THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

Thanet Extension Offshore Windfarm

Planning Inspector Reference: EN010084

Annex B: Schedule of Natural England's Responses to Examining Authority's first round of written questions.

15th January 2018

1.1 Biodiversity, Ecology and Natural Environment			
Reference	**Question to**	**Questions**	**Natural England's Comments**
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.	Natural England will await a summary table from the applicant and then re-examine and cross check the figures again. According to table 12 within the Natural England technical topics SoCG, the applicant is drafting a clarification note with all the maximum project design parameters being assessed.

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 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	a) It is Natural England's opinion that if having agreement with the PEMP is required to reach a conclusion of no likely significant effect from pollution from the landfill in Pegwell Bay and therefore to comply with the People Over Wind Ruling, we advise that this forms part of the mitigation and should be carried through to appropriate assessment. c) European sites and qualifying features for which these concerns exist: i. Thanet Ramsar features of concern: Turnstone – roosts on the saltmarsh and feeds on the mudflats. ii. The wetland invertebrate assemblage – Natural England understand that this not particularly helpful just naming the assemblage, feedback we also received from the applicant. Therefore, we have provided some advice that was presented to the applicant describing the likely invertebrates of conservation concern (see iii). iii. 6 Nationally Scarce (NS) species, 2 provisional NS species and 2 section 41 species. From best available evidence / records that Natural England hold on S41 species in Pegwell Bay we know that the upper saltmarsh transition zone, if it has any stands of restharrow may well the support the moth, *Aplasta ononaria*. There is also the section 41 species *Colletes halophilus,* a type of bee. These S41 species, in addition to having their own value stand as a proxy for good supporting habitat, alongside the assertion that the site represents excellent saltmarsh habitat in good condition.

		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 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-	iv. Thanet SPA Features of Concern: Golden plover and turnstone, roost on saltmarsh and feed on mudflat. The little tern is not currently breeding in the site and historically the bay is not a key breeding site. v. These concerns do not relate to the assessment of in-combination effects. f) Natural England have no further comments to make on this point.

		combination effects could exist in these circumstances. e) Can the Applicant please explain how in-combination effects have 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?	
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?	Natural England welcomes any clarification from the applicant on the discrepancies in the different size of the study areas quoted. However, we do not believe these differences will have any impact upon the outcome of the assessments.
1.1.6.	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 and 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 respect of reefs due to the potential physical overlap.	The Thanet Coast contains a large number of partly-submerged caves and tunnels in the intertidal area. These caves support very specialised and rare algal and lichen communities, which are restricted to the shaded, damp walls and ceilings of the caves. Natural England is content that there are no likely significant effects from the proposed development on this feature of the Thanet Coast SAC.

		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?	
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)	The examining authority is correct in stating that this will be covered within the statement of common ground which will be submitted at Deadline 1. Section 4.1 and Table 3 indicates the current positon and progress Natural England have made on the conclusions for each site.

		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 satisfaction? b) This may form part of the statement of common ground between Natural England and the Applicant.	
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 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	Natural England are concerned that by using Option 2 of the Band (2012) model and not Option 1 (which uses site specific flight height data), the predicted mortalities may be underestimated. We have illustrated this using the different Collision Risk Modelling options in our Written Representations (section 6.4.26), based on the same parameters presented in Annex 4-4 (Ref: 6.4.4.4) to demonstrate the potential range for kittiwake. These outputs were generated using the deterministic Band (2012) model and did not include confidence intervals, but was carried out to illustrate the difference that using the ORJIP data could make, and to give an indication of the upper part of the range for predicted mortality. With respect to the question on whether the modelling outputs will have a bearing on the overall conclusions, our view is that they are unlikely to change the Applicants overall conclusions. Even taking the outputs using Option 1 with flight heights from the ORJIP Bird Collision Avoidance study at Thanet (Bowgen and Cook, 2018), Natural

		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 sites (from the project alone and in-combination).	England’s opinion is that there is no likely adverse effect on integrity from collision mortality for the relevant European sites for any of the species from the project alone. Natural England’s advice is that the level of in-combination mortality from collision risk in-combination with other plans and projects in the North Sea is such that although an adverse effect on integrity of the Flamborough and Filey Coast SPA kittiwake population cannot be ruled out beyond reasonable scientific doubt. However the effect of the additional predicted mortality from Thanet Extension is unlikely to materially alter the significance of the overall in-combination mortality figure, although it is important that the project’s contribution to the predicted total is accurately captured.
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.	To clarify the use of Band (2012) Collision Risk Model (CRM) is not under review. We have advised the Applicant that we are content for outputs from the Band (2012) CRM to be used, provided that the uncertainty/variability in the densities of birds in flight, avoidance rates, flight heights and nocturnal activity are also presented with the deterministic outputs. This can be done either by presenting multiple deterministic/Band model outputs for the different ranges of input parameters. The uncertainty/variability can also be presented by using

		• 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?	the Marine Scotland Science stochastic CRM tool (McGregor et al. 2018), which has now been published and is available. A stochastic version of the of the Band (2012) model has been developed by Marine Scotland Science (MSS) and this tool is now available https://www2.gov.scot/Topics/marine/marineenergy/mre/current/StochasticCRM Although we are not in a position to fully endorse the MSS stochastic model, we have advised the Applicant that it would be useful to start using this tool, and to present outputs alongside the outputs from the deterministic Band (2012) model. The Applicant used an earlier version of a stochastic CRM (Masden 2015) at an earlier stage in the process but the outputs were not included in the Environmental Statement due to the outputs being unreliable because the code was found to contain errors. This, and the findings from a review of the Masden model commissioned by Natural England (Trinder, 2017) led to the MSS tool being developed. The core calculations in the MSS CRM tool are largely the same as for Masden's code, and the core deterministic calculations underpinning the Masden code (i.e. without stochasticity) follow that of Band (2012). To conclude, Natural England can confirm that the use of Band (2012) is appropriate, provided the variability is presented. Given the uncertainty around input parameters including flight height and nocturnal activity, we recommend that the Applicant also runs the MSS stochastic model tool, and presents the outputs alongside the Band (2012) outputs. We believe re-running the collision risk modelling using the recommended parameters will provide a more representative figure that can be added to the cumulative and in-combination totals. References – can be supplied on request from the Examining Authority.

			Band, W. (2012). Using a collision risk model to assess bird collision risks for offshore windfarms. The Crown Estate Strategic Ornithological Support Services (SOSS) report SOSS-02. SOSS Website. Bowgen, K. & Cook, A., (2018), Bird Collision Avoidance: Empirical evidence and impact assessments, JNCC Report 614. Masden, E. (2015). Developing an avian collision risk model to incorporate variability and uncertainty. Scottish Marine and Freshwater Science Vol 6 No 14. DOI: 10.7489/1659-1. McGregor, R.M., King, S., Donovan, C.R., B. Caneco, B., Webb, A. (2018) A stochastic collision risk model for seabirds in flight. Marine Scotland Report. Scottish Government website.
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 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	c) A copy of the SNCB advice note on displacement is attached. The recommendations in the advice note are aimed at capturing the full range of potential impacts, while encouraging developers to present any species-specific evidence to further refine this as part of both Habitat Regulations Assessment (HRA) and Environmental Impact Assessment (EIA) processes. This is why Natural England are not advocating only presenting outputs set out in this advice note, and we are content for the Applicant to present their displacement figures alongside. Since the publication of this note in 2017 further evidence has emerged that red throated diver can be displaced beyond 4km from offshore (for example *Webb et al., 2017*) which further justifies an approach the takes into account that divers may be displaced beyond 4km. The status of the document is that it is currently used by all SNCBs, including Natural England.

		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. 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) To clarify, due to the temporary nature of any displacement effects from Thanet Extension alone during the construction period we would agree that there is no adverse effect on integrity to the red-throated diver feature of the Outer Thames Estuary SPA.

		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 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.	
1.1.13.	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 consent have now been submitted.	Natural England understands that it is the Applicant's intended approach to take the figures agreed at the end of the EA3 hearing and add Thanet Extension, Hornsea 3 and Norfolk Vanguard to those. However, at the moment there is still disagreement regarding the figures for those three projects and therefore there are no updates to report at the moment.

		• 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?	
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 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?	The comments concerning alterations to the DML condition wording were related to previous Natural England concerns over the effectiveness of the soft start. Natural England refers the Examining Authority to Natural England's statement of common ground with the applicant to be submitted at Deadline 1 and the applicant's response to our relevant representations. It is explained that the report that caused our original concern provided anomalous results. The updated report showed that aside from an initial high noise level as the pile initially penetrates the seabed surface, the soft start does act as required in terms of building up the noise levels. Therefore, Natural England have no further request to alter the wording of condition 16 of the DML.

		Is there alternative wording that would be acceptable to both parties?	
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 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?	Natural England refers the Examining Authority to Natural England's Statement of Common Ground (SoCG) and the developer's response to our relevant representations, where it is explained that the report that caused our original concern provided anomalous results. The updated report showed that aside from an initial high noise level as the pile initially penetrates the seabed surface, the soft start does act as required in terms of building up the noise levels and acting as mitigation. Therefore Natural England have no further concerns over the soft start.

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 undertaken[1], 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 marine mammals of the Southern North Sea cSAC?	The Department for Business, Energy and Industrial Strategy (BEIS) published a draft Habitats Regulations Assessment (HRA) of their review of consents (RoC) in autumn 2018 and Natural England submitted a response to this on 13 December. In our response we advised that the draft assessment had not covered sufficient scenarios so we are of the view that the in combination assessment is not yet sufficiently comprehensive. However, despite this, some of the in combination scenarios presented indicate that seasonal noise thresholds for the cSAC as advised by the Statutory Nature Conservation Bodies (SNCBs) could be exceeded by windfarm projects constructing at the same time (and also in conjunction with other noisy activities from other marine sectors). The RoC HRA shows there is a potential overlap with a number of offshore wind projects which could be in construction at the same time. This therefore confirms that developers including for the Thanet extension project (as well as other industries with noisy activities) may need to include mitigation to reduce the spatio-temporal disturbance footprint (e.g. through the use of noise mitigation systems or alternative foundations, by ensuring the location of simultaneous piling reduces the spatial extent within the cSAC, or by looking at concurrent piling in close proximity so the deterrence footprints overlap). In our response to the consultation on the RoC draft HRA we expressed our concern that there remains a lack of clarity on how Site Integrity Plan SIP conditions will ensure that mitigation will be put in place to prevent exceedance of the SNCB thresholds for disturbance. A process will need to be developed by the regulators to ensure continuing adherence to the SNCB thresholds as multiple SIPs are developed over time, especially when piling can take place over

[1] https://www.gov.uk/government/consultations/southern-north-sea-review-of-consents-draft-habitats-regulations-assessment-hra

			several years, and new projects can come online during this time. Should potential exceedance of the thresholds occur, a process for dealing with this issue needs to be in place – the affected developers / industries will need to work together with the regulator and SNCBs to prevent adverse effect on the SCI. While this list is not exhaustive, Natural England would expect the following to be included in the SIP: • A finalised design plan; • An updated HRA; • Updated mitigation measures (if required) – outlining potential mitigation that can and cannot be used and the reasoning. • Where modelling via the RoC has been updated (e.g. the Dogger projects), further mitigation may be required to ensure porpoises are out of an enlarged Permanent Threshold Shift zone than was predicted in the original EIA. • Detail the requirement for EPS licences and Marine Licences for UXO detonation. • Provide a timetable for development of the plan. E.g. Post CfD, and again pre FID to ensure timely agreements and timeframes for finances to be agreed.
1.1.30.	The Applicant (Part B is posed to Natural England)	**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	Within the Biogenic Reef Mitigation Plan (BRMP) it states in section 5.1.1 “Post construction monitoring will consist of geophysical surveys of the whole development site. A comparison can then be made based on any change in reef extent and position between pre and post-

		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 overlaying the cables, should be incorporated into the conditions of the DML.	construction surveys and the success of micrositing mitigation measures assessed." Although Natural England welcome the above commitment, further expansion of the benthic surveys outside of core reef areas across the development site, including scour protection and cable protection would be welcome, particularly in designated sites. This would ascertain whether construction impacts have been avoided through the proposed mitigation measures and determine if there has been any recovery. Geophysical surveys should be adequately ground truthed for *Sabellaria spinulosa* using drop down video and grab samples. This should be reflected in a licence condition within the DML. Furthermore, it is stated in our written representations (6.4.17 (a)) that Natural England is concerned that only one swath bathymetry survey at year 1 will not be sufficient and further targeted surveys within designated sites, such as Goodwin Sands pMCZ, should be added to allow any potential effects of cable burial and cable protection to be monitored. Natural England welcome further engagement with the applicant on this issue.
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 -	Natural England welcomes the clarification requested by the examining authority from the applicant in point a. With regards to point c, and as stated above, Natural England would like to see: • Further expansion of the benthic surveys outside of core reef areas across the development site, including scour protection and cable protection would be welcome, particularly in designated sites. Geophysical data must be ground truthed using drop down video and grab samples to provide adequate benthic monitoring.

		5.8 of its representation) raises concerns with this approach and the methodology 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 Organisation are also invited on this point.	c) Natural England is concerned that only one swath bathymetry survey at year 1 will not be sufficient and further targeted surveys within designated sites, such as Goodwin Sands pMCZ, should be added to allow any potential effects of cable burial and cable protection to be monitored. We would like to retain the provision of three years of surveys in case recovery is not as suspected. However, if recovery has been good then discussions on the need for further surveys can be held.
1.1.35.	Natural England, Marine	**Subtidal and Benthic Intertidal Habitats: In-Combination Assessment**	As stated in our written representation, further consideration needs to be given to impacts, sensitivity and recoverability of habitats to

	Management Organisation and all IPs	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 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?	deposition of material from sandwave clearance / pre-sweeping including the habitat and size of area affected. Disposal areas should avoid protected sites and areas of habitats of conversation interest. For completeness, this aspect of the assessment should include an in combination assessment with other known dredging and disposal activities for the pressure of siltation/sedimentation. Natural England notes that impacts from suspended sediments associated with the Nemo cable do not coincide with the proposed development, and is therefore content for this to be screened out of further assessment. While it may be difficult to predict future dredging and disposal volumes and timings, a check of previous activity is possible and could be used as a basis for undertaking a reasonable assessment going forward.
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 the basis of the Saltmarsh Mitigation, Reinstatement and	Natural England's primary concern regarding the permanent loss of saltmarsh as a supporting habitat was associated with option 2, and we understand that the applicant is no longer pursuing this option. As highlighted in our answer to question 1.1.40. though, due to experience from the recent Nemo installation there is some risk associated with the uncertainty of saltmarsh recovery post construction

		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 in the Ramsar invertebrate assemblage (bug Orthotylus rubidus)?	even if best practice measures are employed. This should be factored into the appropriate assessment. In terms of residual concerns relating to invertebrates, please see questions 1.1.47 and 1.1.48 where Natural England has expanded on the progress made on determining any effects upon invertebrate species of importance. However, Natural England's concerns regarding permanent loss were associated with option 2, and we understand that the applicant is no longer pursuing this option.
1.1.39.	The Applicant, Natural England, Environment Agency, Kent Wildlife Trust, Kent County Council, Thanet	**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	Natural England are yet to receive this separate document relating to the permanent loss of Saltmarsh. However, following the applicant's decision to drop landfall option 2 from the application we suspect we will not be receiving further information on addressing permanent loss of saltmarsh habitat.

	District Council and Dover District Council	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 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,	**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	a) The SMRMP states "Surveys will be undertaken on a monthly basis for 1 year following installation and once yearly up to 5 years' post-installation, or until recovery is agreed with Natural England in line with the SMRMP." The mechanism …"until recovery is agreed with Natural England…" will allow Natural England to determine the level of recovery each year and

	Kent County Council, Thanet District Council and Dover District Council	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?	request further surveys or other mitigation measures if recovery has not been acceptable. The SMRMP is conditioned with the DCO and therefore the developer is bound to these commitments. b) It is quite hard to determine what the potential options for mitigation would be considering the uncertainty around the potential landfall options and how the landfall area will react to the construction works. This has been proven by the relatively quick recovery displayed by the original Thanet cable and the slow recovery displayed by the NEMO cable. What is certain is that the SMRMP needs to be finalised and agreed with the relevant stakeholders and a thorough pre-construction baseline survey needs to be carried out so impacts can be measured There is a risk that no mechanisms can be identified to further recovery in the event that recovery is slow / does not happen. However, Natural England advises that if temporary disturbance of saltmarsh is permitted provision should still be made to ensure that management options can be explored with the developer and implemented where possible post construction.. .
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	Natural England can confirm that the information is correct. We also point the examining authority to section 4 of our written representation which also provides additional information on sites that are could experience significant effects as a result of the proposal. If additional information is needed, or Examining Authority feels something is missing or new information has come to light we would be happy to provide it at the examiners request.

		all the relevant information is correct such that an appropriate assessment could be made in light of those conservation objectives?	
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 published recommendations to DEFRA[2] 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 undertaken by the applicant (and their conclusions); and,	i) With regards to the status of the pSPA please section 5.2.3 of Natural England's Written Representations. The following is taken from that section: "The Flamborough and Filey Coast SPA has now been classified as an SPA under the provisions of the Birds Directive. The public consultation concluded in April 2014 and the minister publicly noted the intention to classify the site as an SPA in late 2018. ii) Once a European site is a proposed Special Protection Area (pSPA) it is considered to have a material consideration and is afforded the same level of protection as fully designated SPAs. The applicants have identified this within the Report to Inform Appropriate Assessment and as the site is treated equally, as if it was fully designated or not, there should be no implications on the assessment or conclusions the applicants have reached. However, please note that the seabird assemblage total given on the pSPA citation has increased from 215,750 to 216,730 (see http://publications.naturalengland.org.uk/publication/5400434877399040?category=5758332488908800). This reflects revised calculations regarding the number of puffin present at the site (the contribution of this species to the assemblage having increased from 980 to 1960). This revision is not likely to affect the applicant's conclusions

[2] https://www.gov.uk/government/consultations/flamborough-and-filey-coast-potential-special-protection-area-pspa-and-flamborough-head-possible-special-area-of-conservation-psac

		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).	regarding impacts on the seabird assemblage feature. For the SPA qualifying species, given that the Applicant, has carried out an assessment of impacts on all of these as pSPA features, the change in status neither requires additional information from the applicant regarding these. Nor does it affect Natural England's advice. Furthermore, Flamborough Head pSAC should not be affected by this development. iii) Currently only high level conservation objectives for this site have been published, which provide a framework for informing any Habitats Regulations Assessment. These high level objectives have been provided at deadline 1. Supplementary advice to support the conservation objectives is not currently available, however may become available further into the examination process and will be provided by Natural England in due course should this be the case.
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	Natural England are aware of the access restriction that have hampered the applicant's data acquisition as part of the baseline assessment for onshore biodiversity. In terms of European and National Protected Species such as great crested newt, reptiles, bats, water vole and otter, Natural England have determined the proposed development in unlikely to impact these legally protected species. However, the onus is on the developer to ascertain the likelihood of impacts upon these protected species and whether any wildlife licences will be required. We are encouraged by the applicant's assurances to carry out further pre-construction

		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 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?	surveys to further determine the likelihood of these species being present. Similar shortcomings have been highlighted within the invertebrate surveys, which were limited to only one visit late in August, where a few visits should have been undertaken. Natural England have provided further information to the applicant, which included further information on the potential invertebrate species that could reside in this area and their conservation status. Furthermore, and as highlighted within the applicants OLEMP a Terrestrial Invertebrate Mitigation Strategy is to be developed. This is alongside further pre-construction surveys to further identify invertebrate species of importance at the landfall location, to act as a baseline and to aid in post construction comparisons. In terms of assessing the worst case scenario, which is landfall option 2, and the permanent loss of saltmarsh, Natural England were concerned at the level of surveys that had been carried upon the saltmarsh considering the potential for adverse effect on site integrity of the SPA and Ramsar. Following the decision from the applicant that landfall option 2 has now been dropped our concerns have been lessened to a degree, however we will await formal confirmation from the examining authority. Therefore, for landfall options 1 and 3, the measures secured in the OLEMP such as the TIMS and pre-construction surveys, but also measures within the Saltmarsh Mitigation Plan has allowed Natural England to determine that the current information is sufficient.
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	a) Natural England has discussed this issues with the applicant. We have provided further information to the applicant on the potential invertebrate species that could reside within the Pegwell Bay area. As stated above, we have raised the shortcoming in the invertebrate surveys with the applicant.

		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, 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?	However, following the publication of the OLEMP, which includes further pre-construction surveys and a dedicated TIMS which will be developed in consultation with ourselves and other stakeholders we feel the further information provided at the pre-construction stage will successfully characterise the area further. b) Apart from the further work described above, such as the TIMS and the pre-construction surveys at this stage Natural England deem further work is not necessary. However, it should be noted that this in line with the applicant dropping landfall option 2.
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.	In Natural England's considered opinion, it is not within our remit to comment upon HRA issues and assessments when the relevant designated sites are in France. These should be addressed by the relevant nature conservation body in the country of concern. Natural England points the examining authority to sections 2.1.5 and 2.2.1 of our written representation which explains in more detail our current remit.

		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 on European sites in France or French waters?	
1.6 Electric Magnetic Fields (EMFs)			
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 reference to the DCO, DMLs and/or other documents) how the embedded mitigation measures	Natural England confirm no further mitigation is needed to reduce the impacts of EMFs on benthic species. We refer the Examining Authority to Natural England's relevant representations where we state on page 30 in relation to table 5.11: "Electromagnetic Fields - If it is not be possible to bury cables to 1.5 m, Natural England do not want cable protection to be used as de facto to minimise the impacts from EMF. The use of cable protection should be minimised and agreed on a case by case basis depending on what will lead to the lowest environmental impact. In environmental terms, it may be better to leave a cable surface laid or shallow buried."

		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?	
1.11. Marine and Coastal Physical Processes			
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	a) The relevant experience relates to an issue which arose in relation to post consent applications for burial / reburial and sandwave clearance at a windfarm in the southern North Sea. It highlighted that the use of volume for assessing benthic impacts was not sufficient as the area impacted by area exceeded that assessed in the application, despite the volume being the same. Based on this experience NE and the MMO determined that in relation to benthic impacts it is more appropriate to condition the activity on volume and area of impact in order to avoid the footprint of the impact exceeding that assessed.

		experience alluded to in its relevant representation in this regard? • What does Natural England consider to be the implication of this 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.	i. The implications are that the applicants should specifically state the area of impact that will be affected by scour and cable protection, so it is clear what the worst case scenario will be. This is particularly pertinent in designated sites, where it is necessary to determine any potential effects upon the designated features. Without this information being available and conditioned in the DCO there is potential for the actual impacts to be more significant than those assessed using volume alone.
1.16 Townscape, Landscape, Seascape and Visual			
1.16.2	Kent County Council, Thanet District Council, Dover District Council, Kent Wildlife Trust, Natural England, National Trust, local business	**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	In reviewing the Environmental Statement Natural England has no outstanding concerns regarding landscape issues.

	and resident Interested Parties.	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?	
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.	In reviewing the Environmental Statement Natural England has no outstanding concerns regarding landscape issues within the Pegwell Country Park and the National Nature Reserve.

		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 National Nature Reserve (Works Nos.4 and 4A); and 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).	
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 turbiun 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?	In reviewing the Environmental Statement Natural England has no outstanding concerns, and thus no further comment regarding offshore seascape issues within our remit.
1.18 Water Environment			

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 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?	Natural England defer to our colleagues at the Environment Agency to comment upon controlled waters, while human health is outside of Natural England's statutory remit.