment of operational traffic has been scoped out.

11 ExQ1.18 Water Environment

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
1.18.1.	The Applicant	Water Framework Directive Assessment: Water Quality The Environment Agency's relevant representation [RR-043] states that the water quality elements of the Water Framework Directive (WFD) Assessment [APP-076] lacks sufficient justification for findings of WFD compliance and does not provide justification for scoping out water quality from a more detailed impact assessment. a) Please provide a comprehensive response to the detailed matters raised by the Environment Agency in this regard, specifically at page 8 and the top of page 9 of its representation. b) Please explain to what extent the Environment Agency's guidance 'Clearing the Waters for All' has been applied. c) Please comment on the appropriateness of a requirement	A. The Applicant has provided an extensive response to each of the points raised by the Environment Agency's Relevant Representations (responses to EA-11 to EA-16). This has been discussed with the Environment Agency during meetings held in October 2018, forms part of the Statement of Common Ground, and has also been submitted by the Applicant in writing to the Environment Agency and as part of this Deadline 1 submission. In summary, the Applicant scoped in the disturbance of sediments with contaminants above the Cefas Action Level 1 (AL1) to an impact assessment. This assessment is detailed in section 3.10 of Volume 4, Annex 3-1: Water Framework Directive Assessment (PINS Ref APP-076/ Application Ref 6.4.3.1) and concluded that there would be no significant effects and no deterioration on the status of the WFD water body. The Applicant notes that only one sample exceeded AL1 for one contaminant (arsenic) which was comparable to that of the local area and existing baseline levels. B. It is the Applicants position that this guidance has been applied and this was discussed with the Environment Agency in October 2018. It was agreed that whilst the guidance was applied in line with standard practice there is no assessment guidance which identifies a method for the assessing contaminants and/ or bacteria released from sediment against the WFD standards. This response is also presented in the Applicant's response to

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		within the Development Consent Order allowing for the temporary cessation of works in the event that bathing water quality deteriorates during the construction period?	the Environment Agency's Relevant Representation (response to EA-11). C. As discussed with the Environment Agency in October 2018 and identified in the Applicant's response to the Environment Agency's Relevant Representation (response to EA-15), given the low risk of the proposed works as identified in the assessment (consideration of similar activities and anecdotal evidence) the Applicant considers having a requirement within the DCO for temporary cessation should the water quality at the Bathing Waters (BWs) deteriorate to be disproportionate. Not only is it considered very unlikely that the BW would deteriorate but it would also be very difficult to attribute any deterioration to the works as could be a result of numerous factors within the catchment which can be temporary in nature. It has been noted with the Environment Agency that nearby works to maintain the approach to Ramsgate Harbour (maintenance dredging) have continued without a cessation order being placed on it and without impact on the BWs. This activity, whilst greater in magnitude, than cable installation is considered a reasonable proxy when considering the proportionality of any cessation order (or associated condition) on Thanet Extension.
1.18.2.	The Applicant	Water Framework Directive Assessment: Baseline Conditions The ES does not appear to set out the anticipated trends in baseline conditions for the Water Framework Directive (WFD) Assessment.	A. The baseline/ current status of all of the relevant receptors for the WFD assessment are presented in Tables 3.4 to 3.7 of WFD assessment (PINS Ref APP-076/ Application Ref 6.4.3.1). Furthermore, a detailed water and sediment quality baseline is provided in Volume 2, Chapter 3: Marine Water Quality and Sediment Quality (PINS Ref APP-044/ Application Ref 6.2.3). As

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		a) Please provide clarification of the anticipated trends in baseline conditions for this aspect? b) In the event that this will not be possible until further site investigations have taken place, please confirm when this will be undertaken.	outlined in paragraph 3.2.3 of PINS Ref APP-076/ Application Ref 6.4.3.1, the South East River Basin Management Plan encapsulates the area of the proposed development. The anticipated trends, aims, issues and proposed improvements for the WFD water body are presented in the South East RBMP[7] As presented in Table 30 of the South East RBMP the percentage of coastal water bodies, in the South East, to achieve Good chemical (91%) and ecological (36%) status is to remain consistent between 2015 and 2021. Similarly, the number of estuarine water bodies achieving Good chemical (91%) status is to remain consistent and an increase of 4% of estuarine water bodies achieving Good ecological (increasing to 26%) status. As identified in the Applicant's response to 1.18.2.a, the baseline has been characterised and the future anticipated trends have been duly considered. The reference to Site Investigations (SI)within the application document(s) relates solely to pre-construction Site Investigations to confirm *inter alia* detailed design and refinement of mitigation measures. B. The Applicant anticipates that the SI works could be complete by end May 2019, assuming that access is obtained by the end of March 2019. It is recognised that this is likely to be too late to

[7] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/500473/South_East_RBD_Part_1_river_basin_management_plan.pdf

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			introduce the data acquired into the examination. It is, in part, for the reason that the decision to drop landfall Option 2 has been made at Deadline 1. It is proposed that the Site Investigations be carried out at the earliest opportunity (rather than post-consent as is standard practice) but this is dependent upon access being granted by the managing authority of the intertidal/landfall areas which is Kent Wildlife Trust. At the time of writing (December 24th 2018) KWT have declined access and a the Applicant is therefore pursuing compulsory access.
1.18.3.	The Applicant	Marine Water Column Effects: Sampling Regime At paragraph 4.6 of its relevant representation [RR-049], the Marine Management Organisation has set out inconsistencies within [APP-044], and between it and [APP-082] in relation to the number of stations sampled for contaminants. • Could the Applicant please clarify by providing full details of the sampling regime undertaken in this respect?	As identified in the Applicant's response to the Marine Management Organisation's Relevant Representation (response to MMO-106), Full details of the intertidal contaminants sampling are presented in Volume 4, Annex 5-1: Export Cable Route Intertidal Report (PINS Ref APP-081/ Application Ref 6.4.5.1). The results of sediment contaminants analysis undertaken in the array and offshore parts of the OECC are presented in Section 5.6 of Volume 4, Annex 5-2: Benthic Characterisation Report (PINS Ref APP-082/ Application Ref 6.4.5.2;). The Applicant can clarify that there were some inconsistencies between the reporting of the number of samples undertaken between the identified documents (APP-044 and AP-082). The 21 samples referred to in paragraph 3.7.8 and associated figure (Figure 3.6) (PINS Ref APP-044/ Application Ref 6.2.3) refer to the initial grab samples targeted for to characterise the seabed. As presented in Table 5.1 of PINS Ref APP-073/ Application Ref 6.4.5.2, however only seven of these grabs were

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			subsequently analysed in the laboratory for contaminants, with the remainder being analysed for sediment and/or faunal analysis.
1.18.4.	The Applicant	Marine Water Column Effects: Assumptions Table 6.7 of the Fish and Shellfish Ecology Chapter of the ES [APP-047] appears to include an inconsistency in the assumptions used for the amount of sediment that would be liquefied, with both 50% and 100% being quoted. • Please could the Applicant clarify the amount of sediment transferred to the water column during jetting and ensure that the assessment properly reflects this assumption?	Annex B, of the Applicants' Response to Relevant Representations (Appendix 1 of the Deadline 1 submission) presents an audit of how the design parameters have been transcribed from PINS Ref APP-042/ Application Ref 6.2.1 into the offshore EIA chapters. Annex B, presents and provides a full explanation of the discrepancy in the volumes of disturbed sediment arising from jetting for cable installation. Annex A, of the Applicants' Response to Relevant Representations (Appendix 1) of the Deadline 1 submission, presents the maximum design parameters requested in a tabular format for the amount of sediment to enter suspension for the jetting of both export and inter-array cables. In brief the Applicant can confirm that this was a typographic error but wishes to note that the assessments have been undertaken based on the assumption of 50% of the sediment being ejected from the trench as presented in Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes (PINS Ref APP-043/ Application Ref 6.2.2). This is further noted in Table 8 of Annex A of the Applicants' Response to Relevant Representations (Appendix 1) of the Deadline 1 submission.
1.18.5.	Environment Agency, Thanet District Council, Dover District Council and Kent County Council	Risks to Controlled Waters Cable Landfall Options 1 and 3 would involve running underground cables through the historic landfill site at Pegwell Bay. • Are the councils and the Environment Agency satisfied that	Volume 3, Chapter 1: Project Description (Onshore) (PINS Ref APP-057/ Application Ref 6.3.1), Code of Construction Practice (CoCP, PINS Ref APP-133/ Application Ref 8.1), and Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6) provide information regarding the design of the landfall (including Options 1 and 3). The proposals are such that they would ensure leachate does not escape during construction and/or operation. The detailed design is not currently available, but the Contaminated Land

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		the proposed design and mitigation measures would avoid a significant risk to public health in terms of contaminated land and potential impacts on controlled waters? If not, why not?	and Groundwater Plan (CLGP) is secured within the DCO at Requirement 19 (PINS Ref APP-022/ Application Ref 3.1), which provides for this information to be submitted for approval to the relevant planning authority before the commencement of any stage of the connection works. Therefore, the Applicant has adequately and appropriately secured all relevant mitigation and mechanisms which may be required to ensure the control of any contaminants disturbed during the proposed activities.
1.18.6.	Thanet District Council, Environment Agency, Natural England, Kent Wildlife Trust and Kent County Council	Controlled Waters: Cumulative Effects Assessment Table 6.14 of [APP-062] outlines various potential cumulative impacts that could arise from the projects identified in Table 6.13, in combination with the Proposed Development, and provides an assessment of the potential significance of such impacts. Minor beneficial effects are identified on the impacts to human health and controlled waters, and to changes in watercourse conveyance and floodplain storage. • Do Thanet District Council, the Environment Agency, Natural England and Kent Wildlife Trust	To provide further context, the Applicant summarises the cumulative impact assessment approach as follows. The cumulative assessment assumes that embedded mitigation would be incorporated into the project design and successfully implemented in accordance with the conditions of the DCO, namely Requirements 15, 16, 18, 19 and 26 (PINS Ref APP-022/ Application Ref 3.1). The embedded mitigation measures are outlined in Table 6.12 of Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6) and in the Code of Construction Practice (CoCP, PINS Ref APP-133/ Application Ref 8.1). In relation to the cumulative assessment on human health and controlled waters presented in Table 6.14 of Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6), there would be site investigation, remediation and groundwater protection undertaken to avoid the creation of 'pollution pathways', both at the proposed development and cumulatively with other related developments in the area (e.g. Nemo link). For instance, in paragraph 6.10.2 of Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		agree that a "minor beneficial" cumulative effect alongside the Nemo link is a reasonable conclusion as to the residual effect in terms of potential impacts to human health and controlled waters, taking into account ground investigation, remediation and groundwater protection measures as secured within the DCO? If not, why not?	6.3.6) relating to human health, it is stated that at the proposed development any landfill leachate and contaminated water encountered would be pumped, tankered and disposed of elsewhere, whilst a site investigation would also be undertaken at Richborough Port and Power Station to determine if there was any evidence of contamination, and to identify a process to prevent mobilisation of potential contaminants. As noted in Table 6.14 of Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6), such approaches would be carried out in compliance with the Draft Thanet Local Plan 2031 and statutory processes for managing decontamination of land. Following the combined implementation of these ground remediation processes, it is concluded that the overall cumulative effect on human health and controlled waters would be 'minor beneficial', and not significant in EIA terms, the rationale being that collectively the cumulative scheme would lead to a reduced level of contamination risk compared to that presently associated with the current land use and the other projects. The assessment is based on the highest receptor sensitivity of 'high' in Table 6.10 of Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6) (e.g. human health and controlled waters), and there being in the worst case a 'negligible beneficial' magnitude of impact. Following the matrix set out in Table 6.6 of Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6), this amounts to the overall cumulative significance of effects of 'minor beneficial'.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			The need for ground investigation, remediation and groundwater protection measures are mentioned extensively in Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6) and in the CoCP (PINS Ref APP-133/ Application Ref 8.1), which is secured within the DCO at Requirement 16 (PINS Ref APP-022/ Application Ref 3.1). Subject-specific managements plans, including the Onshore Substation Surface Water and Drainage Management Plan (SWDMP) and the Contaminated Land and Groundwater Plan (CLGP), are also secured within the draft DCO, at Requirements 18 and 19 respectively (PINS Ref APP-022/ Application Ref 3.1). The Applicant therefore considers that the DCO as drafted is a suitable means of implementing these measures.
1.18.7.	Kent County Council, Thanet District Council and Environment Agency	Mitigation Measures as a Result of Site Investigation Works Table 6.15 of [APP-062] summarises the post-mitigation residual effects of the proposed development from a ground conditions, flood risk and land use perspective. As no significant effects are identified due to the presence of embedded mitigation, this table concludes that no further mitigation measures are necessary. However, both Table 6.12 and section 6.15 of [APP-062] recognise that site investigation	Of relevance to the potential leakage of contaminants, Condition 10 of Schedule 12, Part 4 of the draft Order (PINS Ref APP-022/ Application Ref 3.1) requires that a contamination prevention plan is submitted with the suite of pre-construction plans and documentation. That plan "must contain details of necessary measures in order to ensure that construction works undertaken with Work No. 3B will not release any contaminants into the marine environment". This condition has been specifically drafted in order to ensure that any landfill engineering will not result in the release of any contaminants into the marine environment. In addition, the requirements contained within Part 3 of Schedule 2 of the draft Order (PINS Ref APP-022/ Application Ref 3.1) include a number of control mechanisms. This includes, at Requirement 15, the

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		works will be undertaken prior to construction in order to inform the final design of the proposed development, and any associated mitigation works. This suggests a lack of baseline information, particularly in relation to the landfill engineering, leaching potential of contaminants and groundwater levels. Section 6.15 states that the scope and design of the site investigation is to be agreed with Kent County Council, Thanet District Council and the Environment Agency, along with the final design of mitigation measures. a) Please can Kent County Council, Thanet District Council and the Environment Agency confirm that they are satisfied that the site investigation works can be appropriately delivered in the context of the DCO as drafted? b) Section 7 of the Code of Construction Practice explains that "potential mitigation measures" are	production of a Construction Environmental Management Plan (CEMP), which must accord with the Code of Construction Practice (CoCP, PINS Ref APP-133/ Application Ref 8.1) and which must contain details of flood risk management, soil management and relevant health, safety and environmental legislation and compliance. That plan must be approved by the relevant local planning authority. In addition, Requirement 19 requires the production of a Contaminated Land and Groundwater Plan (CLGP), which will be submitted for approval by the relevant planning authority. To provide further context, the Applicant summarises the status of the current understanding of baseline conditions and environmental effects, the need for further site investigation and the adequacy of the DCO (PINS Ref APP-022/ Application Ref 3.1) to implement it below. The Applicant considers that there is sufficient understanding of baseline conditions, including those pertaining to the historic Cliffsend Landfill, to both identify appropriate forms of mitigation and inform an appropriate assessment of 'residual' environmental effects related to the proposed development. The Geo-environmental Phase 1 Desk Study (PINS Ref APP-112/ Application Ref 6.5.6.1) in particular presents an extended account of environmental information, including details regarding the landfill kindly provided by the Environment Agency, Thanet District Council, Dover District Council and Kent County Council by way of reports and meetings.

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
		to be "based on the investigation results": to what extent is this array of measures known at this stage?	Nevertheless, the need for further site investigation to inform the final design and associated mitigation measures is recognised and mentioned extensively in Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6) and in the CoCP (PINS Ref APP-133/ Application Ref 8.1). These documents, together with subject-specific managements plans noted above such as the CLGP, are referenced in the draft Order (PINS Ref APP-022/ Application Ref 3.1). The Applicant therefore considers that the Order as drafted is a suitable means of implementing the site investigation works. Further site investigation would serve to refine, by providing more local detail, the understanding of conditions and the required mitigation associated with a preferred landfall option and other aspects of the proposed development. In this way it would help ensure that potential risks to human health and environmental receptors during construction, operation and decommissioning phases are adequately mitigated. Section 7 of the CoCP (PINS Ref APP-133/ Application Ref 8.1) states that "The results of the investigations would be used to inform foundation design, design of temporary works and horizontal drill/microbore/pipe-jacking to ensure the stability of the proposed development". The Applicant considers that whilst the identification of a preferred landfall option and refinements in the required mitigation associated with that option might be a consequence of the further site investigation, the proposed development would remain within the design envelope identified and assessed in Volume 3, Chapter 6: Ground

PINS Question number:	Question is addressed to:	Question:	Applicant's Response:
			Conditions, Flood Risk and Land Use (PINS Ref APP-062/ Application Ref 6.3.6).

12 References

Booth, C., J. Harwood, R. Plunkett, S. Mendes, and R. Walker. 2017. Using The Interim PCoD Framework To Assess The Potential Effects Of Planned Offshore Wind Developments In Eastern English Waters On Harbour Porpoises In The North Sea – Final Report. SMRUC-NEN-2017-007, Provided to Natural England and the Joint Nature Conservation Committee, March 2017, SMRU Consulting.

Nabe-Nielsen, J., F. van Beest, V. Grimm, R. Sibly, J. Teilmann, and P. M. Thompson. 2018. Predicting the impacts of anthropogenic disturbances on marine populations. Conservation Letters.

Tougaard, J., S. Buckland, S. Robinson, and S. Southall. 2014. An analysis of potential broad-scale impacts on harbour porpoise from proposed pile driving activities in the North Sea. Report of an expert group convened under the Habitats and Wild Birds Directives–Marine Evidence Group. Unpublished report to Defra.