

Thanet Extension Offshore Wind Farm
Development Consent Order: EN010084
Deadline 1: 15th January 2019



Written Representation

Dear Planning Inspectorate Examining Authority,

We welcome the opportunity to comment on the application submitted to the Planning Inspectorate (PINS) for the Thanet Extension Offshore Wind Farm proposal. Kent Wildlife Trust (KWT) strongly **object** to this development proposal based on the chosen landfall option and what we perceive to be a lack of consideration for valid alternatives to the onshore cable route that we believe would have less of an environmental impact.

As outlined in Wildlife Trust policies on offshore wind farms, we welcome renewable energy initiatives that reduce our reliance on fossil fuels but emphasise the importance of selecting a suitable design which will have the least negative impacts on biodiversity and ecosystem function.

The proposed cable route will impact numerous environmentally designated sites; the Sandwich and Pegwell Bay National Nature Reserve, Sandwich Bay to Hacklinge Marshes SSSI, Sandwich Bay SAC, Thanet Coast and Sandwich Bay Ramsar site, and the Thanet Coast and Sandwich Bay SPA. We believe that the current proposal will have numerous disruptive impacts on land designated for nature conservation – designations that have been determined objectively against criteria which have national and international recognition.

This written representation will focus on the following chapters and sections of the application:

- Site Selection and Alternatives
- Draft DCO
- EIA Methodology
- Intertidal Surveys
- Benthic Subtidal and Intertidal Ecology
- Saltmarsh Mitigation, Reinstatement and Monitoring Plan
- Fish and Shellfish Ecology
- Offshore Designated Sites
- Marine Conservation Zone Assessment
- Biogenic Reef Mitigation Plan
- Schedule of Mitigation
- Marine Mammal Mitigation Plan
- Marine Mammals
- Offshore Ornithology



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Point	Comment
Table 4.1	<p>The justification for the ‘refinement of the proposed onshore cable route options’ directs to the responses to the S42 comments, however what is not mentioned is the numerous overall objections to this route, which infers support for the chosen landfall route from S42 responses which is not representative of the situation.</p>
Figures 4.8, 4.9 and 4.11	<p>This figure is misleading as it does not show the final landfall option. Clear figures to the same scale as these should have been produced in this document showing the final landfall route.</p> <p>Accompanying text needs to clearly explain that Option 1A from Figure 4.15 was chosen, which is Option 4 in Figures 4.5 and 4.7. At present it is highly confusing in the way Vattenfall display this information.</p>
4.2.4	<p><i>‘From a policy perspective, the National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) does not contain a general requirement to consider alternatives or to establish whether the proposed project represents the best option’</i></p> <p>The NPS EN-1 outlines that ‘the most important sites for biodiversity are those identified through international conventions and European Directives¹. The Habitats Directive provides statutory protection for these sites which include Special Protection Areas, Ramsar sites and Special Areas of Conservation² which are known as ‘European Sites’. Many SSSIs are also designated as sites of international importance and all National Nature Reserves, are notified as SSSIs¹.</p> <p>Under the Habitats Directive, when considering granting consent for a development that may adversely impacts on European sites, there must be sufficient evidence that ‘there are no feasible alternative solutions to the plan or project which are less damaging’ which includes using different routes³. We do not believe that the project has adequately demonstrated that the chosen route is the least environmentally damaging, or that the alternative onshore route options are not feasible.</p> <p>Ecological surveys were focused on one onshore cable route (Pegwell Bay)</p>

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

2

<https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/LDPEvidenceBaseLibraryandAnnualMonitoringRe/RelateddocumentsEvidenceBase/EB113.pdf>

3

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/82647/habitats-directive-iropi-draft-guidance-20120807.pdf

	<p>resulting in a lack of comparable ecological data. Without comparable ecological data for other proposed onshore cable routes and landfall options, we cannot accept that the route chosen is the least environmentally damaging. We would also like to see clear and robust evidence behind any claims made by the applicant that the alternative routes, namely routes 6 and 7, are not feasible.</p>
4.5.1	<p><i>'Avoidance of key sensitive features where possible and where not, seek to mitigate impacts'</i></p> <p>We do not believe that the <i>'avoidance of key sensitive features'</i> has been followed sufficiently. We believe that alternative routes which have not been pursued would result in less disturbance to key sensitive features and have yet to see ecological evidence suggesting otherwise. We would also like to highlight that in the hierarchy relating to environmental disturbance, avoidance of sensitive features should be the highest priority. In regards to the proposed cable route, Vattenfall are focusing prematurely on mitigation efforts without seeking to avoid sensitive areas.</p>
Table 4.6	<p>We would like to see further explanation and evidence as to why route 7 was considered <i>'high risk due to technical feasibility and therefore not carried forward for further consultation'</i>. There is no technical evidence provided.</p>
4.7.4	<p>The constraints presented are biased towards allocating more weight to socio-economic impacts than environmental impacts. For instance, the constraints include <i>'avoid land used for defence purposes'</i> and <i>'avoid residential property'</i> but the wording is much weaker for environmental considerations, where the constraint is <i>'minimise where practicable land designated for nature conservation'</i>. Environmental considerations should have been given more weight, for instance this should have stated <i>'avoid land designated for nature conservation'</i>.</p> <p>We also question why 'other areas of woodland' are given the status of 'avoid' whereas land designated for nature conservation is only given the guidance of 'minimise where practicable'. This allows justification to go across highly designated land (SPA, SAC, NNR, SSI, Ramsar) in order to avoid a line of trees recently planted as a mitigation measure for a previous incursion across Pegwell Bay.</p>
4.8.4	<p><i>'With a primary focus on engineering feasibility and environmental designations each landfall area of search was considered against a set of criteria as detailed in Table 4.4. The qualitative appraisal against these criteria was undertaken by Vattenfall with the support of external engineering (XERO Energy) and environmental expertise'</i></p> <p>We would like to know who provided the environmental expertise in this context. Based on the current evidence and procedure, we disagree that Vattenfall's primary focus was on environmental designations.</p>
4.8.6	<p><i>'Routes 5 and 6 preferable in terms of space for construction as they pass'</i></p>

	<p><i>mostly through open terrain'</i></p> <p>This strongly suggests that these routes are feasible, which is inconsistent with other claims that these routes were not pursued due to not being feasible. Given that Route 6 was considered preferable in terms of space for construction, we would like to request further information about why this route option was not pursued or ultimately chosen. The results of the intertidal surveys show that fewer intertidal habitats and species would be affected by this route/landfall option, and the route would not directly impact the NNR. Is it because of the need to cross the River Stour? EA have said it would be feasible to cross the river using HDD methods.</p>
4.8.7	<p><i>'Indicative routes 1, 2 and 7... were considered likely to have major restrictions on construction because their onshore routes are longer than the other options'</i></p> <p>The argument that the route 7 onshore route is longer than the other options is weak. Route 7 is only marginally longer (0.8km) than route 6, as described in table 4.5. The difference between the shortest proposed route and the longest is only 6.4km, which should not be a determining factor for an NSIP development such as this. Therefore reference to the onshore cable length is irrelevant.</p> <p>The location of the cable route and the number of designations the route interacts with will affect the environment much more than the length of the cable route. For instance, environmentally, Option 6 is a longer overall route length, but impacts fewer environmentally designated sites than the chosen route.</p>
4.8.9	<p>We are highly concerned that the applicant is already stated that '<i>HDD may not be feasible</i>' for some options. We feel this is precipitating an argument to justify going above ground (cable installation method 2). It is premature to say that '<i>HDD may not be feasible</i>'. Permits not been issued to do site investigations and we have full confidence that the results of site investigation works will demonstrate that it is feasible to go below ground and eliminate uncertainties about the nature of the landfill.</p> <p>HDD is the best method to avoid environmental features such as saltmarsh⁵, therefore if the application is accepted, HDD should be the only cable installation method considered⁴</p>
4.8.12	<p>Option 7 is '<i>feasibly difficult</i>' but environmentally is the least damaging option. We appreciate the engineering feasibility assessment of route further north of Pegwell Bay and understand the outcome of it not being engineering safe and feasible to run the cables parallel to NEMO along the Sandwich Road. However, no such engineering feasibility assessment/cable assessment was</p>

⁴ <http://webarchive.nationalarchives.gov.uk/+http://www.berr.gov.uk/files/file43527.pdf>

	done for potential routes 6 and 7 going along the Prince's Drive Estate.
4.8.13	Options 6 and 7 are outside of the NNR, therefore it is misleading to state that the whole Sandwich Flats North/Sandwich Bay area of Search falls ' <i>within a SAC, Ramsar site, an NNR and an SSSI</i> '. Only option 5 of the Sandwich Flats North/Sandwich Bay area of Search would impact these designations. Option 6 still impacts SPA, SSSI, SAC, SPA but to a smaller extent and would not impact Stonelees Nature Reserve or the NNR.
4.8.16	<i>'the indicative routes within Pegwell Bay and Sandwich Bay areas of search would result in comparable interactions in terms of the number of designated sites and/ or multiple interactions with the same site'</i> This is incorrect as options 6 and 7 do not impact the NNR
4.8.17	<i>'The dune features of the SAC would likely have direct interactions that would require mitigation measures such as HDD that may have challenges with regards technical feasibility due to the underlying ground conditions (which form the basis of the geological sand dune features)'</i> HDD has been successfully done beneath sand dunes in the UK to bring Offshore Wind Farm cables onto land. Therefore we believe it would be feasible to bring the cables onshore beneath shingle and sand dunes.
4.8.17	<i>'Indicative routes within the Sandwich Flats/Sandwich Bay area of search resulted in a number of interactions...with the features of the SAC, SPA and SSSI all being subject to direct interactions'</i> Similar to the point made above for 4.8.13 - Only option 5 of the Sandwich Flats North/Sandwich Bay area of Search would impact these designations. The area where the intertidal surveys were carried out represents where options 6 and 7 would make landfall. Options 6 and especially 7 have a smaller overall interaction with Sandwich Bay SAC, Sandwich Bay to Hacklinge Marshes SSSI, the Thanet Coast and Sandwich Bay SPA. Route 7 would not impact the coastal dune features of the SAC, and or the saltmarsh features of the SSSI. Route 6 would only have a small impact on the sand dune feature which could be avoided using HDD, and also will not impact the saltmarshes.
Figure 4.9	This figure is helpful to an extent in showing environmental designations of the two landfall options brought forward. However, a similar figure should have been created to show the environmental designations overlaid with all 7 onshore cable options to more clearly show the designations and features that will be impacted by each route. This should have been used in the decision making process for the landfall/onshore cable route.
4.9.14	We strongly disagree with the claim that ' <i>Option 1 is located within a less sensitive landscape context than Option 2</i> '
4.9.18	<i>'It is anticipated that Option 2 would result in High to Medium impacts on the Royal St George Golf Course as a result of transport disruption, noise, and</i>

	<p><i>visual effects which could affect the recreational experience'</i></p> <p>The Royal St George's Golf Course is hosting the International Golf Open Tournament in 2020 which is during the proposed construction period. The golf tournament lasts for 1 week and due to the economic benefits brought by the tournament is presented as a reason against options 6 and 7. This shows that economics is given a higher priority/consideration by the developers than the environment. It would be possible to landscape the construction work accordingly and potentially postpone certain construction activities during the tournament.</p> <p>Given the short timescale of the tournament and the anticipated 25-30 year lifespan of the project, it does not seem proportionate for a 1 week long tournament to determine the chosen route.</p>
4.9.31	<p><i>'Effects for Option 1 would be significant in the absence of suitable mitigation'</i></p> <p>This is concerning as many of the details of the mitigation plans have not yet been announced and are at present vague (examples include: <i>'Terrestrial Invertebrate Mitigation Strategy (TIMS) will be developed following completion of pre-construction invertebrate surveys'...</i> <i>'can't be determined at this stage'</i> as stated in the OLEMP).</p> <p>We strongly believe that avoidance is the least damaging option as even with suitable mitigation efforts in place developments cause temporary or long term disturbance. Mitigation efforts can also be unsuccessful so the precautionary approach should be used which would be to avoid significant effects on designated sites.</p>
4.9.55	<p>We question the statement made by the applicant that <i>'whilst Option 1 performed better in the appraisal for the vast majority of receptors it was generally balanced'</i>.</p> <p>How can the assessment of North vs South routes reach the conclusion that Option 1 (the Northern onshore route through Pegwell Bay) was better than (or equal to) Option 2 (the Southern route) for designated habitats, species and features? Comparable ecological studies were not conducted therefore we would like to know on what evidence this claim is based.</p>
4.9.56	<p><i>'Precedents set at the Northern route'</i> should be used with an enormous degree of caution and not as a justification for the chosen route. The precedent from the Nemo Interconnector cable demonstrates how features can be damaged due to unforeseen circumstances, even with mitigation measures in place. This is why avoidance of these sites should be the priority before mitigation to ensure that these areas are safeguarded.</p>
4.12.12	<p><i>Withdrawal of the Thanet Cable Replacement</i></p> <p>So far there has been insufficient information provided about the withdrawal of the Thanet Cable Replacement project and this section of the application does</p>

	<p>not explain the situation beyond stating that the project is no longer going ahead. It would be appreciated if some additional detail could be provided to stakeholders and interested parties to explain why the Thanet Cable Replacement project has been cancelled. Since commissioning, there have been ongoing issues with the export cables causing disruption to wind farm generation output and the need for regular access to the cables to undertake repair and maintenance work⁵.</p> <p>KWT seek reassurance that the decision to cancel the Thanet Cable Replacement Project is a long-term decision and would like confirmation that Vattenfall will not return with this proposal.</p>
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Chapter: Draft DCO – Doc. Ref 3.1	
Point	Comment
Part 1	We agree with Natural England that the definition of ‘commence’ in relation to offshore works should be redefined to include pre-construction surveys, monitoring, seabed preparation and clearance. These are important aspects of offshore works and can impact the seabed.
Part 4 (Pre-construction) 10c; 12e; 12g	A number of monitoring and construction plans have not yet been made available to comment on, including: A ‘Construction Programme and Monitoring Plan’; ‘Scour and Cable Protection Plan’; ‘Cable Specification, Installation and Monitoring Plan’. We would like to know when these documents will be available to view and comment on.
Part 4 (Pre-construction) 15a	The pre-construction surveys should include reference to blue mussel beds as well as <i>Sabellaria spinulosa</i> . Blue mussel beds are known to exist in the area and, like <i>Sabellaria spinulosa</i> , represent an important biogenic reef feature.
Part 4 (Construction) 16.1	We would like to know why the noise levels generated from pile driving activities are only required for the first 4 piles. Given the gap in existing knowledge and research in relating to the impacts of underwater noise, we believe that more monitoring of construction piling activities should take place. This would provide more data and contribute to filling this data gap.
Part 4 (Post-construction) 17.1/2	More detail should be provided on the ‘proposed post-construction surveys’. Depending on the nature of the proposed surveys, we believe that most post-construction monitoring plans should incorporate undertaking surveys for longer than 1 year and impacted features should be monitored at various intervals throughout the lifetime of the project.

⁵ <https://www.4coffshore.com/windfarms/project-dates-for-thanet-uk29.html>

Chapter: EIA Methodology	
Point	Comment
3.3.3/3.3.4	Vattenfall states that the ' <i>final assessment is robust and accords with best practice</i> '. However best practice would be to undertake a second round of consultations with stakeholders before the submission of the formal application, following the changes/refinements made to the project since the Preliminary Environmental Information Report (PEIR). Vattenfall did not undertake a second round of consultations with all stakeholders despite numerous parties requesting this (see page 527/528 of document 5.5.1)
6.3.5 Table 5.3	On numerous occasions, Natural England and other stakeholders requested full consideration of both route options, as acknowledged in Table 5.2 of 6.3.5. This has request has not been fulfilled and stakeholders were told as a response that the southern route was no longer being considered and that the decision has been made to make landfall at Pegwell Bay.
Table 3.1	We believe that the issue of the cable route from the S42 consultation should be included within this table. Several stakeholders raised the issue of the onshore cable route specifically throughout the consultation process and the apparent lack of investigation into alternative routes. This issue however is not mentioned in the table which we believe is an omission as it a crucial aspect of this development and an issue which affects a number of interested parties and stakeholders.
3.4.7	In terms of the 'gap analysis' undertaken, we believe there is a significant gap in terms of evidence and ecological data collected from any other proposed onshore cable route besides the Pegwell Bay landfall option. Phase 1 habitat and scoping surveys were not carried out at other, now discounted, onshore cable routes therefore we believe that this is a significant gap, as the environmental impacts of different routes should have been used to determine the final proposed cable route and landfall. There is no proposal for any further data collection or surveys to try and address this.
3.5.17	With reference to the 'value factor', we are concerned that when 'value' is measured in the methods proposed here, economic value is viewed as more important than ecological value.
Table 3.3/ 3.6.6	We believe that additional information should be provided regarding the ranges of effects presented in Table 3.3 which are based on ' <i>best practice and expert judgement</i> '. We believe the ranges of effects needs to be based on some scientific reasoning therefore we would like to request what evidence this is based on, for example, why the search area extent for cables and pipelines is 50km from Thanet Extension array area and OECC, whereas for most other activities the search area is 200km. For instance, are these ranges based on

	guidance from other windfarm projects or published literature?
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Chapter: Intertidal Surveys – Doc. Ref 6.4.5.1	
Point	Comment
Non-technical summary	<p><i>'Faunal abundance was higher at Pegwell Bay than at Sandwich Bay and communities demonstrated increased taxa diversity and biomass by comparison.'</i></p> <p>The intertidal walkover survey shows four biotopes were encountered at Pegwell Bay, including saltmarsh habitat. By comparison, at Sandwich Bay only 1 biotope of <i>'barren littoral shingle'</i> was recorded. The faunal abundance and biodiversity was considerably lower at Sandwich Bay therefore this option would seem preferable in terms of intertidal impacts on species and habitats.</p> <p>The overall area at risk of being impacted, damaged or disturbed was also considerably less at Sandwich Bay (4.94 hectares) compared to Pegwell Bay (146.44 hectares)</p>
3.1/3.2	<p><i>'Pegwell Bay is dominated by a large expanse of intertidal muddy sand [mudflats]';</i> <i>'Saltmarsh hems the western fringes at the high shore and low-lying marshland borders the lower estuary of the River Stour'</i></p> <p><i>'Sandwich Bay is a long, relatively featureless beach located between Ramsgate and Deal. The beach itself is narrow composed of freely draining shingle and sand'</i></p> <p>Saltmarsh and mudflats are considered to be more sensitive to disturbance and the impacts of cable burial: more so than more dynamic habitats such as shingle beaches⁶. We therefore believe that more intertidal environmental damage and disturbance will be caused by cable landfall at Pegwell Bay when compared to Sandwich Bay.</p> <p>The findings of the intertidal survey strongly suggest that there will be less of an impact on Sandwich Bay than Pegwel Bay, for instance through fewer interactions with designated sites.</p>
4.2	<p><i>'The concentrations of the contaminants considered under CAL guidance were higher at Pegwell Bay than those recorded at Sandwich Bay with the exception of arsenic'</i></p>
	<p>⁶ http://webarchive.nationalarchives.gov.uk/+http://www.berr.gov.uk/files/file43527.pdf</p>
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	<p>Vattenfall have mentioned uncertainties regarding the composition of the landfill beneath Pegwell Bay and the risk of contaminants leaching into the environment and have used this as rationale for considering laying the cables overground at Pegwell Bay. However, the results from this survey show that there are much smaller concentrations of contaminants at Sandwich Bay than at Pegwell Bay therefore the Sandwich Bay route option is preferable in this context.</p> <p>Given that there are fewer contaminants and smaller concentrations of contaminants at Sandwich Bay than Pegwell Bay, this should not be used as justification for going above ground, but instead should prompt further investigations into the Sandwich Bay route.</p>
Figure 4	<p>Figure 4 shows the location for the Sandwich Bay landfall route. When overlaid onto a map showing environmental designations the Sandwich Bay route option would clearly affect only a small area of intertidal designations, unlike the Pegwell Bay option which affects a much larger area of designated sites. The proximity to the golf courses was used as a reason against pursuing the Sandwich Bay route (point 4.9.18, Doc. Ref 6.4.1.) We believe that the impacts to the golf courses of the Sandwich Bay option would be minimal, and would not adversely affect the golfing experience as the landfall location is situated south of the nearest golf course.</p>
	<p>From the findings of the intertidal surveys, we do not agree that there is ecological parity between the sites and that it seems clear that there are fewer environmental interactions with the Sandwich route option. This includes interactions with fewer species, fewer individuals, less overall intertidal area affected, and fewer designations across the onshore route. It does not appear that the results of the intertidal surveys were used to influence the decision on landfall route. Given these survey results, we would like to know how it was determined that the Pegwell Bay landfall route was most preferable.</p>

Chapter: Benthic Subtidal and Intertidal Ecology – Doc. Ref 6.2.5	
Point	Comment
Table 5.1	<p><i>'The target burial depth below the long-term stable seabed level of between 0 - 3 m, is anticipated for the majority of the OECC'</i></p> <p>We do not find a target burial depth of 0-3m for the OECC particularly helpful and look forward to seeing more detail provided. There is an indicative trench width provided in the design envelope but no indication of trench depth. We</p>

	<p>recommend a depth of 1.5m for cable burial (as advised by NPS-EN-3 2.6.75/76)⁷ as a mitigation measure to ensure that cables are buried to a sufficient depth in order to reduce exposure to the magnetic fields associated with the cables on benthic organisms. Cables that are buried to at least 1m depth and ideally 1.5m depth would also reduce the likelihood of cables becoming exposed due to shifting sediments/sediment transport. Currently there is no commitment to cables being buried to a minimum target depth of 1.5m.</p>
Table 5.18	<p><i>'Description of Impact = Cumulative permanent habitat loss/ change; Impact = Minor adverse; Possible Mitigation = N/A; Residual impact = Minor adverse'</i></p> <p>We do not agree that 'cumulative permanent habitat loss' can be considered to have a 'minor adverse' impact, or that the residual impact is 'minor adverse'. The fact that the habitat loss described here is permanent means that there will be a permanent residual impact. We believe that all adverse effects of the development, whether deemed significant or not, should be mitigated.</p>
Table 5.5	<p><i>'The Goodwin Sands rMCZ has not been brought forward for consultation and is not therefore considered within this assessment or the associated MCZ assessment'</i></p> <p>This is incorrect. The Goodwin Sands rMCZ <i>has</i> been brought forward to be included in the third and final tranche of MCZs and is currently under consideration for designation. As we have stated from the start, we believe that this rMCZ should be considered in its entirety in the MCZ assessment chapter. There is a strong likelihood that this zone will be designated, but even if it is not designated, this would still follow best practice and be the best outcome for high levels of environmental protection.</p>
Table 5.5	<p><i>'The long-term impacts of 'loss of habitat' and 'colonisation of hard substrate' (including foundations) has been considered as an O&M phase impact'</i></p> <p>We are pleased to see that the long-term impacts of habitat loss have been considered for the O&M and decommissioning phases. However, we are concerned that despite the request made by NE to scope in the issue of habitat loss during the construction phase, Vattenfall have expressed no intention of doing this. We would like to see Vattenfall reconsider their position on this and trust that they will adhere to the advice provided by NE and follow best practice by scoping in loss of habitat during the construction phase.</p> <p>Both short and long-term impacts of benthic habitat loss need to be assessed in order to get a better understanding of the situation. By monitoring short-term impacts it will be possible to record the length of time that habitats need to recover, or start to recover, from the initial habitat loss. This can and should be monitored and the results made available for use regarding future Offshore</p>

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf

	Wind Farm developments. If only the long-term effects are considered, all the data and information from construction phase is lost.
Table 5.5	<p>It is important that information from single stations is accurate and it should be clear that the information provided represents what was found. This is why several stations are required for surveys of this kind where point source information is gathered. We appreciate that extrapolation from single stations may well lead to uncertainty which is why the data obtained from sediment samples from stations would be considered alongside other data gathered such as the video footage. This would provide a good overall picture of the biotopes, whilst keeping the integrity and accuracy of the single station data.</p> <p>Vattenfall seem to be reluctant to assign sediment as anything more specific than mixed sediment, perhaps to avoid inaccuracies. However, we believe that wherever possible the sediment should be assigned to the biotope that it most closely matches. It is good that this has happened in some cases where biotopes have been re-designated to find the best match which incorporates biological community and sediments present. This creates a more accurate representation and avoids confusion.</p>
Table 5.5	<p><i>'It is proposed that post-construction monitoring only occurs if core reef is identified'</i></p> <p>We are concerned that there is no mention of incorporating post-construction benthic monitoring into the conditions of the DML. We do not feel that <i>'high confidence in the ES predictions'</i> warrants not conducting post-construction benthic monitoring of the site. It is positive that baseline surveys are planned prior to the start of construction but for this information to be useful, post-construction surveys should also be conducted to allow comparisons of the site and surrounding benthos before and after construction.</p> <p>Surveying prior to construction acts as a baseline against which to measure post-construction effects and to establish if predictions were accurate.</p> <p>Core reef should not be the only benthic consideration behind decisions to conduct post-construction surveys. Post-construction surveys could be conducted along with other surveys for efficiency. For the Kentish Flats Offshore Wind Farm Vattenfall conducted environmental monitoring over a 3 year period covering pre-during and post-construction⁸, including benthic ecological monitoring. Post-construction monitoring was also undertaken for TOWF, as mentioned in 3.4.5, EIA methodology page 3-6). This demonstrates that Vattenfall have a post-construction monitoring protocol which they should use.</p>
Table 5.5	<p>Sandwave clearance</p> <p>We agree with the recommendation made by NE for a full assessment of sandwave clearance and cable maintenance. It is not clear where the 'assessment of the impacts from sandwave clearance' is in the ES. This could and should be better signposted as there are 93 documents in the ES chapter</p>

⁸ <https://corporate.vattenfall.co.uk/globalassets/uk/projects/fepa-monitoring-summary-report.pdf>

	<p>across 6 volumes making it time-consuming to try find the specific document.</p> <p>In the 'section where provision address', this addresses the issue regarding sandwave clearance but not cable maintenance. Cable maintenance is important given the since retracted proposal to replace and maintain the existing TOWF cables which highlights that maintenance may well be necessary for the current proposal.</p>
Table 5.5	<p>Installation methodologies</p> <p>Vattenfall's confidence is high regarding installation methodologies, however there is no reference to evidence here. The justification mentions that '<i>full consideration of the challenges arising during installation of TOWF have been considered</i>' but there are no signposts to where this information is or what the challenges are.</p>
Table 5.5	<p><i>'The habitats and features of the Goodwin Sands rMCZ have been assessed as part of the ES'</i></p> <p>KWT would like to reiterate that we believe it is important for rMCZs and MCZs to be considered in their entirety, and not just on a feature by feature basis. We would also like reassurance that any sediment removed for cable laying will be kept within the system, sediments including subtidal sand make up the Goodwin Sands.</p>
Table 5.5	<p><i>'Saltmarsh was not sampled'</i></p> <p>It is an omission that saltmarsh was not included in the Phase 1 intertidal habitat survey. It is important to know about the quality of the saltmarsh as this is a feature of the SPA and SSSI.</p> <p><i>'Saltmarsh north of the river Stour was of a lower quality'</i></p> <p>This appears to be a contradiction to the above point. If measuring the quality of saltmarsh in some parts, it should be measured across the site for consistency and comparisons. Where are the current data/information/results of the saltmarsh surveys?</p> <p>It is positive that Vattenfall have agreed to identify the quality of the saltmarsh throughout the region. We look forward to seeing the results of these surveys.</p>
Table 5.5	<p>We agree with NE that '<i>NERC (BAP) habitats... should be afforded protection from any damaging works</i>'</p> <p>Vattenfall's response to this point is vague. We do not believe that Vattenfall have attempted to avoid areas of conservation importance sufficiently and appear to go to mitigation without first attempting to avoid damage e.g. through adequately seeking alternative routes.</p>
5.7.4	<p><i>'Primary data collected as part of the Nemo interconnector project has been drawn on to characterise the receiving environment in this area. These surveys</i></p>

	<p><i>were undertaken as part of an EIA characterisation (2010), and for the purposes of a pre-construction baseline for the Nemo project (2017)</i></p> <p>The subtidal sediment assessments carried out for the Nemo surveys were deemed by the EA to be inadequate as large areas of <i>Sabellaria</i> was not recorded as being present because a walkover survey was not conducted. Therefore this data from Nemo should be used with caution and pre-construction surveys for the current proposal should be conducted to provide a more thorough and detailed characterisation of the surrounding area.</p>
Figure 5.6/Figure 5.7	<p>There do not seem to be a sufficient number of data points along the OECC route, particularly in the mid-section of the OECC cable route. We would like to know why more seabed video footage is not available for the OECC and why more grab samples were not collected during surveying. We would like to know if Vattenfall intend to conduct more grab samples or video analysis on the OECC route.</p>
5.7.43	<p><i>'Impacts on the mudflats are assessed within the main assessment'</i></p> <p>There is no clear signaling or direction to the 'main assessment'. Mudflats represent an important intertidal habitat so should be mentioned in this chapter, or at least suitable signposts should be used. Mudflats at Sandwich and Pegwell Bay are designated as a Ramsar site but this is not mentioned clearly in this chapter.</p>
5.10.62-5.10.66	<p>The application has scoped out underwater noise on benthic habitats during construction. We agree with the SoS, Natural England and the MMO that this should not be scoped out at this stage.</p> <p>This section states that <i>'less is understood about the impacts [of construction noise] on the polychaetes'</i> found in the Thanet Extension array area than on crustaceans and molluscs and highlights a lack of baseline information about polychaetes. However, we do not believe this is a sufficient reason to scope out underwater noise impacts on benthic habitats.</p>
Table 5.10	<p>We agree that all maintenance works/requirements need to be considered, including the likelihood of cable replacements. We would like re-assurance that the worst-case scenario is assessed in terms of cable replacements anywhere along the offshore and onshore cable route.</p>
	<p>Post-construction monitoring</p> <p>MMO advice⁹ is that post-construction monitoring should follow pre-construction monitoring. Vattenfall should follow positive examples of other wind farms (E.g.</p>

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	<p>Burbo Bank) whereby ‘post-construction monitoring would involve a repeat of the pre-construction monitoring programme (if deemed suitable at the time) along with any additional monitoring recommended at the time’. This would allow results to be compared pre-and post-construction to determine if there has been any impact to any habitats identified as sensitive receptors in the Environmental Statement (ES) and pre-construction monitoring.</p> <p>Should consent be granted, the details of the pre-and post-construction monitoring programmes should be submitted to the MMO for approval.</p> <p>Following this guidance, ‘if any adverse changes are identified from the results of pre-and post-construction monitoring comparison, increased monitoring may need to be undertaken until such a time that benthic communities have stabilised’</p>
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Chapter: Saltmarsh Mitigation, Reinstatement and Monitoring Plan – Doc. Ref. 8.13	
Point	Comment
1.2.1	<p><i>‘Any permanent loss of saltmarsh will be addressed in a separate document’</i></p> <p>This document does not provide information about the potential for permanent loss of saltmarsh. Information should be provided about the ‘separate document’ where this issue will be addressed. What document is this? Is it available now to read and comment on? Why is permanent loss of saltmarsh not included in the Saltmarsh Mitigation, Reinstatement and Monitoring Plan?</p> <p>Without reference to permanent loss, this document is misleading as it only refers to worst-case scenario for temporary disturbance to saltmarsh habitat, whereas the actual worst case scenario involves the permanent loss of saltmarsh.</p>
2.2.2	<p><i>‘HDD will bypass the saltmarsh’</i> therefore by KWT and many other stakeholders it is environmentally considered to be the least damaging option of the three options presented in the application.</p> <p>HDD has been done successfully before to avoid interactions with sensitive habitats (e.g Walney Offshore Wind Farm have both successfully used HDD cable installation methods)</p>
Table 2	<i>‘if the cable were to go through the south this would be less damaging and therefore a preferred approach when compared to the more diverse habitat to</i>

[ore%20Wind/Thanet%20Extension%202017/2018%205%20Application/Full%20application%20documents/MO%20guidance%20letter%20for%20Burbo%20Bank%20OWF.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/684441/Thanet_Extension_2017_2018_Application_Full_application_documents/MO_guidance_letter_for_Burbo_Bank_OWF.pdf)

	<p><i>the north.</i></p> <p>This statement is somewhat misleading as it implies that NE, KWT and EA are supportive of this landfall option. The actual preferred approach from KWT would be to avoid the saltmarsh altogether, and use an alternate option and cable route which results in no loss of saltmarsh and does not impact the NNR.</p>
4.1.1	<p>The proposed landfall site and onshore cable route is not just '<i>located close to several other designated sites</i>', but rather goes directly through designated sites including:</p> <ul style="list-style-type: none"> • Sandwich Bay Special Area of Conservation (SAC); • Thanet Coast (SAC); • Thanet Coast and Sandwich Bay RAMSAR designation; and • Sandwich and Pegwell Bay National Nature Reserve (NNR)
4.1.2/4.1.3	<p><i>'The quality of the saltmarsh increases to the south of the Stour, with patchier, less diverse assemblages being found to the north of the Stour.'</i></p> <p>Where can the information/evidence be found regarding saltmarsh quality?</p>
4.1.2	<p>Saltmarsh may be '<i>common throughout Pegwell Bay</i>' but it is threatened and declining throughout much of the rest of the South East coast. The NNR and various designations should protect the saltmarsh from further decline and deterioration. The fact that it is common in this particular area does not mean that permanent loss of saltmarsh should be acceptable, and emphasises the need to maintain and preserve the saltmarsh in Pegwell Bay.</p>
4.1.3	<p>Even if the temporarily disturbed saltmarsh does '<i>return to its pre-construction status after 2 years</i>' as predicted, this will not help the permanently lost saltmarsh.</p>
6.1.3	<p>Walkover surveys should be conducted and photos of the whole area should be taken to get a fuller, more accurate picture of saltmarsh quality and coverage in the area. Walkover surveys should be used in combination with quadrat sampling at specific sites.</p>
7.2.2	<p><i>'Option 2 is the preferred option following reviews of manuals, guidance and its use in similar projects in this location, including the installation for the Nemo Link cable'</i></p> <p>We have serious concerns about this statement and do not believe that environmental considerations have been included in this review. We reiterate that the Nemo link should not be used a precedent, should not be justification for going above ground, and rather should provide a warning that going has many adverse consequences.</p>

	KWT welcomed the announcement that Option 2 is no longer being considered.
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Chapter: Fish and Shellfish Ecology	
Point	Comment
Table 6.2	<p><i>‘Ecological monitoring is likely to be appropriate during the construction and operational phases to identify the impact and adverse effects can be... published relevant to future projects’</i></p> <p>Vattenfall’s response to this NPS EN-3 point is vague and merely states that <i>‘monitoring has been considered’</i> and does not signpost to the section where this is addressed. Ecological monitoring during the construction phase and post-construction has not been adequately incorporated in some parts of the application.</p>
6.2.8	<p>South East Marine Plans</p> <p>We are pleased to see that the development has considered the South East Inshore Marine Plan. We look forward to the plan being adopted and used for this and future developments provided the plan is more environmentally sound than the existing guidance.</p>
Table 6.3	<p>We notice that IFCA have not been mentioned in this table as providing responses relating to fish and shellfish impacts. Have IFCA been involved with the consultation process for the development?</p>
Table 6.3	<p>Natural England suggest <i>‘under best practice to avoid cable installation between 15 Aug and 15 Oct’</i></p> <p>We would like to know if Natural England agree with Vattenfall’s response that additional mitigation such as seasonal restrictions is not deemed necessary, and on what basis this conclusion was reached. Vattenfall should follow best practice in their methods and actions.</p>
Table 6.3	<p><i>‘mitigation options could be considered out of best practice to avoid impacts to herring and sandeel spawning/nursery grounds’</i></p> <p>Similar to the point made above, we would like justification for why Vattenfall believe <i>‘additional mitigation options are not deemed necessary’</i> and why they are choosing not following the advice of Natural England and taking a more precautionary approach. We believe these species should be offered maximum protection and minimal disturbance through mitigation given the importance of herring and sandeel species. Sandeels especially are important prey for porpoises, seals and seabirds and numbers of sandeels are declining due to</p>

	exploitation and climate change ¹⁰ .
Table 6.7	<p><i>'UXO clearance would be undertaken in 2020, with up to 8 controlled explosions on any single day.'</i></p> <p>Is 8 controlled UXO detonations in a day based on any existing legislation or is this an arbitrary number?</p>
Table 6.10	Some figures appear to be missing from the TTS section, specifically the upper values of the distance from east monopole location. The distance/range for which mortality, potential mortal injury, recoverable injury and TTS is likely to occur for fish species is lower for the pin-pile installation method when compared to the monopole installation method.
6.10.40 and 6.10.47	<p>During detonation of UXO <i>'noise levels will be elevated to levels which may result in injury or behavioural effects on fish and shellfish species [but] these effects would be considerably less than those associated with piling operations'</i></p> <p><i>'The noise levels at which potential injury effects in fish species may occur are higher for explosions [UXO detonation] than for piling activities.'</i></p> <p>These statements contradict each other. It needs to be clearly stated what the behavioural and physiological effects of both UXO detonation and piling operations are on fish and shellfish species, and the risk of exposure to each of these activities. The impacts of both of these activities (UXO detonation and piling) should be considered and not just compared to each other. For instance, if UXO clearance is detrimental to fish or shellfish species, this needs to be avoided or mitigated against, and should not be considered less important because the impacts are less than for another activity.</p>
6.10.47	<p><i>'Underwater noise modelling has not been undertaken for underwater noise associated with UXO detonation'</i></p> <p>Why has noise modeling not been undertaken for UXO detonation?</p>
6.11.6	<p>The 'long-term loss of habitat due to the presence of turbine foundations, scour protection and cable protection' will result in:</p> <p><i>'removal of essential habitats for survival'; 'permanent loss of seabed habitat'; an impact predicted to be 'long-term duration, continuous and irreversible'; and an impact that will 'affect fish and shellfish receptors directly'.</i></p>

¹⁰ publications.naturalengland.org.uk/file/81028

	We would therefore like to know the justification for these impacts producing a magnitude rating of 'low' and feel that this is an underestimate.
6.11.38	<p><i>'EMFs from subsea cables may interact with migratory eel (and perhaps salmonids) if their migration route takes them over the cables, particularly in shallow waters.'</i></p> <p>This highlights the importance of cables being buried to a suitable depth, or are suitably armoured if they cannot be buried. This is somewhat addressed in the Cable Specification Installation and Monitoring Plan, however a minimum cable depth should also be included, not just a maximum cable depth. NPS-EN-3¹¹ states that 1.5 m burial depth is sufficient therefore we believe this should be followed.</p>
6.13.17	Cumulative temporary and permanent habitat loss impacts of the Nemo Interconnector need to be considered alongside the current proposal. We are pleased that this has been acknowledged.
6.13.47	<p><i>'The area affected is highly localised and small compared to the wider region, and is small relative to the habitat loss/ change associated with Thanet Extension.'</i></p> <p>Whilst the cumulative magnitude may be negligible, this implies that the impacts of the Thanet Extension alone are greater and may have been underestimated.</p>
	<p>Are there any post-construction monitoring plans for fish and shellfish?</p> <p>There is no mention of post-construction monitoring surveys for fish or shellfish in the DML section of the DCO. The majority of licenses reviewed for UK Offshore Windfarms had a requirement to monitor populations of fish and shellfish in the area of the wind farm by post-construction survey(s)¹². The aim of post-consent monitoring is to assess and understand the potential impacts as predicted in the ES and to reduce uncertainty concerning the responses of sensitive fish and shellfish receptors¹² therefore we believe that post-construction monitoring of fish and shellfish should be incorporated in the licensing of this development.</p>

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/317787/1031.pdf

Point	Comment
8.1.3	<p><i>'Assessment of any cumulative effects with other proposed developments'</i></p> <p>Permission has been given for areas of the Goodwin Sands rMCZ to be dredged (announced on 26th July 2018). The proposed dredging of Goodwin Sands rMCZ will need to be fully assessed and incorporated into the cumulative impacts assessments for the TEOW development.</p>
Table 8.1	<p><i>'Ecological monitoring is likely to be appropriate during the construction and O&M phases...'</i></p> <p>There is not a sufficient commitment to undertake ecological monitoring. There is only reference to pre-construction monitoring of Annex 1 habitat and saltmarsh, and does not mention construction or O&M monitoring of any offshore designated sites.</p>
8.2.6 and Table 8.4	<p>Marine Plans</p> <p>The South Inshore and Offshore Marine Plan has been adopted, having come into effect when published in July 2018¹³. We appreciate that the application was submitted on June 27th therefore prior to the publication of the South Marine Plans. However, now that the South Marine plans are available, they should be referenced and used where appropriate, as with the East Marine Plans. The South-East Marine plans are not yet available.</p>
Table 8.4	<p>The following S42 consultation issue raised by Natural England is not sufficiently addressed in Table 8.4 – <i>'the proposed landfall locations at Pegwell Bay cited throughout the PEIR seem to display many uncertainties and are damaging in several instances'</i></p>
8.7.6	<p><i>'The Southern North Sea cSAC is provided with the same protections as a full SAC'</i></p> <p>We approve of this precautionary approach and believe the same approach should be taken for rMCZs and pMCZs, in that these should be provided with the same protections/treated the same as MCZs.</p>

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726867/South_Marine_Plan_2018.pdf

Point	Comment
5.4.2, 5.4.10, Table 5.2 (Also in Table 8.4 and 8.5 of Offshore Designated Sites doc.)	<i>'As the Goodwin Sands rMCZ has not been brought forward for consultation...the site has no conservation objectives'</i> These sections need to be updated. The Goodwin Sands pMCZ is currently under consideration following Tranche 3 designations for rMCZs across the country in summer 2018 and has a General Management Approach ¹⁵ which is considered to be comparable to Conservation Objectives for MCZs and rMCZs. The MCZ consultation document proposes a General Management Approach to recover two of the proposed features, and to maintain the others, in good condition.
5.1.8 (and 8.7.2 of Offshore Designated Sites doc.)	The 'cable exclusion zone' should make sure that anchor placements are only done in areas where chalk is known to be absent. We approve of the addition of the cable exclusion zone which does not permit cable installation. The cable exclusion zone should be mentioned and secured in the Authorised Design Plan.
Table 5.2	We do not agree with the outcome of the Marine Ecology Evidence Plan teleconference held on 26/1/2018 to not conduct a full MCZ assessment of the site but to focus on features. There is information about general management approach available for Goodwin Sands ¹⁴ and we believe it is more environmentally sound to conduct a whole site assessment rather than on a feature by feature basis. However we accept that this was the agreed outcome by all those present.
5.4.8	We do not agree that the following should be screened out: - Direct impacts on benthic ecology from noise arising from foundation installation - Long-term loss of seabed habitat as a result of the use of cable protection;
5.5.7	We disagree with the assumption that any subtidal chalk present is chalk bedrock overlain with sediment and therefore doesn't meet the definition of chalk reef. Chalk bedrock is still a valid feature, but also there needs to be evidence that the chalk present isn't chalk reef.
Figures 5.2-5.6	These figures do not show chalk in the benthic habitats. It would be useful for at least one of these figures to incorporate chalk as it is an important feature of the site and the surrounding area and indeed the UK as a whole.

¹⁴ https://consult.defra.gov.uk/marine/consultation-on-the-third-tranche-of-marine-conser/supporting_documents/Goodwin%20Sands%20Factsheet.pdf

	MCZ assessments do appear to be as robust as HRAs. The applicant should be more precautionary and consider the impact of potential repairs as well as routine maintenance if they are indeed considering 'potential impacts throughout the lifetime' of the project.
5.3	We believe that a Stage 2 Assessment should have been undertaken. We would like to know how the applicant intends to ' <i>exercise its functions to further the conservation objectives [general management approach] of the site</i> '

Chapter: Biogenic Reef Mitigation Plan Doc. Ref. 8.15	
Point	Comment
2.3	There is little mention of mussel bed mitigation and there are no maps showing beds of mussels in this document.
4.3.4	<p><i>'Does not preclude the ability of reef to reform' / 'it is possible that the reef will reform over the section of buried cable'</i> isn't the same as saying that it will reform or even that it is likely to reform .</p> <p>Evidence should be referenced/provided that biogenic reefs are likely to form over the top of buried cables. If there is suitable evidence that reefs are able to form over the top of cables there may be a lesser need to microsite around these, however <i>avoidance</i> of areas of biogenic reef should still be main objective and wherever possible the cable should be laid away from areas of biogenic reef.</p> <p>The offshore cable should be considered in its own right and not just in comparison to micro siting of the WTGs. Are there any case studies or information from post-construction monitoring of other cable routes that biogenic reefs have reformed along the cable route over the cables? Fails to mention here the detail in the Offshore Project Description chapter that cable reburial will take place every 5 years. This will influence the ability of the biogenic reefs to reform over the buried cables because if cables are re-buried every 5 years, the reefs will not be likely/able to recover.</p>
4.3.5	Mentions the long-term or permanent change of habitat caused by foundation installation, scour and cable protection. No mitigation measures are proposed for this.
4.5.6	For the purposes of the core reef assessment, it is necessary to have data from at least two surveys over all areas of the final array, however there is no timeframe given for when the surveys should date from. This would be useful information and would increase confidence in the data being used.

4.3.7	More information is needed about how areas of core reef will 'inform engineering design to ensure there are no impacts during construction'. (Besides avoiding these areas)
4.5.8	The potential offshore cable corridor route should be surveyed to fill the gap of data (the area not covered by at least 2 surveys) before the final/optimal route is decided. This information is required to help determine/establish the optimal route. If core reef is found, then another route may be more suitable.
Table 4.1	It is positive that relevant data from original Thanet windfarm is being used, however, the document references some data from 2005 and 2007 (TOWF Characterisation Geophysical and Benthic and Intertidal Resource Surveys and TOWF Pre-Construction Benthic and Conservation Resources Survey, respectively). This would be more relevant if used alongside more current survey data.
5.1.1/5.1.2	Post-construction monitoring is outlined here in insufficient detail. Any post-construction monitoring plans should be included in an IPMP as is the case for other windfarms. The post-construction monitoring mainly focuses on identifying reef areas rather than proposing any actual mitigation, and doesn't specify any details about post-construction monitoring. More detail will be required on how long the post-construction monitoring will last, and how frequently it should occur.

Chapter: Schedule of Mitigation Doc.Ref 8.3	
Point	Comment
	Monitoring – an In-Principle Monitoring Plan was not submitted as part of the application for this development. An In-Principle Monitoring Plan was submitted by Vattenfall for a different development (Norfolk Vanguard), as is best practice. We question why an IPMP document was not created for the Thanet Extension development for consistency. An IPMP would be highly useful as a method of highlighting the post-construction monitoring plans for the project and to determine if the assumptions made in the ES are accurate. Given the extensive number of documents submitted as part of the application it is difficult and time-consuming to trawl through the documents trying to find details of post-construction monitoring plans. A simple, concise table for this project would have been beneficial, as was done for Norfolk Vanguard ¹⁵ .
	We were told that 'the Project will not be submitting a draft PEMP detailing the monitoring of species and habitats as part of the application'. We believe the

¹⁵ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-001937-8.12%20In%20Principle%20Monitoring%20Plan.pdf>

	PEMP should have been circulated.
	The cable exclusion zone should be mentioned and secured in the Authorised Design Plan.

Chapter: Marine Mammal Mitigation Plan Doc. Ref. 8.11	
Point	Comment
5	The applicant should clarify what happens if the visibility is poor/sea state is >3. Will they continue to start the soft-start piling operations even if conditions are not suitable for sighting conditions? Or will they have to wait until visibility/ conditions have improved. Will piling start regardless of sighting conditions, and just use ADD data?
4.9	<p><i>'If, during the MMO pre-piling watch, a marine mammal is detected within the 500 m mitigation zone, ADD activation will continue and soft-start will commence as planned, unless a marine mammal is observed within the instantaneous injury zone.'</i></p> <p>We disagree that soft-start should commence as planned, and that if a mammal is seen within the 500m mitigation zone, piling should not commence until at least 20 minutes after the last sighting. This is the procedure outlined by JNCC – 'Piling should not be commenced if marine mammals are detected within the mitigation zone or until 20 minutes after the last visual or acoustic detection'¹⁶.</p>
4.6	Where possible, the NOAA guidance should be used in relation to piling procedures. NOAA guidance uses more evidence and information relating to PTS than the current JNCC piling protocol and was published more recently (2016) therefore is more up to date than the JNCC piling protocol which was last updated in 2010.

¹⁶ http://jncc.defra.gov.uk/pdf/jncc_guidelines_piling%20protocol_august%202010.pdf

Chapter: Marine Mammals Doc. Ref. 6.2.7	
Point	Comment
7.11.26	We agree with the SNCB on this point in that UXO clearance should follow NOAA guidance on injury thresholds and hope that the current discussions surrounding the evidence from UXO detonations using NOAA metrics will deem this approach suitable for future offshore developments.
7.2.9	We disagree with the approach of splitting the Southern North Sea cSAC into two distinct areas – a summer unit and a winter unit. For this development, Vattenfall have considered the southern winter area part of the North Sea cSAC, and only assesses this area, not the cSAC as a whole. This means there may be restrictions imposed during the winter (e.g. limits on the number of days of activity) but no or very few restrictions in summer because the summer region of the North Sea cSAC was not assessed.
7.14	<p>Cumulative Effects</p> <p>It is acknowledged that Hornsea Project Three and East Anglia Norfolk Vanguard Windfarms are predicted to have direct overlapping construction phases with the Thanet Extension construction phase (7.14.20), and these are mentioned in the Tier 4 section. However, these proposed developments should be considered in the Tier 3 assessment section as they ‘in determination’ and have ‘submitted applications but not yet consented’.</p> <p>The cumulative effects assessment of Hornsea Project Three and East Anglia Norfolk Vanguard is most pertinent because if the projects are granted, the development(s) will overlap temporally and spatially with the Thanet Extension. There is currently not sufficient assessment of the <i>impacts</i> of these other proposed offshore windfarms.</p> <p>The applications for Hornsea Project Three and East Anglia Norfolk Vanguard provide more detailed in-combination assessments than the present application for the Thanet Extension.</p> <p>The current approach towards cumulative effects is not precautionary enough.</p>
7.14.40	<p><i>‘Mitigation proposed in the HRA (describe mitigation measures proposed in HRA) would have the potential to reduce this to impact [from moderate] to minor.’</i></p> <p>We would like to request addition information about the mitigation measures proposed in the HRA</p>
	Detailed monitoring of noise levels and harbour porpoise population activity should be undertaken at a strategic level to verify predictions made in planning applications and to provide information for the growth of the offshore wind sector. At present, developers only monitor noise output for first 4 piles/turbines

	that are constructed. Additional monitoring should record noise outputs for the installation of more turbines.
	Due to the cumulative underwater noise impacts, underwater noise mitigation should be conditioned as part of planning consents. E.g. bubble curtains

Chapter: Offshore Ornithology Doc. Ref. 6.2.4	
Point	Comment
	<p>Although KWT will mainly be deferring to the RSPB in terms of ornithology impacts, at present we believe there is not enough mitigation in place regarding offshore ornithology.</p> <p>There should also be a construction and post-construction monitoring plan in place regarding offshore ornithology. The new proposed turbines are larger and once constructed will cover a greater extent in addition to the existing windfarm. The TEOWF should be considered as a separate development, although monitoring could and should incorporate both Thanet windfarms. We agree with the comments made by Natural England that displacement rates should be considered for 2km, not just 1km. This offers a suitable level of caution and won't lead to an underestimation of the impacts.</p>