

# **Vattenfall Wind Power Ltd**

## **Thanet Extension Offshore Wind Farm**

Appendix 1 of the Deadline 1 Submission:  
Applicant's Responses to the Relevant  
Representation

Relevant Examination Deadline: 1

Submitted by Vattenfall Wind Power Ltd

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Revision A

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## 1 Applicant's Responses to Relevant Representations

- 1 The Relevant Representation on the Thanet Extension Offshore Wind Farm (Thanet Extension) Application were published on the Planning Inspectorate (PINS) website on 21<sup>st</sup> September 2018. In total 59 Relevant Representations on the Project were published. The stakeholders which submitted Relevant Representations are presented in Table 1.
- 2 The Applicant has subsequently responded to each of the points raised by the stakeholders and these are detailed in a tabular format within this document.
- 3 This document should be read in conjunction with Appendix 2 of the Applicant's Deadline 1 submission, which presents the Applicant's summary of the Relevant Representations exceeding 1500 words.

**Table 1: Relevant Representations received and considered in this document**

PINS Ref	Thanet Extension Reference	RR Received from
RR-001	MoP-1	Ian Hyde
RR-002	LPC-X	London Pilots Council
RR-003	UKMPA-X	United Kingdom Maritime Pilot's Association
RR-004	TCE-X	The Crown Estate
RR-005	MoP-2	Donna Carr
RR-006	TP-X	TopBond Plc
RR-007	TCA-X	The Coal Authority
RR-008	RTC-X	Ramsgate Town Council
RR-009	CS-X	UK Chamber of Shipping
RR-010	NL-X	Nemo Link
RR-011	PSLM-X	Port of Sheerness Ltd (PEEL PORTS – LONDON MEDWAY)
RR-012	UPN-X	UK Power Networks (Operations) Limited
RR-013	LG-X	London Gateway Port Limited
RR-014	TFA-X	Thanet Fishermen's Association
RR-015	MoP-3	Christopher Redmond
RR-016	MoP-4	G Pulman
RR-017	MoP-5	M Philbrick
RR-018	MoP-6	Thanet Fishermen – Peter John Nichols
RR-019	FC-X	Forestry Commission
RR-020	CFRU-X	Peri Percy and Martin Jackson on behalf of Commercial Fishermen's Rights UK
RR-021	MoP-9	David Edwards
RR-022	MoP-23	Estuary Services Ltd



RR-023	MoP-8	Malcom Gosman
RR-024	MoP-7	Richard Jackson
RR-025	MoP-10	Robert Pulman
RR-026	MoP-11	John Ramshaw Lowe
RR-027	NG-X	National Grid Electricity Transmission PLC and National Grid Gas PLC
RR-028	MoP-12	Ross Hambly
RR-029	DDC-X	Dover District Council
RR-030	RSPL-X	Bircham Dyson Bell LLP on behalf of RiverOak Strategic Partners Limited
RR-031	MoP-13	Thanet Fisherman – Thomas Henry Brown
RR-032	MoP-14	Christopher Howland
RR-033	MoP-15	Kevin Castro
RR-034	MoP-16	Merlin Jackson on behalf of Barry Parker
RR-035	MoP-17	Ben Cooper
RR-036	MoP-18	Jack Ryan
RR-037	MoP-19	Jason Lee Ryan
RR-038	KCC-X	Kent County Council
RR-039	THLS-X	The Corporation of Trinity House
RR-040	MoP-20	Christopher Attenborough
RR-041	MoP-21	Graham Hambly
RR-042	MoP-22	David Ninnim
RR-043	EA-X	Environment Agency
RR-044	ESL-X	Winckworth Sherwood LLP on behalf of Estuary Services Limited
RR-045	MoP-24	Estuary Services Ltd
RR-046	MoP-25	Hazel Soper
RR-047	HE-X	Historic England
RR-048	KWT-X	Kent Wildlife Trust
RR-049	MMO-X	Marine Management Organisation
RR-050	MCA-X	Maritime and Coastguard Agency
RR-051	SUG-X	Sunk VTS User Group
RR-052	MD-X	Ministry of Defence
RR-053	NE-E	Natural England
RR-054	PLA-X	Winckworth Sherwood LLP on behalf of Port of London Authority
RR-055	PHE-X	Public Health England
RR-056	R-X	Charles Russell Speechlys LLP on behalf of Ramac Holdings (Trading) Limited
RR-057	RSPB-X	Royal Society for the Protection of Birds (RSPB)
RR-058	TDC-X	Thanet District Council
RR-059	NT-X	National Trust

### 1.1 RR-001 - Ian Hyde

4 The Applicant's responses to the Relevant Representation RR-001 is presented in Table 2.

**Table 2: Applicants responses to RR-001**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-1	"Environmental Impact - Noise affecting marine animals, impact on bird life. Visual impact on sea views of 250 meter high turbines very close to shore - 100 meters larger than existing turbines and also nearer the shore. Financial impact on electricity bills."	This is noted by the Applicant.

## 1.2 RR-002 – London Pilot's Council

5 The Applicant's responses to the Relevant Representation RR-002 is presented in Table 3.

**Table 3: Applicants responses to RR-002**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
London Pilots Council	LPC-1	Safety of Navigation for vessels boarding and landing Marine Pilots and transiting the North East Spit area.	The Applicant recognises the London Pilots Councils area of concern and would refer them to Volume 4, Annex 10-1: Navigational Risk Assessment of the Environmental Statement (PINS Ref APP-089/ Application Ref 6.4.10.1) which provides a detailed consideration of the potential navigation safety for vessels boarding and landing marine pilots and transiting the North East Spit area. The Applicant considers that the methodology of assessment has been recognised by the MCA (see the Applicant's response to MCA-1) and THLS as being in accordance with MGN 543 and published risk assessment methodology. The section specifically addressing pilotage operations in detail is Section 7.2 of the NRA (PINS Ref APP-089/ Application Ref 6.4.10.1), and the Pilot Transfer Bridge Simulation exercise presented in Annex 10-2 of the application (PINS Ref APP-090/ Application Ref 6.4.10.2) which concluded that operations could continue without impediment. It is of

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>note that the pilotage study was undertaken with pilots using the Port of London Authority simulator, concluded pilotage operations to be still feasible under the metocean and scenario conditions considered within the study and agreed with participants.</p>

### 1.3 RR-003 - United Kingdom Maritime Pilots' Association

6 The Applicant's responses to the Relevant Representation RR-003 is presented in Table 4.

**Table 4: Applicants responses to RR-003**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
United Kingdom Maritime Pilots' Association	UKMPA-1	<p>"The UKMPA objects to the proposed TWE extension on the grounds of its significant negative impact on the navigational safety of ships boarding and landing pilots at the North East Spit boarding ground south of the NE Spit buoy. The proposal will have a direct impact not only on ships' manoeuvring room but more importantly the increased undesirable effect on the potentially life threatening elements of already (globally recognised) generally hazardous but essential pilot boarding and landing operations from pilot boats in the area concerned."</p>	<p>The project has undertaken a detailed Navigational Risk Assessment (Volume 4, Annex 10-1 of the ES (PINS Ref APP-89/ Application Ref 6.4.10.1)) that is agreed as compliant with all relevant guidance and based on an agreed method of defining tolerability of risk. The conclusions of the assessment are that whilst there is an increase in risk likelihood the increase is deemed tolerable. The accompanying studies (notably the pilotage simulation) all identify that operations will be able to continue without a reduction in operation success. The Applicant has seen no detailed evidence to substantiate concerns expressed about the NRA.</p> <p>With regards pilotage operations specifically at NE Spit the section specifically addressing these in detail is Section 7.2 of the NRA (PINS Ref APP-089/ Application Ref 6.4.10.1), and the Pilot Transfer Bridge Simulation exercise presented in Annex 10-2 of the application (PINS Ref APP-090/ Application Ref 6.4.10.2) which concluded that operations remained feasible. It is of note that the pilotage study was undertaken with pilots using the Port of</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>London Authority simulator, concluded pilotage operations to be still feasible under the metocean and scenario conditions considered within the study and agreed with participants.</p> <p>The reports therefore conclude that there is not a significant negative impact on those pilotage operations.</p>

## 1.4 RR-004 – The Crown Estate

7 The Applicant's responses to the Relevant Representation RR-004 is presented in Table 5.

**Table 5: Applicants responses to RR-004**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
The Crown Estate	TCE-1	<p>"The Crown Estate manages property and rights which are owned by Her Majesty in right of the Crown. This portfolio includes around half of the foreshore and almost the entire seabed out to 12 nautical miles around England, Wales and Northern Ireland. Under the Energy Act 2004 and the Energy Act 2008, The Crown Estate also manages the rights over the continental shelf to offshore energy generation and the rights to carbon dioxide and natural gas storage and transportation (respectively). The Crown Estate requests to be registered as an Interested Party in the examination of the Thanet Extension offshore wind farm. Our interest in the project is that Vattenfall Wind Power Ltd holds an Agreement for Lease from The Crown Estate for the area of seabed to be occupied by the project, and (subject to obtaining the necessary development consents) The Crown Estate will issue a lease to Vattenfall Wind Power</p>	<p>The Applicant welcomes The Crown Estate's interest in following the examination of the Thanet Extension DCO process. It should be noted that at the current time the Applicant is not, as was suggested in the Relevant Representation, in possession of a signed Agreement for Lease from The Crown Estate. It is expected that the ongoing plan level Habitat's Regulations Assessment (HRA) of proposed UK extension projects being conducted by The Crown Estate will reach completion during the examination. The Applicant will continue to monitor the progress of the HRA and to liaise with The Crown Estate in order to progress to the award of an Agreement for Lease in the coming months.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		Ltd for construction of the project. We therefore wish to follow the progress of examination of the project.	



### 1.5 RR-005 – Donna Carr

8 The Applicant's responses to the Relevant Representation RR-005 is presented in Table 6.

**Table 6: Applicants responses to RR-005**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-2	"I wish to comment on the potential impacts and proposed benefits of the development on local residents, opportunities for employment for local residents and plans for how Vattenfall will contribute to the development and regeneration of Thanet."	This is noted by the Applicant.

## 1.6 RR-006 – Topbond Plc

9 The Applicant's responses to the Relevant Representation RR-006 is presented in Table 7.

**Table 7: Applicants responses to RR-006**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Topbond Plc	TP-1	"As part of the drive to reduce carbon utilisation and create green and environmentally friendly energy we support the expansion of the wind farm. As a local marine and civil engineering contractor we are very interested in the scheme and any development projects relating to the project whether land or water based."	The Applicant notes the response from Topbond Plc. Vattenfall Wind Power Ltd are actively engaging with the local supply chain and encourage local companies to contact the Project directly at info@thanetextension.com. Topbond Plc were invited to a supply chain event on 29th November that Vattenfall attended.

### 1.7 RR-007 – The Coal Authority

10 The Applicant's responses to the Relevant Representation RR-007 is presented in Table 8.

**Table 8: Applicants responses to RR-007**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
The Coal Authority	TCA-1	"I have checked the site location plan against the information held by the Coal Authority and whilst the southern area of the proposed wind farm (Preliminary Onshore Boundary) falls within the coalfield area, I can confirm that the area does not contain any recorded risks from past coal mining activity and there are no surface coal resources present. On this basis we have no specific comments to make."	The feedback and position from the Coal Authority is noted by the Applicant.

### 1.8 RR-008 – Ramsgate Town Council

11 The Applicant's responses to the Relevant Representation RR-008 is presented in Table 9.

**Table 9: Applicants responses to RR-008**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Ramsgate Town Council	RTC-1	<p>"At its meeting held on 8 August 2018 the Planning &amp; Environment Committee on behalf of the Town Council resolved to agree the following minute; EN010084 – Thanet Extension Offshore Wind Farm off the coast of Thanet, Kent</p> <p>For the development consent to construct and operate the Thanet Extension Offshore Wind Farm off the coast of Thanet, Kent (adjacent to the existing Thanet Offshore Wind Farm) with an installed capacity of up to 340MW and comprising up to 34 wind turbine generators and associated infrastructure, to be located approximately 8km offshore (at the closest point). Proposed by Councillor Campbell Seconded by Councillor Shonk that: Ramsgate Town Council Fully supports this application.</p> <p>RESOLVED "</p>	<p>The Applicant is pleased to note Ramsgate Town Council's support for the Application.</p>

## 1.9 RR-009 – UK Chamber of Shipping

12 The Applicant's responses to the Relevant Representation RR-009 is presented in Table 10.

**Table 10: Applicants responses to RR-009**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Chamber of Shipping	CS-1	The UK Chamber of Shipping is the primary trade association and representative body of the UK shipping industry with some 200 members across the maritime sector. Our points in relation to the application will be focused on the impact to commercial navigation of ships and safety of life at sea of mariners, detailing the safety of navigation, environmental, and economic perspective of the UK shipping industry.	CoS responsibility noted by the Applicant.
Chamber of Shipping	CS-2	The UK Chamber of Shipping welcomes the opportunity to respond to the PINS for Thanet Wind Farm Extension Application. The UK Chamber is the premier voice of the shipping industry, representing some 200 companies across the maritime sector in the UK.	CoS responsibility noted by the Applicant.
Chamber of Shipping	CS-3	Despite recent alterations to the red line boundary of the proposed extension, the Chamber has significant navigational safety concerns around the western extent and does not consider the NRA to have	The NRA (PINS Ref APP-089/ Application Ref 6.4.10.1) has been agreed as being undertaken in accordance with MGN 543 and published risk assessment method. The findings of the EIA as presented in the ES chapter (PINS Ref APP-050/ Application Ref 6.2.10) are based

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		sufficiently considered the impact upon vessel traffic and operations nor offered suitable mitigation measures. Having reviewed the NRA and its references to the impact on Vessel Traffic Routeing as being "minor" the Chamber would take a strongly opposing view.	on a quantitative risk assessment drawing on datasets, best practice (and beyond) supporting studies, a method of determining tolerability, and a risk probability matrix that draws on the existing national and regional level risk probability, the approach to which has been agreed with the MCA and THLS as being appropriate and fit for purpose. It is therefore the Applicant's view that the findings are appropriate.
Chamber of Shipping	CS-4	Traffic passing between the windfarm and the Kent coast will be squeezed further to the west, reducing as the NRA states the traffic lane width from 3km to 1km. In this channel exists the NE Spit pilot boarding and landing points and the sea-room will be significantly reduced, forcing vessels closer to the shore or more vessels to use the Tongue, for which it will be necessary to relocate further out to the north east. Both of these impacts will affect pilotage transfer times and piloted voyage times and in worse weather will reduce the availability of the pilot stations altogether.	See the Applicant's response to ESL-2, ESL-3 and ESL-4.  With regards to the traffic running north west/south east between the windfarm and Kent coast it is noted that vessels on this 'route' currently transit in the western portion of this area (closer to the shallower waters as stated) and do not use the full width sea room currently available to them. The Applicant considers that the reduction in sea room is acceptable as referenced in Section 7.3 of the NRA (Application Re 6.4.10.1 PINS Ref APP 089) and that vessel transits can continue along this route.
Chamber of Shipping	CS-5	The Chamber would assert that clear sea between an existing wind farm development and the main cohort of commercial tracks as shown by AIS, does not constitute space in which to erect further turbines, but is rather a safety	As previously noted by the Applicant for CS-3 and CS-4 the assessment of potential impacts and associated risks have been undertaken using a quantitative methodology that is MGN 543 compliant and has concluded the effects to be ALARP and tolerable. The 500m area noted by the CoS is applicable only during

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>buffer area allocated by prudent and good seamanship. To fill that area with turbines will simply shift commercial traffic to a suitable distance from the new boundary and increase vessel density and risk. If the developer is further requesting the required 500m safety zones around windfarms during construction, this further reduces navigable sea room, unless no turbines are placed within 500m of the red line boundary.</p>	<p>the construction phase and extends only as a rolling zone around active construction at any specific time. This zone is not applicable for impacts during the O&amp;M phase beyond maintaining a safe distance from any maintenance vessels. Distances between existing traffic and the existing wind farm vary and have been used to determine appropriate sea room requirements for passing traffic.</p> <p>Additional analytical schematics to demonstrate sea room used by existing traffic and in relation the wind farm and extension are provided by the Applicant at Deadline 1 in response to Examining Authority Questions to evidence this point.</p>
<p>Chamber of Shipping</p>	<p>CS-6</p>	<p>The Chamber, having consulted with other groupings, does not believe the NRA has sufficient detail or reflects true operations in real life conditions. The Chamber considers that a pilotage study conducted in calm conditions, with experienced pilots familiar to the area rather than ships' Masters foreign to the area is inappropriate and not reflective of realistic conditions.</p>	<p>Further responses by the Applicant to the aspects of simulation are provided in the oral speaking note summaries and in the response to ExA Question 1.12.3 provided at Deadline 1. In brief the Applicant can confirm that the NRA is considered to be compliant with guidance and fit for purpose, this is reflected within the relevant representation received from the MCA. Furthermore, as identified in response to the ExA questions and presented during ISH2 (and therefore the associated summary of oral representation presented in Appendix 31 of this</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>Deadline 1 submission, the Applicant can confirm that the pilotage simulation was undertaken in consultation with participants in order to capture representative conditions and these have then been compared with metocean conditions over a 40 year period. The information regarding the metocean conditions has been also presented in Volume 2, Chapter 2, Marine Physical Processes (PINS Ref APP-043/ Application Ref 6.2.2).</p>



### 1.10 RR-010 – Nemo Link

13 The Applicant's responses to the Relevant Representation RR-010 is presented in Table 11.

**Table 11: Applicants responses to RR-010**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Nemo Link	NL-1	<p>"The Nemo Link Project is an electricity interconnector between the UK and Belgium: it will be the first electricity interconnector between these two countries, and it is a joint project between National Grid Interconnectors Limited, part of National Grid Plc and Elia Group, the Belgian electricity transmission system operator. The Nemo Link Project is a high voltage interconnector with an approximate capacity of 1GW and it will comprise two 130km HVDC subsea electricity cables, two 3.1km onshore HVDC underground electricity cables, an HVDC converter station located in the Richborough Energy Park to convert HVDC power to HVAC power, three HVAC underground electricity cables (one circuit) between the converter station and the substation and a connection bay at an existing substation located in the Richborough Energy Park.</p>	<p>This is noted by the Applicant.</p>

### 1.11 RR-011 - Port of Sheerness Ltd (Peel Ports – London Medway)

14 The Applicant's responses to the Relevant Representation RR-011 is presented in Table 12.

**Table 12: Applicants responses to RR-011**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Port of Sheerness/ London Medway	PSLM-1	<p>I refer to our original letter dated 10th Jan to Vattenfall: Our principle concerns are the significant disruption to our operations due to encroachment into existing shipping lanes and their well established shipping routes, necessitating considerable re-routing of traffic and potential loss of well established trade; the reduction of sea room and potential interference with marine navigational equipment causing an impact on navigational safety; the impact of additional transit time on the wear and tear of pilot launches and their suitability to undertake the revised passage. This has serious consequences for the area and we would be more than happy to host a visit to the Port to demonstrate the considerable regeneration that will be affected.</p>	<p>The Applicant notes the concerns raised by Port of Sheerness/ London Medway and would refer the reader to the ES chapter (PINS Ref APP-051/ Application Ref 6.2.10) and also the Applicant's response to LG-1.</p> <p>The Applicant would highlight that the proposed extension does not encroach into designated navigation channels (i.e. shipping lanes). The Applicant has however identified 'routes' used by shipping that are within the study area, all of which have been identified and addressed within the NRA. All existing routes remain navigable by existing vessel traffic and potential changes to these routes (in terms of time and distance) that may arise as a result of the proposed project have been identified and assessed. The conclusions are presented in Table 10 of the NRA (PINS Ref APP-089/ Application Re 6.4.10.1) and are that the changes are considered minimal.</p> <p>The Applicant has considered impacts with respect to impacts on communications, radar and positioning</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>systems within Section 7.9 of the NRA (PINS Ref APP-089/ Application Re 6.4.10.1) and concluded there to be no meaningful effects as a result of the proposed project.</p> <p>With regards sea room and pilotage operations the section specifically addressing these in detail is Section 7.2 of the NRA (PINS Ref APP-089/ Application Ref 6.4.10.1), and the Pilot Transfer Bridge Simulation exercise presented in Annex 10-2 of the application (PINS Ref APP-090/ Application Ref 6.4.10.2) which concluded that operations remained feasible. It is of note that the pilotage study was undertaken with pilots using the Port of London Authority simulator and concluded pilotage operations to be still feasible under the metocean and scenario conditions considered within the study and agreed with participants.</p> <p>The changes to routing are considered to be minimal with no alteration to shipping lanes/routes beyond a reduction in the route between the Array and land to the south-west; this change is in an area with significantly less traffic than other routes within the immediate area. As such it is not expected that there would be any significant effect on routing of traffic. Commercial implications of potential re-routing are assessed within the NRA with reference to worst case vessel deviations that may arise as a result of the</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>presence of Thanet Extension. The conclusions presented in Table 10 of the NRA (<i>ibid</i>) identify that the worst case deviation ranges between 1 and 3 nm which are considered to be well within the realms of standard likely deviations on a given route for reasons such as 'giving way' for other vessels.</p> <p>The Applicant would also note that the methodology of assessment has been recognised by the MCA (Ref: MCA-1) and THLS as being in accordance with MGN 543 and published risk assessment methodology. The conclusions of the assessment are that whilst there is an increase in risk likelihood the increase is deemed tolerable.</p>

## 1.12 RR-012 - UK Power Networks (Operations) Limited

15 The Applicant's responses to the Relevant Representation RR-012 is presented in Table 13.

**Table 13: Applicants responses to RR-012**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
UK Power Networks	UPN-1	I am writing on behalf of UK Power Networks Ltd and the Licenced Distribution Networks Operator South Eastern Power Networks plc. South Eastern Power Networks plc is the occupier of premises in the land to be used under the above Order. It is also entitled to the benefit of rights in, over, on or under such land and is the owner of Electric Lines and/or Electrical Plant (as those terms are defined in Section 64(1) of the Electricity Act 1989) in, on, over or under the land to be acquired and/or temporarily used under the above Order. These premises, rights and apparatus have been acquired for and are used for the purposes of its statutory undertaking.	The Applicant is engaged in a process of dialogue with UKPN in order to agree provisions to protect the interests and assets of UKPN. Furthermore, specific crossing and/or proximity agreements will be negotiated and entered into as necessary. The Applicant will provide an update on the progress of agreements with Statutory Undertakers at Deadline 1.
UK Power Networks	UPN-2	South Eastern Power Networks plc objects to the making and confirmation of the Order unless at the cost of the acquiring authority there are first provided to it, on no less favourable tenure suitable alternative sites and suitable alternative rights in, on, over or	See response to UPN-1. There is no intention to relocate or extinguish any of UKPN's rights or apparatus at the current time. However any crossing or proximity agreement will document the protocol to be adopted should that become a requirement.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>under land in substitution to those to be acquired and/or temporarily used under the above Order and in, on over or under which there are first installed and commissioned Electric Lines and Electrical Plant in substitution for those in the land to be acquired and/or temporarily used under the above Order, before that land is acquired and/or temporarily used so that my client can carry out its statutory functions and contractual obligations no less efficiently than previously. Please treat this representation as an objection by South Eastern Power Networks plc to the relocation/extinguishment of rights and apparatus mentioned above because their relocation will be detrimental to the carrying on of its undertaking. No alternative land, rights and apparatus for those proposed to be acquired under the above Order are in place.</p>	
UK Power Networks	UPN-3	<p>South Eastern Power Networks plc reserves the right to amend or supplement its objections in the light of any information that later becomes available. The above objections will be deemed to be withdrawn upon signature of an appropriate deed of</p>	See response to UPN-1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		Undertaking by an authorised signatory of the Acquiring Authority.	
UK Power Networks	UPN-4	All future correspondence relating to this matter should be sent to Carl Bennett by hard copy to UK Power Networks Legal Department, Energy House, Carrier Business Park, Hazelwick Avenue, Three Bridges, West Sussex, RH10 1EX.	This is noted.

### 1.13 RR-013 - London Gateway Port Limited

16 The Applicant's responses to the Relevant Representation RR-013 is presented in Table 15.

**Table 14: Applicants responses to RR-013**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
London Gateway	LG-1	<p>"We have significant concerns regarding implications of the proposed Thanet Extension Offshore Wind Farm on shipping and accessibility to ports located on the Thames Estuary. In particular we are concerned regarding:</p> <ul style="list-style-type: none"> <li>• Encroachment into existing shipping lanes with resulting increases in commercial shipping journey times and distances and overall port accessibility</li> <li>• Implications for larger vessels wishing to access the NE Split pilot barding station, which we understand would offer significantly restricted access should the development proposals go ahead. This would have the effect of lengthening pilotage distances and making piloting operations less resilient to adverse weather conditions</li> </ul>	<p>The risks identified by London Gateway are recognised and have been considered in detail within the NRA and relevant chapter of the ES (PINS Ref APP-089 and APP-051/ Application Refs 6.4.10.1 and 6.2.10 respectively). and in line with MGN 543 compliant and published risk assessment methodology (see the Applicant's response to MCA-01) and agreed as fit for purpose with the MCA and THLS. The NRA concludes that the increase in risk is ALARP and tolerable. The pilotage study included within the Application and undertaken with pilots using the Port of London Authority simulator, concluded pilotage operations at North East Spit Pilot Station remain feasible under the metocean and scenario conditions considered within the study and agreed with participants. Commercial considerations such as pilotage operations are considered in detail in Section 7.2 of the NRA (PINS Ref APP-089/ Application Ref 6.4.10.1).The proposed extension does not encroach into designated navigation channels (i.e. shipping</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>lanes) which lie outside the study area although 'routes' used by shipping that are within the study area have been identified and addressed within the NRA. Changes to commercial shipping journey times and distances of these routes in relation to the extension have been identified and assessed and are considered minimal and presented in Table 10 of the NRA (Application Re 6.4.10.1 PINS Ref APP 089). The conclusions identify that the worst case deviation ranges between 1 and 3 nm which would be considered to be well within the realms of standard likely deviations on a given route for reasons such as 'giving way' for other vessels. The greatest diversion of 3nm is for route 5 (noting this is the least utilised route of vessels transiting south to the Extension at circa 2 per day and unlikely to be vessels proceeding to Gateway due to draught restrictions). It should be noted that the distance of diversion is shown relative to the local study area whilst the overall proportion of increased distance on the overall route will be proportionally less.</p> <p>The Applicant considers that NE Spit remains a valid Pilot Boarding Station in terms of sea room and has assessed this through desktop study and bridge navigation simulation. Furthermore, the Applicant notes that analysis of vessels by size</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>using the NE Spit Pilot Station (as presented in Section 5.4 of the NRA and in successive analytical schematics provided in response to ExA Questions) confirms that larger vessels entering the Thames Estuary do so via the Sunk Deep Water Route rather than Princes Channel or Fishermans Gat (in accordance with PLA Pilotage Directions). In terms of the survey data – only 3 transits to the west of the wind farm were made by vessels greater than 250m LOA with an additional vessel dipping down to use NE Spit. No vessels with draught greater than approx. 12m used the inshore area with the majority less than 9m.</p>
<p>London Gateway</p>	<p>LG-2</p>	<p>In citing the above concerns we make reference to the National Policy Statement for Ports (January 2012) which we believe is a material consideration in assessing the implications of the proposed development. In this regard we note that the Ports NPS:                      a) Defines a need for unimpeded access to ports with water deep enough for the largest ships in order to meet the forecast demand for additional port capacity (as defined in Paragraph 3.4.3)                      b) Confirms that ports play a vital role in support of the national and regional economy, trade and growth</p>	<p>London Gateway's concerns are noted, and the Applicant can confirm that the NPS for Ports and the relevant NPS for consideration with regards renewable energy projects have also been considered (Table 10.1 of the Shipping and Navigation chapter (PINS Ref APP-051/ Application Ref 6.2.10). It is noted that paragraph 1.1.2 of the NPS for Ports refers, in its background section, to “the need for unimpeded access, with water deep enough for the largest vessels expected to use the port requiring dredging on the sea bed”. The project would not have any effect on access considered in this context (and</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>c) Identifies that “currently, the largest container and ro-ro terminals are in the South East” and that “much of the tonnage handled is concentrated in a small number of ports, with the top 15 ports accounting for almost 80% of the UK’s total trade”</p> <p>d) Identifies a need for ports to be efficient and competitive to enable them to contribute to long term economic growth and prosperity</p>	<p>the remaining guidance in later sections of the NPS is directed essentially at port infrastructure). However, even to the extent that access to ports is considered in a wider sense, having regard to their economic role, the assessment concluded, in accordance with recognised and approved methodology, that any risks associated with the project are considered ALARP, tolerable, and do not result in an impediment or increased cost for access to the ports identified.</p> <p>It is also worthy of note that as identified within Figure 10.12 of the Shipping and Navigation chapter (ibid) the largest ships (bullet ‘a’ of the representation provided by London Gateway) would not be impeded by the presence of Thanet Extension with no &gt;250m vessel tracks occurring within either the proposed Order Limits or a 0.5nm buffer of it.</p>
London Gateway	LG-3	<p>We take the opportunity to highlight that 2 of the top 15 ports in the U.K are located on the banks of the Thames Estuary and that, in 2016, Thames Estuary ports handle 10.7% of the total U.K throughput of goods (in tonnes – www.Gov.uk, Port Freight Statistics). We are therefore of the view that the need to support increased energy production from sustainable low carbon sources is balanced against the need to support shipping and port activities.</p>	<p>The Applicant recognises the information from London Gateway and can confirm that the relevant ports have been identified within the NRA and Shipping and Navigation chapter (PINS Ref APP-089 and APP-051/ Application Refs 6.4.10.1 and 6.2.10 respectively) including the Port of London Authority as the Statutory Harbour Authority and Competent Harbour Authority with overall responsibility for navigation safety and pilotage respectively in the</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			Thames Estuary and its approaches to the waters of the named ports.
London Gateway	LG-4	<p>We have examined the evidence submitted in support of the application including the Shipping and Navigation Report (Ref: 6.10.2), Pilotage Transfer Bridge Simulation Report (Ref: 6.4.10.2) and Navigation Document (Ref 1.4). Our examination of these documents has identified significant shortfalls in assessment methodology particularly with regard to proposed alternative pilotage operations, vessel management and navigation risks. Such matters require further scrutiny and consideration to allow the full impacts to be understood.</p>	<p>The Applicant welcomes further feedback from London Gateway on the documents highlighted. The Applicant considers that the methodology of assessment has been recognised by the MCA in their relevant representation (Ref: MCA-1) and THLS as being in accordance with MGN 543 and published risk assessment methodology.. The Applicant would also like to confirm that the pilotage simulation study was undertaken in consultation with the Port of London Authority pilots and practitioners and was based on an agreed set of representative parameters as defined by the participants. London Gateway has not provided any detailed substantiation of the concerns identified, which will be addressed by the Applicant as and when further evidence is submitted.</p>

## 1.14 RR-014 - Thanet Fishermen's Association

17 The Applicant's responses to the Relevant Representation RR-014 is presented in Table 15.

**Table 15: Applicants responses to RR-014**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Thanet Fishermen's Association	TFA-1	The Thanet Extension project is being proposed in an area vital to the Inshore commercial Fishermen of Ramsgate, Broadstairs, Margate and Whitstable. The proposed TE array area and export cable are worked by Fishermen using multiple methods for a variety of fish and shellfish species. The area is fished using Lobster and Whelk pots, trawls, static nets, surface and bottom drift nets. Some of these methods will no longer be possible if the Thanet Extension wind farm is built and the ground will be lost. The inshore vessels are a non nomadic fleet and generally operate within a 25 mile radius of the harbour. The vast majority of the fleet is 10m and under in length. The Fishermen's Association and its members will be objecting to this project on the basis of loss of ground, loss of specific methods, cumulative impact with other projects and a direct impact on local Fishermen's earnings.	<p>The Applicant acknowledges the potential impact on the local inshore fishing fleet, as represented by Thanet Fishermen's Association during both the construction and operational phases of Thanet Extension. The effect on commercial fisheries, including the cumulative effect associated with other further developments, has been assessed in Volume 2, Chapter 9: Commercial Fisheries (PINS Ref APP-050/ Application Ref 6.2.9) of the Environmental Statement.</p> <p>The assessment concludes that in general there would be minor adverse effects on commercial fishing with the exception of a limited number of drift netters where the potential permanent loss of ground is considered to lead to moderate adverse effects.</p> <p>In order to minimise the effect of displacement during construction a Fisheries Liaison and Co-existence Plan (FLCP) (PINS Ref APP-143/ Application Ref 8.8) has been submitted with the Application following consultation with Thanet Fishermen's Association. The FLCP sets out the approach to engaging with and</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>informing the fishing industry in the vicinity of the Project. Specifically, it seeks to address issues of lack of communication and notification of works that can lead to exacerbated impacts on fishing, as well as specifying the role of the Fishing Liaison Officer (FLO) and outlining the process for claims for loss or damage of gear.</p> <p>The FLCP reflects industry wide best practice and the ongoing relationship which Vattenfall Wind Power Ltd has with Thanet Fishermen's Association (TFA). Additionally, in order to quantify the effect on drift netting the Applicant has committed to pre and post construction drift net surveys. These surveys would be conducted in cooperation with TFA and the scope of these is derived from a similar successful survey undertaken locally with TFA.</p> <p>Where it is demonstrated that disturbance during construction or, in the case of drift netting, a permanent loss of ground during operation, will lead to financial loss, the Applicant will engage with TFA and individual fishermen to discuss commercial arrangements in accordance with industry best practice guidance (FLOWW, 2015). VWPL have undertaken this approach for the existing Thanet Offshore Wind Farm and during offshore site investigation works for the Project.</p>

### 1.15 RR-015 – Christopher Redmond

18 The Applicant's responses to the Relevant Representation RR-015 is presented in Table 16.

**Table 16: Applicants responses to RR-015**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-3	"as a fisherman from Ramsgate I will be directly affected by the Thanet extension project with the loss of fishing ground and fishing opportunity in and around the extension project which in turn will have a direct affect on my livelihood"	It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicants response to TFA-1.

### 1.16 RR-016 – G. Pulman

19 The Applicant's responses to the Relevant Representation RR-016 is presented in Table 17.

**Table 17: Applicants responses to RR-016**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-4	<p>“my points are that I'm very worried of the extension and were it will go. It will affect all but I have 98% of my earnings come from around the farm. Mainly to the east and the south. Static and drift fishing. This will see me out of business on the drifting grounds. My nets are a one off for a certain area and are to heavy to work else where.Nylon and number 6 lead line. Working east of the farm for about 18 years now so also it's not that I know new grounds. This would need new gear. New gear on new grounds isn't the scenario i would like to try and breaking in ground ends in a lot of damage/lost gear. All I can say that this will cause massive disruption to me. The scuccor fish will show where I work. Sadly not enough to the south of the farm but that could change now our quotas seem to catching up with the amount of fish about. I hope this is the sort of thing you were after”</p>	<p>It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicants response to TFA-1.</p>



### 1.17 RR-017 – M. Philbrick

20 The Applicant's responses to the Relevant Representation RR-017 is presented in Table 18.

**Table 18: Applicants responses to RR-017**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-5	<p>I am writing to you to object on the Thanet Extension.</p> <p>For the reasons being what with London array and the thanet windfarms which have taken nearly all the ground I fish on,,and with this extension it will properly make me bankrupt.,As where you are possibly extending to is my main drifting ground, which is west north west of the thanet windfarm ,and west of that is my main coddling ground,and what with nemo as well is becoming a joke, as I am as are many other really struggerling to survive.</p> <p>Due to all theses works being carried out I lost my main drifting ground to London array,so I am left with very little ground,even if you was going east then that will push the other fisherman onto my ground I fish as you would of taken that away,All I am trying to do is pay my mortgage,I had to get rid of my crew as I could not afford to take a crew now,And as</p>	<p>It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicants response to TFA-1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>a safety aspect last year I fell overboard, but luckily a friend came with me for a day out, and after around an hour he managed to get me back onboard,, had to have 6 months off due to damaging all my tendons in my arms.</p> <p>Im just hoping you put it to the south but don't suppose we will be that lucky, just ESL and the FISHERMAN and PLA all want this to the south which would help everyone but for some reason I have heard you want to put it in everyone's way, I.E to NORTH AND WEST AND EAST, IT COULD EASILY BE RESOLVED.</p> <p>As the bottom is the same all round, as there is no rare species as this comes up as it did with London array which I spoke to a guard vessel and they said they lie what they see to extend their guard work,,</p>	

### 1.18 RR-018 - Thanet Fishermen – Peter John Nichols

21 The Applicant's responses to the Relevant Representation RR-018 is presented in Table 19.

**Table 19: Applicants responses to RR-018**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-6	<p>"I represent the Fishermen of Thanet Fishermen's Association, encompassing the harbours between Whitstable and Ramsgate. The proposed Thanet Extension is in an area that is fished consistently by our vessels which includes all methods: Trawling/ Static netting/Bottom drifting/ Surface drifting/ Lobster and Whelk potting. We are extremely unhappy about the proposed extension due to the loss of ground and opportunity. The domino effect will have an impact on the smaller vessels which do not necessarily fish the site but will be directly impacted by the displacement of the vessels that do. The cumulative impact of multiple offshore projects, including the extension of Thanet Windfarm, is having a major adverse effect on the fleet."</p>	Please see the Applicants response to TFA-1.

## 1.19 RR-019 – Forestry Commission

22 The Applicant's responses to the Relevant Representation RR-019 is presented in Table 20.

**Table 20: Applicants responses to RR-019**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Forestry Commission	FC-1	The SoS has recommended that the ES should identify likely locations where there would be loss of important habitats, including hedgerows and / or ancient woodlands. The Forestry Commission would also suggest that consideration must also be given to mixed broadleaved woodland, wood-pastures and parkland <sup>8</sup> and land defined as woodland on the National Forest inventory (see attached map). The Forestry Commission would welcome the opportunity to provide advice at the appropriate time to ensure the most applicable measures are adopted to minimise and / or compensate for the impacts on all woodland types including Ancient Woodlands and woodland habitats of principle importance.	The ES has characterised the receiving environment for the purposes of EIA, inclusive of describing adequately any hedgerows, ancient woodlands, parkland etc. The onshore cable routing process has sought to minimise interaction with existing habitats characterised by small trees and shrubs where possible. The Outline Landscape and Environmental Management Plan (LEMP) (PINS Ref APP-142/ Application Ref 8.7), including with the application documents, provides indicative native tree planting to be used where appropriate.
Forestry Commission	FC-2	The report outlines the various recreational and tourist sites and possible impacts that may occur. As part of the mitigation / compensation package, the Forestry Commission would encourage the inclusion of measures to build the evolving network of green infrastructure to link the existing conurbations to adjacent countryside. Assessment	The application documents include an Outline LEMP which provides for certain enhancements and planting to be agreed with the relevant authorities. The provisions in the Outline LEMP seeks to mitigate and enhance the existing environment and ensure negative effects are mitigated where necessary.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>of the impact of such positive inclusions should be part of the scoping of wider community health &amp; wellbeing. This will aid the promotion of and help encourage people to access the countryside by the local community for quiet enjoyment – important factors for health and wellbeing, both physical and mental health. There are a range of options for green infrastructure and the Forestry Commission would bring attention to what has been achieved at Jeskyns9. Linking sites similar to the Jeskyns model to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of landscape scale green infrastructure.</p>	
Forestry Commission	FC-3	<p>This section of the report has highlighted key policy and legislative documents that were used as part of the biodiversity assessment account in preparation for this DCO application. In addition to the regulatory and policy framework outlined, the Forestry Commission considers the relevant documents and guidance notes outlined below as being pertinent to this DCO in relation to veteran trees, ancient and other woodland and should also be use when considering this DCO application.</p>	<p>The onshore biodiversity scoping and phase 1 surveys of the area considered the potential for veteran, ancient and other woodland trees to be present. The desk and field based surveys confirmed that there are no qualifying features within the zone of influence of the Project.</p>
Forestry Commission	FC-4	<p>This section of the report has accurately noted that relevant criteria, in accordance with CIEEM guidelines for the value of habitats includes</p>	<p>See Applicant's response to FC-3.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>Section 41 (of the NERC Act 2006) list of habitats of principal importance for the conservation of biodiversity in England.</p> <p>These are considered to be important and could potentially be affected by the proposed development. Consideration has been given to mixed broadleaved woodland<sup>10</sup>. Under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006<sup>11</sup>, these habitats "are of principal importance for the purpose of conserving biodiversity." Therefore, these woodland habitats must be included in all future habitat surveys to ensure adherence to the requirements of the Overarching National Policy Statement (NPS) for Energy (EN-1) as outlined below:</p>	
Forestry Commission	FC-5	<p>Paragraph 5.3.7</p> <p>"As a general principle, and subject to the specific policies below, development should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives (as set out in Section 4.4); where significant harm cannot be avoided, then appropriate compensation measures should be sought."</p> <p>To ensure compliance with the new requirements for climate outlined in Part 2c, Regulation 14 of</p>	<p>The Environmental Statement provides a description of the proposed development (Project Description chapters and the technical chapters such as Onshore Biodiversity (PINS Ref APP-061/ Application Ref 6.3.5)) with mitigation measures provided for with the technical chapter and the Outline LEMP as referred to previously.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>Infrastructure Planning (Environmental Impact Assessment) Regulations (2017), it is important that the applicant includes at least “a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment”.<sup>12</sup></p>	
Forestry Commission	FC-6	<p>As recognised in the European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, “climate change and biodiversity are generally complex issues with long-term impacts and consequences. EIAs that aim to properly address biodiversity and climate should take this into account and assess the combined impact of any number of different effects. This requires an understanding of evolving baseline trends and an assessment of the cumulative effects of the project on the changing baseline.”<sup>13</sup></p>	<p>The onshore biodiversity ES chapter has considered both the future baseline (in the absence and presence of the proposed project). The onshore biodiversity chapter has also considered the potential cumulative, incombination, and inter-related effects that, may be associated with the project and other relevant developments.</p>
Forestry Commission	FC-7	<p>To meet these requirements, the Forestry Commission would reiterate the importance of all woodlands in making our rural and urban landscapes more resilient to the effects of climate change and contribution to wider climate change adaptation. Consideration for how sustainable woodland creation and management of England's Woodlands can be secured and the use of timber as a construction material is utilised within this</p>	<p>The proposed Outline LEMP provides for proposed planting inclusive of native tree species where considered appropriate by the relevant local planning authority and the relevant statutory nature conservation body. The planting, combined with the windfarm in general is anticipated to aid both in terms of natural screening but also a net climate benefit with regards climate change mitigation. The need for the project, in the context of mitigating climate change, is</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>scheme will secure the role that woodlands have in reducing greenhouse emissions and carbon sequestration. This approach will also minimise any risk of net deforestation as a result of this scheme and support delivery of avoiding “the most dangerous impacts of climate change, the increase in average global temperatures must be kept to no more than 2°C, and that means global emissions must start falling as a matter of urgency” as outlined in Paragraph 2.2.8 of the NPS (EN-1).</p>	<p>considered within the site selection and alternatives chapter and the relevant National Policy Statements.</p>
<p>Forestry Commission</p>	<p>FC-8</p>	<p>As recognised in the Making Sure Our Land Plays a Central Role in Capturing Carbon and Enhancing Natural Capital section of the Government's Clean Growth Strategy (Updated April 2018)<sup>14</sup>: “During the 2020s we need to accelerate the rate of tree planting, working towards our 12 per cent tree cover aspiration by 2060. To do this will require investment by the private and charitable sectors, not just government. A number of our policy proposals will create the conditions for that investment to come forward. We will need new skills in forest design, a reliable supply of resilient planting stock, new opportunities for domestic timber, and a new generation of skilled people helping to enhance our towns, cities and countryside. Recently published natural capital accounts by the Office for National Statistics show that Britain's woodlands provide services of £2.3</p>	<p>The onshore biodiversity chapter considers the potential loss of trees within the zone of influence and mitigates where appropriate through the embedded mitigation measures and the Outline LEMP. There is no net loss of designated woodlands within the zone of influence of the project.</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		billion per year to the economy in terms of recreation, carbon sequestration, timber and air pollutant removal." Therefore, the Forestry Commission would recommend that as part of the ES, any loss of trees or woodlands as part of this DCO are included in the assessment to secure delivery of the Government's legally binding framework to cut emissions, including greenhouse gases (GHG) which includes carbon dioxide. This will help to inform the compensation package required to ensure overall no net gain in GHG emissions and secure the UKs commitment to below 2 degrees Celsius and be in alignment with the UKs Climate Change Act target of an 80% reduction by 2050 as highlighted in Paragraph 2.2.8 of NPS (EN-1).	
Forestry Commission	FC-9	To ensure a comprehensive assessment, the Forestry Commission would recommend that all woodlands are included as part of the ecological baseline conditions assessment. The Woodland Condition Assessment (WCA) guidance <sup>15</sup> available on the Forestry Commission's website has been developed by the England Woodland Biodiversity Group. This WCA is suitable for the applicant's ecological consultants to use as it is broad in scope and suitable for use with all woodland types.	The ES has provided a characterisation of the receiving environment through reference to primary phase 1 surveys and desk-based studies. The characterisation has been confirmed by the relevant local planning authority and statutory nature conservation body.
Forestry Commission	FC-10	Table 5.8: Evaluation of Habitats within the Study Area	See Applicant's response to FC-10.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>These tables in the report outlines habitat types found within the various zones of the Study Area. Descriptions include scrub. Further clarity regarding sites described as containing scrub<sup>16</sup> is therefore sought. To ensure the correct classification of scrub, the Forestry Commission's position is that all land defined as woodland on the National Forest Inventory<sup>17</sup> will be considered woodland and be subjected to the EIA regulations unless:</p> <ul style="list-style-type: none"> <li>• The plant does not have at least one woody stem that is capable of achieving a total height of five metres; or</li> <li>• The plant is one of the following species:                             <ul style="list-style-type: none"> <li>o Gorse (<i>Ulex europaeus</i>)</li> <li>o Rhododendron (<i>Rhododendron</i> spp.)</li> <li>o Sea buckthorn (<i>Hippophae rhamnoides</i>)</li> <li>o Laurel (all members of the Lauraceae family)</li> </ul> </li> </ul> <p>This additional information will ensure that a thorough assessment will acknowledge the impacts on any potential losses of irreplaceable and important woodland habitats. If further clarification is required, please do consult with the Forestry Commission.</p>	
Forestry Commission	FC-11	<p>From the information supplied in the Environmental Statement Report, we advise that in respect of loss of any woodland, particularly the loss of irreplaceable and principally important</p>	<p>See Applicant's response to FC-10, which states <i>inter alia</i> that the characterisation has been agreed as appropriate and fit for the purposes of EIA by the relevant local planning authorities, the relevant</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>habitats and ecosystems must be included in the test of public benefit to demonstrate accurately that "In considering the impact of a proposed development on any heritage assets, the IPC should take into account the particular nature of the significance of the heritage assets and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between conservation of that significance and proposals for development" as outlined Paragraph 5.8.12 of the NPS (EN-1).</p>	<p>statutory nature conservation body, and in line with approved and recognised standards such as the IEEM guidance. there is no net loss of woodland as a result of the project.</p>
Forestry Commission	FC-12	<p>For the loss of any woodland, the Forestry Commission would ask:</p> <ol style="list-style-type: none"> <li>1. To explore with you how this loss could be further reduced and how direct and indirect impacts on ancient woodlands can be minimised;</li> <li>2. It is made clear how creation of new woodland will be targeted to compensate for the loss of all trees and woodlands;</li> <li>3. That the applicant engages with the Forestry Commission at the earliest opportunity so that our expertise can be used to support the development of options and design of the chosen way forwards.</li> </ol>	<p>See Applicant's response to FC-11.</p>
Forestry Commission	FC-13	<p>Outlined above are the key areas of information would be required in order to allow the applicant to proceed with delivery of this scheme with least detrimental impact to the surrounding</p>	<p>See Applicant's response to FC-11.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>environment, and the Examining Authority properly to undertake its task or where further work is required to determine the effects of the project and / or to flesh out compensation proposals to provide a sufficient degree of confidence as to their efficacy. Forestry Commission's headline points are that on the basis of the information submitted, if approved, the project must be subject to all necessary and appropriate requirements which ensure that unacceptable environmental impacts either do not occur or are sufficiently compensated, as proposed in the proposed Code of Construction Practice.</p>	

## 1.20 RR-020 - Peri Percy and Martin Jackson on behalf of Commercial Fishermen's Rights UK

23 The Applicant's responses to the Relevant Representation RR-020 is presented in Table 21.

**Table 21: Applicants responses to RR-020**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Commercial Fishermen's Rights UK	CFRU-1	<p>I wish to make an objection upon behalf of the commercial fishermen from Ramsgate, Margate, and Whitstable, who use the fishing grounds where Thanet Array is situated, and will lose yet further fishing grounds, if the Thanet Array Windfarm Extension is granted.</p> <p>Local fishermen from the above Ports, have lost 75% of their fishing grounds in the past 50 years, and are about to lose further HISTORIC FISHING GROUNDS in the future. The value of fishermen "AS FOOD PROVIDERS", has been denigrated by successive UK Governments, and companies wishing to make "A PROFIT" from off-shore resources.</p>	<p>The comments with regards commercial fisheries interests are noted by the Applicant. The assessment of impact on commercial fisheries found in Volume 2, Chapter 9: Commercial Fisheries of the Environmental Statement (PINS Ref APP-050/ Application Ref 6.2.9) is based on the best available information and the conclusions are considered robust in the context of the assessment methodologies and the Fisheries Liaison and Coexistence Plan (FLCP) (PINS Ref APP-143/ Application Ref 8.8). The latter document has been drafted in consultation with local fishing associations and is considered a robust mechanism for ensuring all relevant interests are considered appropriately.</p>
Commercial Fishermen's Rights UK	CFRU-2	<p>I have stated before that Windfarmers are good neighbours to local fishermen, and at least pay some compensation for ground taken, BUT, the amounts which are paid in compensation are UNREALISTIC compared to fishermen's losses in real terms.</p>	<p>As set out in the FLCP, the Applicant will follow best practice guidance for fishing disruption payments (FLOWW, 2015).</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Commercial Fishermen's Rights UK	CFRU-3	<p>"So many different types of fish, and shell fish, can be caught in this area using a multitude of different fishing gear methods, deployed by fishermen coming from approximately a 20 mile radius, and sometimes further, that the extra ground required for the extension should be referred to as ""PRIME FISHING GROUND"" with the following list of species available to be caught:- LEMON SOLE, DOVER SOLE, COD, WHITING, SKATE, RED GURNARD, HERRING, MACKEREL, PLAICE, POUTAIN, DABS, SEA BASS, HORSE MACKEREL, CONGER EEL, GAR FISH, DOG FISH (NURSES), SPUR DOG FISH, SHELL FISH INCLUDE LOBSTERS, WHELKS, BROWN CRABS, VELVET CRABS, HERMIT AND SWIMMING CRABS, AND AS YET UNMARKETED IN THE UK, THE COMMON GREEN AND RED CRAB (THESE ARE FEED FOR MANY SPECIES OF FISH) AS ARE SAND EELS WHICH SEASONALLY FREQUENT THE AREA.</p>	<p>See Applicant's response to CFRU-1. Furthermore, the receiving environment has been characterised within the supporting documentation with all commercial (and non-commercial) species of relevance identified according to MMO and Cefas.</p>
Commercial Fishermen's Rights UK	CFRU-4	<p>If the project is justified as of "NATIONAL IMPORTANCE" i.e. the supply of electricity to the UK, then it should be noted, for the reasons above, this fishing ground is of "National Importance" also, to fishermen and stakeholders alike, who are the great British public who buy the product and enjoy it!</p>	<p>The importance of local and fisheries is accounted for within the assessment methodology through consideration of sensitivity and importance. Each fishery type is considered in the context of the wider region and attributed an importance and sensitivity. The methodology has been agreed with the MMO, and local fisheries interests and is considered to be the most appropriate method to use.</p>

### 1.21 RR-021 – David Edwards

24 The Applicant's responses to the Relevant Representation RR-021 is presented in Table 22.

**Table 22: Applicants responses to RR-021**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-9	"If the expansion of the windfarm how's the head west would I as a pilot boat coxswain would be forced to serve ships a greater distance from our base in heavy whether this would be more dangerous as we would not have the lee of the shore And would mean travelling greater distance in heavy weather would also increase of fuel consumption"	See Applicants response to MOP-7.

## 1.22 RR-022 - Estuary Services Ltd

25 The Applicant's responses to the Relevant Representation RR-022 is presented in Table 23.

**Table 23: Applicants responses to RR-022**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-23	"The planned extension will impede the safe boarding and landing of pilots from at the North East Spit pilot station. The North East spit pilot station serves ships bound for the ports of London and Medway, the extension plans cut right through the boarding area that the ships currently use."	The project has undertaken a detailed Navigational risk Assessment that is agreed as compliant with all relevant guidance, and based on an agreed method of defining tolerability of risk. The conclusions of the assessment are that whilst there is an increase in risk likelihood the increase is deemed tolerable.



### 1.23 RR-023 - Malcom Gosman

26 The Applicant's responses to the Relevant Representation RR-023 is presented in Table 24.

**Table 24: Applicants responses to RR-023**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-8	<p>“Hi, my name is [xxx] I am a fisherman and a vessel owner, I am also a member of Thanet fisherman's accotiation. My objection with Thanet windfarm extension is the fact I will lose my main fishing ground which would have big implications on my business earnings we are already stretched to the limit with farms more would be disastrous! So I say no to more development. Thanks.</p>	<p>It is understood that the respondent is a member of Thanet Fisherman’s Association. Please see the Applicants response to TFA-1.</p>

### 1.24 RR-024 - Richard Jackson

27 The Applicant's responses to the Relevant Representation RR-024 is presented in Table 25.

**Table 25: Applicants responses to RR-024**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-7	<p>"I work as a launch coxswain for a marine pilotage support service (Estuary Services Ltd) and have done for the last 15 years. The area of operation for the vast majority of the shipping we serve is close to the western side of the existing TOW site. I feel that any migration west (as Vattenfall have proposed) will cause a very high level of congestion in an already high traffic area. The subsequent displacement of ESL, which I think is inevitable in order to keep our operation safe, will have a major impact on us as a viable business."</p>	<p>The project has undertaken a detailed Navigational Risk Assessment (PINS Ref APP-089/ Application Ref 6.4.10.1) that is agreed as compliant with all relevant guidance and based on an agreed method of defining tolerability of risk. The conclusions of the assessment are that whilst there is an increase in risk likelihood the increase is deemed tolerable.</p>

### 1.25 RR-025 - Robert Pulman

28 The Applicant's responses to the Relevant Representation RR-025 is presented in Table 26.

**Table 26: Applicants responses to RR-025**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-10	<p>“As an interested party whose employment is directly linked to the area of proposed expansion of the Thanet Offshore Windfarm, the primary points I'd like to raise include :</p> <ol style="list-style-type: none"> <li>1)siting of turbines in relation to working areas of other interested parties</li> <li>2)possible loss of employment due to proposed siting of added turbines</li> <li>3)long term benefits to local residents versus long term costings including longevity of parts, in light of recent developments of other local Windfarms.</li> <li>4)Reasons why the proposed extra turbines cannot be situated in a position that is satisfactory to all interested parties and not just for the profit margins of the Windfarms companies ”</li> </ol>	<p>This is noted by the Applicant.</p> <p>The considerations of site selection are set out in Volume 1, Chapter 4 (Site Selection and Alternatives) of the ES (PINS Ref APP-040/ Application Ref 6.1.4).</p> <p>Socio-economics including effects on employment have been assessed in Volume 3, Chapter 3 (Socio-economics) of the ES (PINS Ref APP-059/ Application Ref 6.3.3) which concludes there would be an overall minor beneficial effect in the Kent Area.</p>

### 1.26 RR-026 - John Ramshaw Lowe

29 The Applicant's responses to the Relevant Representation RR-026 is presented in Table 27.

**Table 27: Applicants responses to RR-026**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-11	The proposed Thanet Extension project will have a dramatic impact on my livelihood. I have been fishing this area using my lobster/crab pots for the past 35 years, and if the project goes ahead it will mean that I will no longer be able to support my family and household. When the original windfarm was constructed I lost a considerable part of my income. If the Thanet Extension goes ahead it will mean a stop in my fishing activity, 98% of my income is derived from the area proposed for development. It will impact on most members of the Thanet Fishermen's Association in various ways either by stopping them fishing or from displacement of effort.	It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicants response to TFA-1.

## 1.27 RR-027 - National Grid Electricity Transmission PLC and National Grid Gas PLC

30 The Applicant's responses to the Relevant Representation RR-027 is presented in Table 28.

**Table 28: Applicants responses to RR-027**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
National Grid	NG-1	National Grid wishes to make a relevant representation to the Thanet Extension Offshore Windfarm DCO in order to protect its position in relation to infrastructure and land which is within or in close proximity to the proposed Order Limits. National Grid's rights to retain its apparatus in situ and rights of access to inspect, maintain, renew and repair such apparatus located within or in close proximity to the Order limits should be maintained at all times and access to inspect and maintain such apparatus must not be restricted.	This is noted by the Applicant.
National Grid	NG-2	The documentation and plans submitted for the above proposed scheme have been reviewed in relation to impacts on National Grid's existing and consented apparatus and land interests located within this area. National Grid will require protective provisions to be included within the DCO to ensure that its interests are adequately	The drafting of protective provisions is ongoing between Vattenfall Wind Power Ltd and National Grid.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		protected and to ensure compliance with relevant safety standards.	
National Grid	NG-3	National Grid is concerned that the Richborough 400kV substation (currently under construction) is currently shown to be within the order limits and could be the subject to compulsory acquisition. The substation will form an essential part of the electricity transmission system and part of National Grid's Electricity Transmission statutory function.	The Applicant has included the substation within the order limits to make sure that any works required within the substation to connect the wind farm to connection point can be carried out. The rights sought within the order are only for the acquisition of permanent rights and not freehold possession. Protective provisions will be agreed between the parties and included in the DCO (PINS Ref APP-022/ Application Ref 3.1) including a requirement to liaise closely with National Grid.
National Grid	NG-4	National Grid's Richborough Connection Project Order (2017) which provides rights to acquire land and construct a new high voltage 400kV electricity connection between Richborough and Canterbury North 400kV Substations appears to overlap with the proposed order limits of the Thanet Extension Windfarm Project. Careful consideration will need to be given to ensure that National Grid's rights are protected and safeguarded. If any of the rights provided by the Richborough Connection Project Order (2017) are proposed to be changed or removed then alternative rights will need to be provided by the Thanet Extension Offshore Windfarm	The Applicant notes the position in relation to the Richborough Connection Project Order (2017). Discussions are ongoing to agree the drafting of the protective provisions in order to safeguard National Grid's interests. The protective provisions will include an obligation for the Applicant to liaise with National Grid although it looks unlikely that there will be an overlap in construction programmes.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>Order that are acceptable to, and have been agreed by National Grid. Following a meeting with yourselves it appears unlikely that there will be a significant overlap in the construction of both projects. However, in the event that there is an overlap it will be essential to work together and agree a form of liaison procedure to ensure any potential interactions / conflicts can be proactively managed and resolved.</p>	
National Grid	NG-5	<p>Between National Grid's 400kV substation and UKPN's 132kV substation will be a 132kV underground cable. Careful consideration will need to be given by the Thanet Extension Offshore Windfarm project team to ensure none of the proposed works impact on the integrity of this cable. Unfettered access to this cable will also need to be maintained at all times.</p>	<p>The Applicant is aware of the proposed 132KV underground cable connection and the proposed timescale for those works. The order limits provide sufficient flexibility for routeing of the Applicants 400KV cables and the 132KV cables to be laid by National Grid. The Applicant has been liaising with National Grid to understand the design and location of the 132kV connection. The protective provisions will include a liaison requirement.</p>
National Grid	NG-6	<p>As a responsible statutory undertaker, National Grid's primary concern is to meet its statutory obligations and ensure that any development does not impact in any adverse way upon those statutory obligations.</p>	<p>This is noted by the Applicant.</p>
National Grid	NG-7	<p>National Grid reserves the right to make further representations as part of the examination process but in the meantime is</p>	<p>The Applicant confirms that discussions are ongoing with National Grid to agree the terms of the protective</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		negotiating with the promoter with a view to reaching a satisfactory agreement.	provisions which will form part of the DCO and a side agreement covering certain other matters.



### 1.28 RR-028 - Ross Hambly

31 The Applicant's responses to the Relevant Representation RR-028 is presented in Table 29.

**Table 29: Applicants responses to RR-028**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-12	"I am with the Thanet fishing association when work commence,s I will lose fishing ground and income . Thanking you for looking into it if there's anything I can assist you with send me an email ."	It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1.

## 1.29 RR-029 - Dover District Council

32 The Applicant's responses to the Relevant Representation RR-029 is presented in Table 30.

**Table 30: Applicants responses to RR-029**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Dover District Council	DDC-1	"Dover District Council hereby seeks to make a relevant representation being one of the Local Planning Authorities in which the development effects and with part of the proposed infrastructure being situated within the District. The representation shall relate primarily to the onshore aspects of the proposal which fall within Dover District. These include part of the cable route and the proposed substation. Nevertheless, due to the close proximity of the proposed works to the District's Boundary other representations shall be made, where relevant, on other aspects and impacts of the proposal.	The representation is noted by the Applicant.
Dover District Council	DDC-2	The District Council is also on the National Nature Reserve (NNR) Management Steering Group and therefore has concerns regarding the impact on the NNR and its management, particularly in relation to the cable route selection and options appraisal, the decision making process and chosen cable route.	The role of Dover District Council on the NNR steering group is noted, and the concerns raised are understood. The Applicant has provided further information on these matters prior to Application being made and looks forward to continued engagement with Dover District Council.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Dover District Council	DDC-3	<ul style="list-style-type: none"> <li>Impact of the new development in the District in particular the substation structure and associated works</li> </ul>	The potential impacts associated with the substation and electrical infrastructure has been described within Volume 3 of the ES and assessed accordingly to provide a transparent assessment of all relevant potential impacts.
Dover District Council	DDC-4	Whether the cable route selection process has been addressed appropriately	The site selection process has been detailed within Volume 1, Chapter 4 (Site Selection and Alternatives) of the ES (PINS Ref APP-040/ Application Ref 6.1.4).
Dover District Council	DDC-5	The associated impacts of the proposed cable route	See the Applicant's response to DDC-3.
Dover District Council	DDC-6	<ul style="list-style-type: none"> <li>The visual and landscape impact of the proposed infrastructure</li> </ul>	See the Applicant's response to DDC-3.
Dover District Council	DDC-7	<ul style="list-style-type: none"> <li>The impact on ecology</li> </ul>	See the Applicant's response to DDC-3.
Dover District Council	DDC-8	<ul style="list-style-type: none"> <li>The level information supplied by the applicant to support their approach to the Habitats Directive.</li> </ul>	Information with regards the detailed assessment of potential impacts to the relevant designated sites are provided within the Report to Inform Appropriate Assessment (PINS Ref APP-031/ Application Ref 5.2).
Dover District Council	DDC-9	<ul style="list-style-type: none"> <li>Has the route selection been adequately addressed in respect of sufficient information for an Appropriate Assessment to be undertaken.</li> </ul>	See the Applicant's response to DDC-4 and DDC-8.
Dover District Council	DDC-10	These matters have been raised previously at the relevant stages and in the Council's response to the Section 42 Consultation Process and shall be	The matters raised by DDC in their S42 responses have been captured and addressed within the relevant technical chapters of the ES, the consultation report (PINS Ref APP-0028/ Application Ref 5.1), and further

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		addressed in more detail in the Local Impact Report.	responses provided during the evidence plan process has been captured within the Evidence Plan Report (PINS Ref APP-137/ Application Ref 8.5).

### 1.30 RR-030 - Bircham Dyson Bell LLP on behalf of RiverOak Strategic Partners Limited

33 The Applicant’s responses to the Relevant Representation RR-030 is presented in Table 31.

**Table 31: Applicants responses to RR-030**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant’s Response
RiverOak Strategic Partners Limited	RSPL-1	<p>“Our client, RiverOak Strategic Partners Limited, is proposing to redevelop the currently closed Manston Airport into a new cargo hub airport with associated airport related development. It made an application to the Planning Inspectorate for a Development Consent Order for the project on 17 July 2018 (application ref: TR020002) which was accepted for examination on 14 August 2018.</p> <p>Our clients are in discussions with the promoters of the Thanet Extension Offshore Windfarm and seek to produce a Statement of Common Ground on matters relating to:</p> <ul style="list-style-type: none"> <li>- the potential impact of each proposed development on the other;</li> <li>- the cumulative effects assessment for each project;</li> <li>- flight paths from the proposed airport; and</li> <li>- radar systems at the proposed airport.</li> </ul> <p>Our client may seek to make further comments in these areas during the</p>	<p>As stated in the relevant representation, the Applicant is actively engaging with RiverOak Strategic Partners Limited with respect to a joint Statement of Common Ground. The Applicant considers that there are no significant cumulative effects relating to the Manston Airport proposal. The Project will incorporate appropriate aviation lighting as per requirement 6 (Aviation Safety) of the draft DCO (PINS Ref APP-022/ Application Ref 3.1), however any interaction with the radar systems associated with a re-opened Manston Airport would need to be mitigated by the promoters of that project and not by the Applicant.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		examination for the Thanet Extension Offshore Windfarm. Yours faithfully, Bircham Dyson Bell LLP"	

### 1.31 RR-031 - Thanet Fisherman – Thomas Henry Brown

34 The Applicant's responses to the Relevant Representation RR-031 is presented in Table 32.

**Table 32: Applicants responses to RR-031**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-13	<p>"I am lodging this objection on behalf of the members of Thanet fishermen's Association Ramsgate. The sea area that the Thanet Offshore Wind farm occupies is extensively fished by Thanet fishermen. The main fishing methods employed are Gill netting, Trawling, Whelk potting and Lobster potting. The construction of the present Wind-farm has had an effect on the fishing. Some methods have been seriously restricted such as Gill netting and Trawling, Potting not so much. There has been much industrial development in the Thames estuary regarding Gravel extraction, Dredging, Power cables and Wind-Farms, All undeveloped seabed is precious to the fishermen, the expansion of the TOW site will have a definite adverse effect on the local fishing."</p>	Please see the Applicant's response to TFA-1.

### 1.32 RR-032 - Christopher Howland

35 The Applicant's responses to the Relevant Representation RR-032 is presented in Table 33.

**Table 33: Applicants responses to RR-032**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-14	<p>"I am owner of Stella Maris moored in Ramsgate Harbor, a commercial fisherman of over 30 years and a member of Thanet Fishermans Association.</p> <p>The planning proposition for this infrastructure will cause more loss of fishing grounds; this is all prime fishing ground for drift netting, static netting, potting and trawling. Until the current wind farm already in place came along, this was the best fishing ground. The positioning of the turbines also means the displacement of boats that currently fish the area, which would cause the boats to move onto different areas where there are already boats, overpopulating the area and putting strain onto it as too many will be trying to fish in the same vicinity. I can state this as I have already witnessed the movement happen due to previous placements of the current turbines. Of what is not much left of</p>	<p>It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1.</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		over development of wind farms, cable laying, dredging, closed areas etc, we cannot afford to lose more grounds."	

### 1.33 RR-033 - Kevin Castro

36 The Applicant's responses to the Relevant Representation RR-033 is presented in Table 34.

**Table 34: Applicants responses to RR-033**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-15	"I am a registered commercial fisherman (boat is Endurance R80) and use the surrounding area on the inside edge of where the existing wind farm is. I have lobster pots there 9 months of the year and also use nets to catch seasonal fish. To build more wind farms in and around the area will limit the fishing area even more and therefore have further impact on my earnings."	It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1.

### 1.34 RR-034 - Merlin Jackson on behalf of Barry Parker

37 The Applicant's responses to the Relevant Representation RR-034 is presented in Table 35.

**Table 35: Applicants responses to RR-034**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-16	<p>"I am a Thanet Fisherman and part of Thanet Fishermen's Association. The proposed Thanet Windfarm extension and the export cable route will affect all of the Fishermen that work on this part of the coast, directly and indirectly, myself included. The extension area is used for all methods of fishing and so is the cable route. There are so many marine licenses being granted for projects in the Inner and Outer Thames Estuary, it has become over run. I do not think this project should go ahead as it will directly affect commercial fishing for our small vessel fleet and the livings of the Fishermen that work here."</p>	<p>It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1.</p>

### 1.35 RR-035 - Ben Cooper

38 The Applicant's responses to the Relevant Representation RR-035 is presented in Table 36.

**Table 36: Applicants responses to RR-035**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-17	<p>"I along with my brother are directors in R. Cooper &amp; Sons Fisheries Ltd, we run 2 small inshore fishing boats MFV SUVERA and MFV SALVA MEA based in whitstable. As an associate member of the TFA (Thanet Fisherman's Association) I share similar concerns over the proposed thanet windfarm extension. We use a variety of fishing techniques including trawling, potting and gill netting, all of which will be negatively impacted upon, both during the construction, and after completion, due to the loss of fishing grounds. My concern is that this proposal is yet another nail in the coffin of not only my business, but the whole of the north Kent inshore fishermen."</p>	<p>It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1.</p>

### 1.36 RR-036 - Jack Ryan

39 The Applicant's responses to the Relevant Representation RR-036 is presented in Table 37.

**Table 37: Applicants responses to RR-036**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-18	"The area of extension to the Thanet windfarm will hugely affect my own income aswell as the income of the family business that I will be taking over in the future. These are major fishing grounds that we work on throughout the year and losing that specific area will make a huge difference on me now and in the many future years of my fishing career."	It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1.

### 1.37 RR-037 - Jason Lee Ryan

40 The Applicant's responses to the Relevant Representation RR-037 is presented in Table 38.

**Table 38: Applicants responses to RR-037**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-19	"Due to the proposed area of extension to the Thanet windfarm, our family business and annual income will be hugely affected and reduced as a result of losing major fishing grounds. These fishing grounds are not only a sustainable part of our income but are also a major food source supplying the whole Thames estuary of which we fish in all year round."	Please see the Applicant's response to TFA-1.

### 1.38 RR-038 - Kent County Council

41 The Applicant's responses to the Relevant Representation RR-038 is presented in Table 39.

**Table 39: Applicants responses to RR-038**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Kent County Council	KCC-1	Following the Planning Inspectorate's acceptance (23 July 2018) of an application for a Development Consent Order (DCO) for the Thanet Windfarm Extension, Kent County Council (KCC) requests to be registered as an Interested Party at the Examination. This letter provides a summary of the main aspects of the proposal which KCC agrees and/or disagrees, together with an appropriate explanation, in accordance with the Planning Inspectorate Advice Note 8.3.	The Applicant notes and welcomes KCC's continued involvement with the project and welcomes the continued constructive dialogue.
Kent County Council	KCC-2	In summary, an outline of the principal submissions that KCC intends to make in relation to the application will concern: <ul style="list-style-type: none"> <li>- Highways and transportation, as the Local Highway Authority for Kent;</li> <li>- Country Parks, as land owner and manager of Pegwell Bay Country Park;</li> <li>- Waste;</li> <li>- Biodiversity;</li> <li>- Heritage; and</li> <li>- Public Rights of Way (PRoW).</li> </ul>	The Applicant have consistently liaised with KCC on the topics identified and welcome continued engagement with KCC on the principle submissions.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Kent County Council	KCC-3	KCC has agreed that no further capacity assessment of the highway network is required, beyond that already included in the application. The proposed site access points have been agreed in principle between Vattenfall and KCC. Full details will need to be submitted and agreed by KCC as the Local Highway Authority. The principles of traffic management and mitigation during construction are acceptable, but details will need to be agreed through the submission of the Construction Traffic Management Plan.	The Applicant acknowledge further consultation of the final design of the project will be required at the pre-construction stage with regard traffic management. The Applicant welcomes the confirmation that the project requires no further capacity assessment, the principles of traffic management and mitigation are acceptable, and that the proposed site access points are agreed in principle between the Applicant and KCC. Details of highway accesses with be provided for approval by KCC through DCO Requirement 14 (Highway accesses) and a Construction Traffic Management Plan is secured through Requirement 21 (Construction traffic management plan).
Kent County Council	KCC-4	Pegwell Bay Country Park is a coastal public park and community asset, providing recreation and leisure opportunities with flat access paths, a car park, picnic area, toilets, refreshments and play park. The site is managed for its wildlife, habitat and customers, and KCC has invested in the site to deliver improved access and community facilities, with increased usage as a result. The site is accessed by a wide range of users, from families to Park Run, dog walkers and wildlife enthusiasts and is used as a gateway to the National Nature Reserve and the wider landscapes around Pegwell.	The Applicant recognises the importance of the Pegwell Bay Country Park in providing a community recreation and leisure asset and have welcomed the provision of data from KCC to aid in describing the importance of the asset and the volume of users accessing the park.
Kent County Council	KCC-5	The scheme currently puts forward a range of options for cabling across the park. One option (option 1) looks to underground the new cable	The Applicant acknowledges that from a park management perspective an underground option is preferable. The Applicant has brought forward the



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>across the park. From a park management perspective, running an underground cable is the preferred option.</p>	<p>some of the pre-construction phase of site investigation work to the pre-consent phase to help inform the design of the project within the Pegwell Bay Country Park and underground the cable where feasible. It should be noted that both landfall option 1 and 3 propose undergrounding cables throughout the country park.</p>
<p>Kent County Council</p>	<p>KCC-6</p>	<p>An over ground berm (option 2) would not be acceptable from a park management perspective, particularly considering the impact resulting from the previous cable that was installed through the Nemo Link project. The Nemo Link project is not regarded by KCC as a good example of how the County Council would like to see another cable project delivered in the park. There are also concerns that the cumulative impact of a second over ground berm, for option 2, is not sufficiently assessed in the application.</p>	<p>The concerns raised by KCC with regards a surface berm are recognised. The Applicant has submitted an Outline Landscape Environmental Management Plan (LEMP) (PINS Ref APP-142/ Application Ref 8.7) which includes landscaping options for an above ground berm and the approach to minimising impacts associated with running in parallel to the existing Nemo berm. The content of the LEMP has been discussed with KCC.</p> <p>An assessment of the above ground berm has also been undertaken in Volume 3, Chapter 2: Onshore Landscape and Visual Impact Assessment and in Volume 3, Chapter 4: Tourism and Recreation (PINS Ref APP-058 and APP-060/ Application Refs 6.3.2 and 6.3.5). Both assessments concluded that the effects (impacts viewpoints and on visitor and tourism economy) would not be significant in EIA terms.</p>
<p>Kent County Council</p>	<p>KCC-7</p>	<p>In addition, KCC notes that option 2 is presented within the Outline Landscape and Ecological Management Plan (OLEMP; 2.1.19), with the over</p>	<p>The concerns raised by KCC with regards a surface berm are recognised. The project have submitted an Outline LEMP with the Application and welcome KCC's</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>ground berm proposed to run parallel to the Nemo Link. This would create a double berm structure (an 'M', in effect). This would create difficulties for grazing and access in the park and would not be supported by the County Council. It would also have a detrimental visual impact by significantly altering the natural landscape features of the flat coastal park. The mitigation for the final option will need to be included in the LEMP and this will need to be agreed by KCC, to ensure that any structure is appropriate within the park and blends in with the surrounding land.</p>	<p>continued input in the evolution of the Outline LEMP and wider project.</p>
<p>Kent County Council</p>	<p>KCC-8</p>	<p>The County Council supports the running of an underground cable as the preferred option (option 1), with the next most favourable option as trenching the cable (option 3). The site investigations in the landfill site will determine whether excavation within Pegwell Bay Country Park is feasible. If site investigations show that neither option 1 or 3 are viable, then KCC will expect that the developer works closely with the County Council to assess the full implications of an over ground berm and fully mitigate its effects (option 2). However, as mentioned above, this option is not supported by the County Council from a park management perspective.</p>	<p>The Applicant acknowledges KCC's position on the three landfall installation options and is actively looking to reduce optionality subject to appropriate studies being undertaken. The mitigation proposed for the Country Park in the Application, particularly in respect of that detailed in the Outline LEMP (PINS Ref APP-142/ Application Ref 8.7) and the Access Management Strategy (PINS Ref APP-136/ Application Ref 8.4) covers both above and below ground installation options.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Kent County Council	KCC-9	The options for landfall at Pegwell now include an option to install cable ducts under the sea wall that forms the boundary of Pegwell Bay Country Park. This option will depend on the site investigations by using Horizontal Directional Drilling (HDD) to reduce the interaction with the saltmarsh and sea wall.	The options presented within the ES represent three options in order to ensure adequate protection of the wider habitats. The proposed site investigation surveys, alongside other studies triggered by bringing the pre-construction surveys forward to the pre-consent phase will aid in informing the final design.
Kent County Council	KCC-10	Any incursions into the landfill site or breaches of the sea wall (which would be required for options 1 and 3) will need to be engineered to consider the historic potential environmental difficulties associated with this site. In particular, this would include ensuring that no new pathways for the migration of landfill gas or leachate are created.	The proposed site investigation data, alongside a wider tranche of works inclusive of the groundwater and contaminated land plan secured as a Requirement within the DCO will enable the detailed design, and associated mitigation, to be finalised. The Applicant notes that Option 1 (HDD) will be designed to avoid interaction with/ breaching the seawall. The plans, when finalised pre-construction, will be submitted to the relevant local planning authority for approval, in consultation with the regulatory advisors.
Kent County Council	KCC-11	It is also advised that any Environmental Permits obtained in connection with this project will need to be the sole liability of the developer and that none will be transferred to, or later by default become incumbent on, the County Council.	It is noted that liability for Environmental Permits will be limited to the Applicant and not transferred to KCC as landowner. Contaminated land provisions will be included in the land agreement currently being sought.
Kent County Council	KCC-12	It is understood that the 'Benthic Subtidal and Intertidal Ecology' report utilises information that was originally submitted as part of the Nemo Link application, which involved cabling over ground. However, the County Council would like to highlight the importance of using ongoing	The use of ongoing monitoring data will aid in informing final mitigation plans. Of particular note is the ongoing drafting of the saltmarsh mitigation and reinstatement plan which was submitted with the application (PINS Ref APP-147/ Application Ref 8.13) but will be revised to ensure the relevant 'lessons

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		monitoring to inform detailed mitigation strategies.	learnt' by the NEMO project, combined with the successful installation and monitoring associated with the existing Thanet cable are applied to Thanet Extension.
Kent County Council	KCC-13	The report also states that a 'Saltmarsh Mitigation and Reinstatement Plan' will be produced. Due to the high impact that this proposal will have on the habitat, the County Council would expect the plan to be submitted as part of the application.	The Saltmarsh Mitigation, Reinstatement and Monitoring Plan (SMRMP) (PINS Ref APP-147/ Application Ref 8.13) was submitted with the Application.  The document has also been subject to ongoing revision following consultation with Natural England and the Environment Agency. As advised by Natural England, the Applicant is awaiting lessons learnt from the Nemo Link Interconnector installation and will submit a revised SMRMP once this information is available.
Kent County Council	KCC-14	A Habitat Regulation Assessment (HRA) screening report has been submitted and confirms that a full HRA will be required. The Planning Inspectorate will need to carry out the HRA so sufficient information will need to be submitted by the Applicant to enable this to be completed.	The screening and Report to Inform Appropriate Assessment (RIAA) reflects the consultation that was ongoing with the relevant evidence plan technical groups at the time, and provision of a suite of primary and desk based studies. The RIAA submitted alongside the Application (PINS Ref APP-031/ Application Ref 5.2) represents a fit for purpose document to inform the Planning Inspectorate's Report on the Implications for European Sites (RIES).
Kent County Council	KCC-15	Overall, KCC is satisfied that the Environmental Statement has taken account of the comments previously provided as part of the Section 42 PEIR	The Applicant acknowledges that the ES has adequately had regard to the feedback received during the Section 42 consultation phase. The

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		consultation, with respect to the Onshore Historic Environment. KCC have provided some detailed representation on the Environmental Statement below.	Applicant would also draw attention to the EIA Evidence Plan process which also benefitted from the involvement of KCC representatives and resulted in the robust evidence base that has informed the assessments.
Kent County Council	KCC-16	The mitigation proposed, as detailed in Volume 3 Chapter 7 (7.11.1 to 7.11.9) of the Environmental Statement is considered appropriate.	The Applicant acknowledges and welcomes KCCs confirmation that the mitigation is appropriate.
Kent County Council	KCC-17	KCC would advise that if non-designated assets associated with the defences are encountered along the cable route, then it may be appropriate (depending on their form and preservation) for consideration to be given to avoiding physical impacts through the design of the cable route, rather than a programme of recording.	The pre-construction (and pre-consent) site investigations will be planned alongside a WSI to ensure adequate avoidance and or programme of recording is applied to all relevant phases of the works.
Kent County Council	KCC-18	The County Council disagrees with the mitigation proposed for the effects of the excavation of the cable route on potential (and presently unidentified) buried anti-invasion heritage assets.	The Applicant welcomes further discussion on this matter with KCC.
Kent County Council	KCC-19	The general approach to mitigation set out in paragraph 7.16.1 is supported, as is the commitment to submit an Archaeological Written Scheme of Investigation in due course.	The Applicant acknowledges and welcomes KCCs confirmation that the approach to mitigation is appropriate.
Kent County Council	KCC-20	KCC advises that an Archaeological Written Scheme of Investigation is required, to include an Archaeological Exclusion Zone, which will need to be agreed with KCC and Historic England.	The provision of an archaeological WSI pre-construction is secured as a requirement within the DCO through Requirement 22 (Archaeological written scheme of investigation). The WSI will be approved by the relevant planning authority, however both KCC

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			and Historic England are required to be consulted. The Applicant welcomes further consultation with KCC on the principles that should inform the WSI.
Kent County Council	KCC-21	KCC notes that the application includes a surfacing specification. The County Council requests that the finished surface specification is agreed with KCC before works are undertaken along the England Coast Path/ Viking Coastal Trail. Given the popularity of this route, KCC would like to remind the Applicant that temporary closures should be avoided.	The Application includes an Access Management Strategy (PINS Ref APP-136/ Application Ref 8.4) within which there is provision for agreeing the surface specifications of any pathways effected, inclusive of the England Coast Path/Viking Coastal Trail.
Kent County Council	KCC-22	If path closures are required, they should be kept to a minimum to minimise disruption for path users and an alternative route should be provided for the duration of the closure. KCC's PRow Officers would need to be consulted on any closures and alternative routes so that the Council can update and inform coast path users and the National Trail website.	The desire to minimise path closures is acknowledged and provided for within the Access Management Strategy (PINS Ref APP-136/ Application Ref 8.4) submitted alongside the Application.
Kent County Council	KCC-23	The County Council looks forward to working with the Applicant and Planning Inspectorate and welcomes the opportunity to comment on matters of detail throughout the Examination.	The Applicant acknowledges and welcomes KCC's continued involvement in the project.

### 1.39 RR-039 - The Corporation of Trinity House

42 The Applicant's responses to the Relevant Representation RR-039 is presented in Table 40.

**Table 40: Applicants responses to RR-039**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Trinity House	THLS-1	Trinity House is the General Lighthouse Authority for England, Wales, the Channel Islands and Gibraltar with powers principally derived from the Merchant Shipping Act 1995 (as amended). The statutory role of Trinity House as a General Lighthouse Authority includes the superintendence and management of lighthouses, buoys and beacons within our area of jurisdiction. We submit that the development would create an unacceptable increase in risk to the safety and navigation of mariners at sea, therefore we OBJECT to the proposed red line boundary (as revised) within the plans.	The Project has undertaken a detailed Navigational Risk Assessment (PINS Ref APP-089/ Application Ref 6.4.10.1)) and the methodology of assessment has been recognised by the MCA (Ref: MCA-1) as being in accordance with MGN 543 and published risk assessment methodology, and based on an agreed method of defining tolerability of risk.
Trinity House	THLS-2	Our concerns include, but are not limited to, the following: <ul style="list-style-type: none"> <li>- The proposed boundary reduces the space available for shipping between the windfarm and Kent coast. We are particularly concerned about the accumulation of traffic and ease of navigation between the north-west and westerly boundary.</li> <li>- The risk mitigation measures, in our opinion, do not reduce the risk to an acceptable level.</li> </ul>	The Project has undertaken a detailed Navigational Risk Assessment (PINS Ref APP-089/ Application Ref 6.4.10.1) that is agreed as compliant with all relevant guidance and based on an agreed method of defining tolerability of risk. The conclusions of the assessment are that whilst there is an increase in risk likelihood the increase is deemed tolerable.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>- We find the statement within the Navigation Risk Assessment executive summary referring to the “... Increase in collision rate from once in six years to once in four years” an unacceptable situation. Vattenfall have shown they consider the reduction in the red line boundary has now made this one in 4.5 years, which in our opinion remains unacceptable.</p> <p>We look forward to discussing the matter and finding an amicable solution at the examination stage of this process.</p>	<p>It is the Applicant's position the mitigation measures included within the NRA and ES chapter aid in reducing the risk to as low as reasonably practicable and the risk is deemed tolerable.</p> <p>The Applicant further wishes to clarify that the regional risk modelling that was undertaken into collision risk and identified an existing risk profile within the study area of 1:6. This was fundamentally based on the 3 collision that had occurred within 5 nm of the study area. It is important to note that these collisions were not associated with the existing windfarm. The modelling, which used Domain Theory to identify vessel encounters can be scaled based on the baseline collision rate and then a comparison made between the baseline vessel traffic disposition the diverted vessel disposition as a result of the extension and this produces a return rate of 1:4.5 for the whole study area risk profile. The collision risk modelling enables comparison and it is the 'change in return rate' that drives a change in the hazard likelihood scores in the Hazard Log. Where the comparison of return rates undertaken purely for the time since the existing wind farm was is position this during which no collision have been recorded as significantly higher return rate would be evident. The return rate would also increase if analysis was limited to a subset of the study area. Whilst taking these</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>caveats and assumptions into account, it is also the case that, there is not accepted or defined return rate threshold for acceptability based on a standard unit of measurement – e.g. per vessel transit year. Also the return rate as calculated is less than that seen in other areas within UK waters, which is considered to be acceptable. The Applicant looks forward to further consultation with THLS to on these matters.</p>

### 1.40 RR-040 - Christopher Attenborough

43 The Applicant's responses to the Relevant Representation RR-040 is presented in Table 41.

**Table 41: Applicants responses to RR-040**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-20	<p>"I am a sixth generation fisherman who has made their living off the grounds of the Thames estuary. The ground that has been designated for the thanet offshore windfarm is of greatest importance to earning my livelihood. it is a very diverse piece of ground giving me all year round fishing for soles, bass, smoothounds in the summer to cod and skate in the winter. This did extend into the area of the existing windfarm but has become non-commercially viable ground since the construction. With the unprecedented rate of offshore construction off the kent coast we are seeing an alarming amount of ground becoming non-commercially viable through fish not returning after construction. This in turn is displacing fishing vessels onto smaller, diminishing areas of ground that are commercially viable. I fear this project will have a very negative effect on this area and will mean I</p>	<p>It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1..</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		will have to push even further out to sea in an under 10 metre boat."	

### 1.41 RR-041 - Graham Hambly

44 The Applicant's responses to the Relevant Representation RR-041 is presented in Table 42.

**Table 42: Applicants responses to RR-041**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-21	<p>“As a member of the Thanet Fishermans Association and owner of two fishing boats with the go ahead off the Thanet Windfarm extention we are going to loose vital and very important fishing grounds like we did when the windfarm was constructed originally , The larger fishing boats get pushed off the grounds with a knock on effect to the smaller boats one of my boats does go to the designated area while the smaller one stays closer to the harbour , Not only does the building works stop the fish from coming through but the larger boats are displaced and fish more intense on the inshore grounds so the smaller boats have less chance of earning a living therefore some fishermen will have to stop fishing altogether and be faced with loosing their vessels and then a life on benifits as fishing is all they know and is away of life . This is very distressing in such a tight industry.”</p>	<p>It is understood that the respondent is a member of Thanet Fisherman's Association. Please see the Applicant's response to TFA-1.</p>

## 1.42 RR-042 - David Ninnim

45 The Applicant's responses to the Relevant Representation RR-042 is presented in Table 43.

**Table 43: Applicants responses to RR-042**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-22	"I oppose the wind farm extension due to the fact that the existing farm, in its current form, already causes a hinderence to shipping. The planned extension, should it be approved will only make matters worse. This will affect trade to and from the Thames and Medway. Vattenfall have chosen the cheapest option by submitting plans to extend to the west and north and not to the east which would have a less effect on shipping routes. They have built wind farms up to 90km off of Denmark so there is no reason why they cannot extend to the east rather than west, other than that of money. But any extension is not good for the shipping industry and the cost of transporting goods to and from this country."	The array area of the wind is limited to the east of the existing Thanet Offshore Wind Farm due to a steep increase in water depths. This bathymetry has defined the eastern extent of the Order Limits. As reflected in the Applicant's response to the Maritime and Coastguard Agency (MCA) (MCA-1) a Navigation Risk Assessment (PINS Ref APP-089/ Application Ref 6.4.10.1) has been carried for the Project which concludes that marine safety is tolerable. The Applicant is engaging with the MCA as the statutory body responsible for marine safety in UK waters to address outstanding concerns in this regard.

### 1.43 RR-043 - Environment Agency

46 The Applicant's responses to the Relevant Representation RR-043 is presented in Table 44.

**Table 44: Applicants responses to RR-043**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Environment Agency	EA-1	Our relevant representation outlines where further work, clarification or mitigation is required to ensure that the proposal has no detrimental impact on the environment. Our comments –in relation to the impact on the Pegwell Bay saltmarsh and the Water Framework Directive assessment- raise concerns which we believe need to be addressed prior to a development consent order being granted.	These comments are noted and addressed on a point by point basis in relation to the technical points raised.
Environment Agency	EA-2	Table 5.9: Valued Ecological Receptors (VERs) within the Thanet Extension benthic ecology study area, their conservation status and importance. Comment: Unfortunately this table does not include saltmarsh present, which is a valued ecological receptor and has high conservation importance.	This is correct, however it does not change the findings of the assessment as saltmarsh is identified in paragraph 5.7.42 of Volume 2, Chapter 5: Benthic Intertidal and Subtidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) as a valued receptor and potential impacts on it assessed accordingly.
Environment Agency	EA-3	Table 5.10: Maximum design scenario assessed. Permanent loss of saltmarsh from an extension of the seawall seawards of a curved structure (155 x 18.5 m) for worst-case this will result in loss of 0.0014 km2 loss of saltmarsh habitat (which	The Applicant wishes to confirm that Option 2 no longer forms part of the design envelope for the proposed project. As such there will no longer be any permanent loss of saltmarsh.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>represents 0.13% of the saltmarsh present within the SAC – noting that this is the smallest designated site at Pegwell Bay and therefore representing the worst-case in terms of percentage habitat lost). Comment: This is the narrowest section of saltmarsh to the north of the River Stour but any seaward extension at this point (as detailed in report being 18.5m seaward) will effectively bisect the continuous saltmarsh habitats that is present to the north and south of the country park fragmenting the saltmarsh habitats. There is no evidence that new saltmarsh will establish itself in front of this proposed seawall extension and it is more likely this structure will cause local erosion of saltmarsh immediately adjacent to it.</p>	
<p>Environment Agency</p>	<p>EA-4</p>	<p>5.10.25 The magnitude of the impact (taking the embedded mitigation into consideration) has been assessed as Low, with the sensitivity of the saltmarsh being assessed as Medium. Therefore, the significance of effects from direct disturbance occurring as a result of the export cable installation activities is Minor adverse, which is not significant in EIA terms. Comment: This statement only applies to temporary disturbance to the saltmarsh and is not applicable to permanent saltmarsh loss and bisection of saltmarsh habitat as detailed</p>	<p>Potential impacts on the saltmarsh during construction (as noted by the EA in reference to paragraph 5.10.25) and permanent loss (during O&amp;M phase) are both considered within the ES chapter in paragraphs 5.11.18 <i>et seq</i> (PINS Ref APP-046/ Application Ref 6.2.5). As noted within EA-3 option 2 is no longer part of the design envelope for the proposed project and as such the Applicant considers that there is no longer a disagreement with regards the magnitude of impact predicted.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		previously. Therefore we disagree with this statement.	
Environment Agency	EA-5	<p>5.11.19 The total maximum area of saltmarsh loss due to the sea wall works described in Table 5.10 is predicted to be 0.0014 km<sup>2</sup>. This equates to 0.13% of the saltmarsh habitat within the Thanet Coast and Sandwich Bay SAC (it should be noted that the saltmarsh is not a feature of this SAC). Given that this habitat is widespread and common throughout the area, this represents a very small footprint compared to the overall extent. The area of permanent loss of saltmarsh has a maximum extent of 18.5 m from the existing sea wall. The saltmarsh in this area of Pegwell Bay extends between approximately 45 – 110 m from the existing sea wall out to a maximum width of 155 m; consequently, the extension to the sea wall will not give rise to any separation of areas of the saltmarsh habitat. While the impacts will be permanent, the impacts will be localised and will not split the habitat; therefore, the magnitude of the impact is assessed as low. Comment: We disagree with their conclusions because this location is the narrowest section of saltmarsh, this will cause significant bisection of the habitat and no supporting evidence is provided to show that further erosion by the addition of a protruding section of new seawall will not</p>	See Applicant's response to EA-3 and EA-4.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		cause local erosion of existing saltmarsh adjacent to this landfall location.	
Environment Agency	EA-6	5.11.21 While the saltmarsh is a feature of the SSSI, it is not a feature of a Natura 2000 site. The proposed landfall area is an area that is considered to be generally lower value saltmarsh as a result of the areas of saltmarsh being elevated above the wider area such that it is not regularly inundated by tidal water and therefore being dominated by Spartina and grasses. It is therefore considered to be lower quality when compared to other areas of the saltmarsh within Pegwell Bay. The low quality and low potential to improve, combined with the status of the designation, means that the sensitivity of the habitat to the permanent loss of this area of saltmarsh is assessed as medium. Comment: From personal observation, this area does get inundated on high tides. Accordingly, we do not have this evidence for these statements come from. We would like to know if there is there a topographic survey and a Pegwell Bay wide saltmarsh quality assessment and would like to have the opportunity to comment on it.	The Applicant has discussed this point with the Environment Agency and the reference to 'not being regularly inundated' is made in recognition that this area is above mean high water, and at the periphery of mean high water spring, therefore it is accurate to say that the area is not frequently inundated (i.e. inundation occurs on a monthly basis during spring tides). This qualified wording is understood to be appropriate.
Environment Agency	EA-7	4.1.2. Saltmarsh is common throughout Pegwell Bay and is present throughout the proposed cable installation site. The quality of the saltmarsh increases to the south of the Stour, with patchier, less diverse assemblages being found to the north	The Applicant discussed this matter with the Environment Agency in a meeting on 11/10/18. The ES recognises the regional importance of the saltmarsh habitat by reference to its status as a SSSI feature. The ES also recognises that in Pegwell Bay

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>of the Stour. Pegwell Bay saltmarsh is not a recognised feature of the Sandwich Bay SAC. However, it is included as a supporting habitat for roosting and feeding activity for the designated bird species golden plover and turnstone within the Thanet Coast and Sandwich Bay SPA/ RAMSAR and is also a feature of the Sandwich Bay to Hacklinge Marshes SSSI. Comment: Whilst Saltmarsh is present within Pegwell Bay, it only occupies a relatively small area of the total intertidal area and is concentrated around the river mouth. This statement implies that is a common feature and is of less importance. Regionally this area of saltmarsh is extremely important as the map below shows:</p>	<p>and the River Stour saltmarsh is present along the majority of the intertidal interface.</p>
<p>Environment Agency</p>	<p>EA-8</p>	<p>Unlike the Thames estuary/southern North Sea, the Eastern Channel waters have very little saltmarsh available to support the huge range of species that depend on this habitat. Numerous studies (e.g. S.Colclough, et al 1995, Bell F.W. 1997, Boesch D. &amp; Turner R. 1984) have shown the ecological and economic value of saltmarsh in particular relation to commercial and recreational fisheries. Surveys undertaken by the Environment Agency and the Kent and Essex Inshore Fisheries and Conservation Authority (IFCA) in Pegwell Bay show how even single saltmarsh creeks can provide shelter and feeding grounds for</p>	<p>See the Applicant's response to EA-7.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>a wide range of marine fish species e.g. a survey on 11th August 2010 found these species around a single saltmarsh creek at Pegwell Bay.</p> <p>The presence of large numbers of juvenile Bass, Mullet, Herring, Sprat and lesser species show that if these results are scaled up the value to fisheries alone in Pegwell Bay is highly significant and this is one of only two areas of permanent saltmarsh in the Eastern Channel waters between East Sussex and Thanet.</p>	
Environment Agency	EA-9	<p>With regard to the landfall options, we consider that Option 1 is the less damaging to the saltmarsh habitats and should be given highest priority. Option 3 is the second least damaging but has a larger impact upon the saltmarsh than Option 1. These impacts were assessed to be temporary and we agree with this assessment provided careful mitigation measures are taken during the construction phase and baseline topographic heights are reinstated.</p> <p>Option 2 is potentially the most damaging of all and could result in permanent fragmentation of a regionally important habitat. We object to this option.</p>	<p>It is noted that the Environment Agency have identified in order of preference that Options 1 and 3 are considered acceptable. It is also noted that the Environment Agency object to Option 2 on the basis that it will result in fragmentation of a regionally important habitat. Please also refer to the Applicant's response to EA-3 with regards landfall Option 2 no longer being part of the proposed project design envelope.</p>
Environment Agency	EA-10	<p>There does not appear to be a clear evidence pathway that fully explains why alternative landfall sites were discounted, what the constraints were and why options such as running</p>	<p>It is noted that whilst the option to route up the River Stour was not raised during consultation with the Environment Agency within the evidence plan or formal consultation under Section 42 the Environment</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>up the river Stour channel were not assessed other than potential movement of the river channel (this point needs to be explained why it is not feasible in the projected life of the wind farm infrastructure – i.e. is there evidence that the river channel has moved significantly over last 25 years?).</p>	<p>Agency have requested further information on a potential route within the River Stour in relation to river migration. An option was considered within the site selection process to cross the saltmarsh adjacent to the River Stour and in between the intertidal area of Pegwell Bay and the Bay Point Club. This route (Option 1E) was discounted for the reasons detailed at paragraph 4.10.21 in the Site Selection and Alternatives ES chapter (PINS Ref APP-040/ Application Ref 6.1.4) which include concerns regarding the active movement of the river channel as demonstrated within the physical processes chapter (PINS Ref APP-043/ Application Ref 6.2.2). Over the equivalent duration of the operational period of the project (30 years) it can be clearly seen that the river banks have both accreted and eroded and there is therefore a risk of any assets within close proximity to the river becoming exposed. Exposure would result in necessary remedial works, navigational risk, and further erosion and scouring of sediment.</p>
<p>Environment Agency</p>	<p>EA-11</p>	<p>In the case of water quality there are clearly defined concentration limits for whole suites of chemicals which must not be exceeded, and are necessarily numerical and complex in order to justify whether sufficient dilution of contaminant chemicals is available in cases where sediment may be disturbed which contains any of the</p>	<p>The presence of chemical standards is acknowledged by the Applicant with the recommended standards being utilised within the ES and within the WFD assessment (PINS Ref APP-076/ Application Ref 6.4.3.1). The approach undertaken is consistent with other OWF industry assessments and as presented during the Evidence Plan Process (PINS Ref APP-137/</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		chemicals for which standards exist in WFD and EQSD.	<p>Application Ref 8.5). The Applicant considers that the Application has followed industry best practice.</p> <p>As agreed with the Environment Agency, 11<sup>th</sup> October 2018 (and set out in the SoCG), there is no assessment guidance which identifies a method for the assessing contaminants and/ or bacteria released from sediment against the WFD standards. Following discussions with the Environment Agency further information is provided in this response to specific WFD technical questions raised within the Relevant Representation in the Applicant's responses (EA-12 to EA-15) below.</p>
Environment Agency	EA-12	Bathing and shellfish waters are also included as protected elements of WFD water quality, and here the triggers for compliance /non-compliance relate to bacterial concentrations in water and in shellfish flesh respectively. There being no accepted methods to characterise the bacterial levels in sediments, it can be complex and expensive to attempt to predict the transfer of sediment bacteria into the water column (where it might affect bathing water compliance) or from the water column to shellfish flesh, and often it is more sensible to be precautionary about timing the activity to avoid the bathing season altogether (ensuring certainty that bathing waters classification cannot be affected) than take risks	<p>As noted in the Applicant's response to EA-14 a numerical spreadsheet model was constructed to understand the SSC plume dynamics including lateral and vertical dilution as well as temporal nature of the plumes within section 3.3.1 of Volume 4, Annex 2-1: Marine Geology, Oceanography and Physical Processes Technical Report (PINS Ref APP-070/ Application Ref 6.4.2.1).</p> <p>An impact assessment of the increased SSC on Stour (Kent) SFW is presented in paragraphs 3.10.28 to 3.10.32 of Volume 4, Annex 3-1: Water Framework Directive Assessment (PINS Ref APP-076/ Application Ref 6.4.3.1). This assessment concluded that there will</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>which are assumed to be low but are, in reality, unknown due to uncertainty in sediment bacterial concentrations.</p>	<p>be significant impacts in terms of microbiology at the Stour (Kent) SFW.</p> <p>We agree that a seasonal restriction would ensure that the BW quality would not be affected and note that the risks are low. However, given the assessment undertaken we consider having a seasonal restriction to be disproportionate as a negligible significance on bathing water quality was determined in paragraph 3.10.26 (PINS Ref APP-076/ Application Ref 6.4.3.1). See the Applicant's response EA-15 for further consideration of BW quality.</p>
<p>Environment Agency</p>	<p>EA-13</p>	<p>The water quality elements of the WFD Assessment, which the Applicant claims to have undertaken using the Environment Agency's own (Clearing the Waters for All) published guidance for conducting such an assessment, lack any rigorous numerical justification of WFD compliance, and do not provide any justification for "scoping out" water quality from a more detailed impact assessment. Had the Applicant followed our guidance correctly, then they would have identified a potential risk from disturbing sediments which contain "substances on the EQSD list AND substances on the CEFAS list at levels above CEFAS Action level 1"-and this would be an automatic trigger NOT to scope out water quality, but to proceed to "impact assessment" stage-</p>	<p>The Applicant scoped in the disturbance of sediments with contaminants above the Cefas Action Level 1 (AL1) to an impact assessment. This assessment is detailed in paragraphs 3.10.20 to 3.10.24 (PINS Ref APP-076/ Application Ref 6.4.3.1). These paragraphs concluded that there would be no significant effects and no deterioration on the status of the WFD water body. The Applicant notes that only one sample exceeded AL1 for one contaminant (arsenic). As noted in the assessment and recorded in the Evidence Plan Report (PINS Ref APP-137/ Application Ref 8.5) the arsenic contamination recorded is comparable to that of the local area and existing baseline levels.</p> <p>As set out in the Applicant's response to EA-11 there is no published guidance to how an impact</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>where we would expect more detailed and numerical consideration of the potential impacts on water quality.</p>	<p>assessment for contaminants or bacterial releases from sediment disturbance should be undertaken.</p> <p>Therefore in line with other OWF projects the Applicant scoped out the consideration of the EQSD substances on the basis of not having a defined mixing zone. In addition, the proposed activities will not result in the direct introduction of chemicals into the waterbody, i.e. chemicals will be subject to the agreed protocols and controlled by <i>inter alia</i> the project environmental management plan which is secured within the DCO/dML.</p> <p>However, the Project has taken a proportionate approach to the WFD which is consistent with both the recent offshore wind industry and dredging WFD assessments which have been submitted. As discussed with the Environment Agency (18<sup>th</sup> October 2018) a numerical modelling assessments is disproportionate to the risk posed both in terms of the project specific contaminant data and the local environment. See the Applicant's response to EA-14 for further details.</p> <p>The Applicant has undertaken a full impact assessment of all chemicals identified in the project specific sediment sampling, including those on the EQSD list where detected, and is presented in Volume</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>2, Chapter 2: Water Quality and Sediment Quality (PINS Ref APP-044/ Application Ref 6.2.3) in paragraphs 3.10.2 to 3.10.14. This assessment concluded a minor significance on the WFD receptors and was not considered significant in EIA terms. The concentrations of the contaminants recorded in the samples were presented in the ES chapter in terms of the AL1 and the typically more stringent Canadian Marine Sediment Quality Guidelines.</p> <p>For further detail on the consideration of the EQSD see EA-14.</p>
Environment Agency	EA-14	<p>We would expect consideration of the existing background concentrations of these chemicals in the waterbody, and a numerical calculation with any assumptions justified, of the load transfer of each chemical from sediment to water, to calculate what uplift, if any, in the ambient water column concentration would occur at the site where the disturbance of sediment is taking place, how long such uplifts will last and what area of waterbody, if any, may suffer uplifts in concentration that would exceed the EQS limits for the waterbody. There being two standards for some substances (Annual Average, and Maximum Allowable Concentration) for which Environmental Quality Standards (concentration based limits for</p>	<p>A numerical spreadsheet model for the dispersion of SSC was created for the project and the informs the potential changes to SSC as a result of construction activities. This model is similar to those constructed for other OWF projects such as Burbo Bank Extension, Triton Knoll Electrical System, and Walney Extension and was discussed under the auspices of the EIA Evidence Plan and agreed as appropriate (Application Ref 8.5). The information, assumptions and principles of the model are outlined in section 3.3.1 of Volume 4, Annex 2-1: Marine Geology, Oceanography and Physical Processes Technical Report (PINS Ref APP-070/ Application Ref 6.4.2.1). Section 3.3.3 (PINS Ref APP-070/ Application Ref 6.4.2.1) presents a worked example (of 30kg/s of fine sediment being released)</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>water) exist, both need consideration where both have limits. No figure for dilution capacity in the receiving water body has been provided, so the conclusions that the activity remains WFD compliant for water chemistry remains opaque.</p>	<p>of calculating an initial concentration (prior to lateral and vertical dispersion).</p> <p>As presented in section 3.3.3 (<i>ibid</i>) and Table 11, the SSC as a result of dredging activities, are akin to those to be undertaken in the OECC (see section 3.3.4), demonstrate a reduction of SSC by two orders of magnitude within 50 m lateral dispersion (which would occur within five to ten minutes after release). Therefore, a high number of dilutions will be achieved rapidly given the ambient current speed and water depth within the OECC. Furthermore, as noted in section 3.3.3 based on monitoring evidence from the aggregates industry up to 90% of the sediment load will behave as density load and will descend to the seabed rapidly relative to the settling rate for individual grains.</p> <p>Additionally, in section 3.3.3 of 6.4.2.1 it is described that "Sufficiently fine sediment may persist in suspension for hours to days or longer but will become diluted to very low concentrations (indistinguishable from natural background levels and variability) within timescales of around one day."</p> <p>Therefore, a numerical consideration of the plume dynamics of sediment grains of different settling velocities has been considered and presented within</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>the Application. The results from these numerical predictions can be used to infer the number and rate of dilutions which would be achieved by any released contaminants as a result of the proposed activities.</p> <p>The concentrations of all contaminants found within the site specific surveys are presented in Annex D.2 of Volume 4, Annex 2-4: Geophysical Investigation Report 3 of 3 – Geophysical Site Survey (PINS Ref APP-073/ Application Ref 6.4.2.4) (noting that this is in fact the benthic characterisation report) and Table 2, Volume 4, Annex 5-1: Export Cable Route Intertidal Report (PINS Ref APP-081/ Application Ref 6.4.5.1) for the array area and the OECC respectively.</p> <p>As noted in Table 3.9 of Volume 4, Annex 3-1: Water Framework Directive (PINS Ref APP-076/ Application Ref 6.4.3.1) only one sample, specifically for arsenic, within the waterbody were above AL1 and this was taken forward for an impact assessment (see the Applicant's response to EA-12). Paragraph 3.10.24 (PINS Ref APP-044/ Application Ref 6.2.3) concluded that no significant effects in terms of contamination of WFD waterbodies and the proposed activities not expected to impact their chemical status.</p> <p>It is noted that the resultant concentrations, following dilution, are not presented in terms of the Annual</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>Average (AA) or the Maximum Allowable Concentration (MAC) thresholds within Volume 4, Annex 3-1: Water Framework Directive Assessment (PINS Ref APP-076/ Application Ref 6.4.3.1). However, the numerical model results presented in 6.4.2.1 indicate that that a reduction of two orders of magnitude would be achieved within ten minutes. Therefore, given the high number of dilutions and the very short timescales of these plumes it is considered highly unlikely that the proposed works would result in a breach of the WFD waterbody's Annual Average (AA) concentration of the EQSD substances detected.</p> <p>The use of the Cefas Guideline Action Levels was undertaken as part of a 'weight of evidence' approach to assessing material suitability for disposal at sea. Cefas guidance indicates that, in general, contaminant levels below AL1 are typically of no concern and are unlikely to influence the licensing decision. There is not a Maximum Allowable Concentration (MAC) EQS for Arsenic. It is considered highly unlikely that the MAC EQSs threshold will be exceeded for any of the substances as a result of disturbing sediment in the water body from the proposed activities given the fates of the plumes (as described in PINS Ref APP-070/ Application Ref 6.4.2.1). In addition, under normal circumstances, very small concentrations of contaminants enter to the dissolved phase, with the</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>vast majority adhering to the sediment particles when temporarily entering suspension in the water column. Partition coefficients may be applied to estimate the concentration of the contaminants entering the dissolves phase. The concentrations entering the dissolved phase are typically several orders of magnitude lower than the concentrations associated with suspended sediments.</p> <p>For example, based on an initial SSC concentration of 6000 mg/l (PINS Ref APP-070/ Application Ref 6.4.2.1) and the maximum recorded arsenic concentration of 60.1 mg/kg (PINS Ref APP-076/ Application Ref 6.4.3.1). This is equating to an initial/ instantaneous concentration of 360.6 µg/l released. However, only 3.606 µg/l of dissolved arsenic would be released when using a partition co-efficient of 100 l/kg<sup>1</sup>. The concentration would occur for between 30 seconds to one minute before reducing by an order of magnitude (PINS Ref APP-070/ Application Ref 6.4.2.1). The concentrations for arsenic at three of the EA's Thames monitoring stations, Thames at London Bride, Thames at Erith and Thames at Oven Buoy, recorded arsenic concentrations at &lt;1 – 2.29, 1.97 – 3.43 and 1.94- 3.19</p>

<sup>1</sup> Allison, J.D. and Allison, T.L. (2005). Partition Coefficients for Metals in Surface Water, Soil, and Waste. United States Environment Protection Agency (USEPA). EPA/600/R-05/074, July 2005.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>µg/l respectively between 2015 and 2016<sup>2</sup>. Therefore, the concentrations of dissolved arsenic when considered in-combination (7.04 (3.606 µg/l + 3.43 µg/l) with the highest concentration recorded background concentration (3.43 µg/l) would not exceed the AA for arsenic (25 µg/l).</p> <p>Therefore, based on the sediment survey data the MAC or AA would not be exceeded by contaminants, in particular arsenic, in the dissolved phase. Moreover, given the short term nature of the works and the sediment plumes and small uplift in the water concentrations would be anticipated to return to background levels very quickly. Therefore, given the temporal nature of the works the chemical status of the water body, both locally to the works and at sampling points, would remain unaffected as a result of the proposed works.</p>
Environment Agency	EA-15	Similarly the conclusions regarding the activity being benign for bathing water quality are largely based on drawing parallels with earlier activity, which is no guarantor of future bathing water quality, as the bacterial levels in the sediments were not tested either then or now, and the prediction of compliance is based entirely on the	As identified in Table 3.5 of Volume 4, Annex 3-1: Water Framework Directive (PINS Ref APP-076/ Application Ref 6.4.3.1) the closest designated BW (Ramsgate Western Undercliffe) is with 0.1 km of the OECC.

<sup>2</sup> <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010021/TR010021-000743-TfL%206.3.10.1%20ES%20Appendix%2010A%20WFD%20R1.pdf>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>assumption that there will be adequate dilution of any mobilised load before it reaches the bathing water. Again no dilution factor is actually provided so this is speculative, and as the initial load (bacterial concentration in sediment) is unknown anyway, there may or may not be sufficient dilution. As the actual risk is unknown, it would be safer to have a requirement within the Development Consent Order which allows for a temporary cessation of works should the bathing waters be seen to deteriorate when work is in progress. This would probably be a more proportionate and acceptable option than to require that the sediment disturbing operations are limited to occur outside the bathing waters monitoring period – which is the only certain means of ensuring the activity cannot impact upon bathing water quality if the sediments do contain significant bacterial loads at the time of disturbing them.</p>	<p>However, as presented in the Applicant's response to EA-11, the concentrations of SSC, and so any suspended bacteria within the sediment, will be reduced by at least two orders of magnitude when the plume reaches the BW (as noted in EA-11.) Figures 3.4 to 3.6 of 6.4.3.1 present the historical compliance of the three identified BWs between 2004 and 2016. The years in which Thanet OWF was constructed are indicated to further support the conclusions of the assessment presented in paragraph 3.10.26; wherein given the predicted dilution, the temporary nature of the effect and the increase in the bacteria mortality in the water column (due to exposure of UV light) the increases of bacteria at the BWs were concluded to be negligible.</p> <p>It is agreed that no sampling information of bacteria in the sediment is available. However, given the high performance of the BWs in Pegwell Bay as presented in Figures 3.4 to 3.6, it would suggest that any elevated bacterial concentrations sediments (if present) do not reduce the overall BW performance as a result of resuspension during storm events or the clearance/dredging of the Ramsgate Harbour approaches (see paragraph 14.3.14 of Sand Wave Clearance, Dredging and Drill Arising: Disposal Site Characterisation (PINS Ref APP-148/ Application Ref 8.14). Furthermore, the Applicant reviewed the</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>Bathing Water Profiles produced by the Environment Agency to help identify potential sources of bacteria. The emergency outfall from the Westcliff Pumping Station has been “designed to not affect bathing water compliance”<sup>3</sup> and so is not anticipated to result in high bacterial concentrations in its vicinity given its proximity to the Ramsgate Western Undercliffe BW which is currently performing as Excellent. Furthermore, during the installation of the Nemo Interconnector cable no elevated bacterial concentrations were recorded at the bathing waters which were attributed to the works.</p> <p>Whilst the Applicant notes that the mortality rate for bacteria in sediment can vary between days to weeks, numerous dredging and cabling laying activities have been undertaken within Pegwell Bay, in addition to natural storm events, and regular maintenance dredging is undertaken for the approach to Ramsgate Harbour which is immediately adjacent to the BW; all of which have not lead to BW failures. Given, the spatial proximity and the similarity of works it is not anticipated that the proposed cable works for Thanet Extension will result in a non-compliance at the Bathing Waters.</p>

<sup>3</sup> <http://environment.data.gov.uk/bwq/profiles/profile.html?site=ukj4210-12900>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>Given the low risk of the proposed works as identified in the assessment (consideration of similar activities and anecdotal evidence) and discussed with the EA the Applicant considers having a requirement within the DCO for temporary cessation should the water quality at the BWs deteriorate to be disproportionate. Not only is it considered very unlikely that the BW would deteriorate but it would also be very difficult to attribute any deterioration to the works as could be a result of numerous factors within the catchment which can be temporary in nature.</p>
<p>Environment Agency</p>	<p>EA-16</p>	<p>This is not to say that we believe the activity will result in a WFD deterioration, the general points made about high (but unspecified) levels of dilution may well suggest compliance, but we consider that the current assessment does not provide the detailed "impact assessment" arguments of a more technical and numerical nature that we would consider a proper part of the WFD water quality assessment. Arguments for compliance need to be supported by evidence.</p>	<p>The Applicant welcomes the conclusion that the proposed activities are unlikely to result in a WFD deterioration.</p> <p>The approach undertaken is consistent with other OWF industry assessments and the Applicant considers the assessment to have followed industry best practice. As agreed with the Environment Agency there is no assessment guidance which identifies a method for the assessing contaminants and/ or bacteria released from sediment against the WFD standards.</p> <p>As noted in the response to EA-11 a numerical spreadsheet model was constructed to understand the SSC plume dynamics including lateral and vertical dilution as well as temporal nature of the plumes</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>within section 3.3.1 of Volume 4, Annex 2-1: Marine Geology, Oceanography and Physical Processes Technical Report (PINS Ref APP-070/ Application Ref 6.4.2.1). A full and more detailed technical assessment of marine water and sediment quality is provided within in Marine Water Quality and Sediment Quality chapter (PINS Ref APP-044/ Application Ref 6.2.3) in addition to the WFD Assessment (PINS Ref APP-076/ Application Ref 6.4.3.1).</p>
<p>Environment Agency</p>	<p>EA-17</p>	<p>As additional site investigation works are required to assess the on-shore impacts as part of the detailed design process we request these elements are included in any consent requirements. The wording in the draft DCO appears to cover these issues adequately and further investigation and relevant actions should follow CLR11 protocols to comply with these requirements.</p>	<p>As discussed during a meeting held on the 11<sup>th</sup> October with the Environment Agency it is recognised that the site investigation data that is ordinarily undertaken pre-construction is sought to be carried out pre-consent to inform the optionality currently assessed within the ES. It is agreed that the detailed design is secured within the DCO and agreed that the CLR11 protocols will inform management of the excavated material, where relevant.</p>
<p>Environment Agency</p>	<p>EA-18</p>	<p>The CLAIRE Definition of Waste: Development Industry Code of Practice (version 2) provides operators with a framework for determining whether or not excavated material arising from site during remediation and/or land development works are waste or have ceased to be waste. Developers should ensure that all contaminated materials are adequately characterised both chemically and physically, and that the permitting</p>	<p>See the Applicant's response to EA-17.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		status of any proposed on site operations are clear. If in doubt, the Environment Agency should be contacted for advice at an early stage to avoid any delays.	
Environment Agency	EA-19	The Environment Agency recommends that developers should refer to: <ul style="list-style-type: none"> <li>· the Position statement on the Definition of Waste: Development Industry Code of Practice and;</li> <li>· The Environmental regulations page on GOV.UK</li> </ul>	See the Applicant's response to EA-17.
Environment Agency	EA-20	Any re-use of excavated materials not undertaken formally using the CLAIRE DoWCoP would require an environmental permit for deposit, unless materials are solely aggregates from virgin sources, or from a fully compliant Quality Protocol aggregates supplier. Any deposit of materials outside of these scenarios could be subject to enforcement actions and/or landfill tax liabilities.	See the Applicant's response to EA-17.
Environment Agency	EA-21	Provided the recommendations and guidance provided within the submitted Flood Risk Assessment are followed, we have no flood risk related concerns or requirements related to the development proposed. As per our previous response, we would encourage further engagement with us once more is known about the chosen option for the Transition Joint Bay (TJBs) (i.e. the general areas where the cable	The Applicant notes the Environment Agency's position on flood risk and will engage further during the detailed design phase post-consent.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		comes ashore and the associated transition arrangements).	
Environment Agency	EA-22	We would also recommend that we are contacted to discuss the means of crossing the Minster Stream, along with any other works within 16m of the tidal River Stour (or within 8m of the Minster Stream). Any such works will require a Flood Risk Activity Permit prior to the commencement of any construction within the byelaw margins. This is of particular concern owing to the outlined proposals for the required reconstruction of the existing culvert.	It is noted that a FRAP will be required prior to works on the Minster Stream. As confirmed on the 11 <sup>th</sup> October 2018 it is also noted that the Minster Stream culvert is not an Environment Agency asset and therefore no protective provisions are required with regard to the Environment Agency and the Minster Stream culvert.

### 1.44 RR-044 - Winckworth Sherwood LLP on behalf of Estuary Services Limited

47 The Applicant's responses to the Relevant Representation RR-044 is presented in Table 45.

**Table 45: Applicants responses to RR-044**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Estuary Services Limited	ESL-1	<p>“Estuary Services Limited ("ESL") is a company jointly owned by Port of London Authority and Peel Ports, set up in 1988 to provide pilot boarding and landing services at the North East Spit (from Ramsgate) and The Warps (from Sheerness). ESL serves approximately 10,000 vessels per annum – c7,000 at the NE Spit area – and employs 35 seagoing staff, some with over 30 years' experience in fast pilot launch boarding and landing operations in the area. ESL is concerned about the proposals to extend the existing Thanet Offshore Wind Farm, located in the Thames Estuary in the area served by ESL, due to their potential impact on the safety of navigation and the efficiency of ESL's maritime operations. The wind farm extension proposals are in close proximity to the boarding locations utilised by ESL, with that at the North East Spit most affected.</p>	<p>Estuary Services Limited's role within the project area is noted and the Applicant has welcomed the contribution made by ESL to the supporting studies for the project Navigational Risk Assessment (PINS Ref APP-089/ Application Ref 6.4.10.1)) and ongoing consultation.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Estuary Services Limited	ESL-2	<p>ESL considers that any extension to the west of the existing wind farm will significantly increase the risks to navigation, particularly for vessels using the North East Spit pilot boarding and landing area to enter or depart the Thames Estuary. The North East Spit boarding and landing area was created as a result of the construction of the existing wind farm, being the next most suitable location for the serving of the majority of vessels. The outer Tongue boarding and landing area was later instated due to concerns from some larger ships in approaching the hazard of the wind farm.</p>	<p>The risks considered by ESL have been identified and considered in detail within the NRA (PINS Refs APP-089/ Application Ref 6.4.10.1) and the relevant chapter of the ES (PINS Ref APP-051/ Application Ref 6.2.10). The methodology of assessment has been recognised by the MCA (Ref: MCA-1) and THLS as being in accordance with MGN 543 and published risk assessment methodology. The NRA concludes that the increase in risk is ALARP and tolerable.</p> <p>Whilst it is accepted that usage of the wider North East Spit Pilot Boarding Area was modified following construction of the existing wind farm, the location of the NE Spit Pilot Station has remained in approximately the same location (as reported in Section 7.2.1 of NRA (<i>ibid</i>)) and an additional Pilot Station (Tongue) introduced to provide an alternative deep draught option for larger vessels (see: PLA Passage planning Guide: <a href="https://www.pla.co.uk/assets/passageplanningguide2013-3.pdf">https://www.pla.co.uk/assets/passageplanningguide2013-3.pdf</a> ).</p> <p>Deeper draught traffic entering/departing the Thames Estuary generally transit via the SUNK in accordance with the PLA Pilotage Directions (due to the existing limiting depth of water within the Princes Channel and Fisherman's Gat) and so subsequently existing usage of the Tongue Pilot Boarding Station is low (this is confirmed through analysis of the vessel traffic survey data).</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>Furthermore, it is noted that many existing vessels entering or departing the Thames Estuary to the north of the wind farm (transiting in an east/west direction) deviate from their route and into the area between E Margate Buoy and the existing wind farm (rather than utilise the Tongue). This is illustrated in Figures 1 presented within the responses to ExA questions at Appendix 25.</p>
<p>Estuary Services Limited</p>	<p>ESL-3</p>	<p>The Applicant's proposals would force more vessels to use the outer Tongue pilot boarding station, which would itself be pushed further from the shore. This would adversely affect where ESL operates, and lengthen transfers, necessitating additional vessels, maintenance, fuel and personnel. The longer distance to run launches would result in a lesser service and longer delays, particularly in heavy weather where safe transfer of pilots would be at risk. As such, the proposals would have a significant impact on the efficient operation of ESL's boarding and landing service, seriously diluting the level of service to the ports.</p>	<p>The risks with regards to marine navigational safety are considered within the NRA and ES chapters and have been assessed according to industry standard practice. The study demonstrated that the continued operation of NE Spit remains viable, and with tolerable risk, and therefore the Applicant does not consider that vessels will be forced to use the Tongue Pilot Station. The operational impacts on ESL's operations (i.e. pilotage operations) are considered in detail in Section 7.2 of the NRA (PINS Ref APP-089/ Application Ref 6.4.10.1) and the early Pilotage Study submitted with the PEIR also considered pilot launch transfer distances and times of the NE Spit relative to Tongue and NE Goodwin.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Estuary Services Limited	ESL-4	<p>Navigational safety is also a concern for ESL. The proposals would reduce the sea room to the west of the existing wind farm, affecting the shipping corridor running north west/south east between the wind farm and the shore. Even with the Applicant's modifications, the proposals would push vessels further west towards shallower waters and reduce the width of the sea room in this area by 50%. The North East Spit boarding and landing area may well become unusable, particularly at certain tides and where the prevailing south-westerly wind would tend to push vessels towards the wind farm turbines.</p>	<p>See the Applicant's response to ESL-2 and ESL-3. With regards to the shipping 'corridor' of through traffic running north west/south east it is noted ) that vessels on this 'route' currently transit in the western portion of this area (closer to the shallower waters as stated) and do not use all the width sea room currently available to them. With the extension in place there is a small encroachment into the profile of existing traffic and loss of sea room. The Applicant considers that the reduction in sea room is acceptable as referenced in Section 7.3 of the NRA (PINS Ref APP 089/ Application Ref 6.4.10.1).</p>
Estuary Services Limited	ESL-5	<p>Other impacts of the proposals in respect of navigational risk include loss of the line of sight where inbound vessels may no longer be visible to outbound vessels, backscatter of lights and possible loss of radar targets.</p>	<p>See the Applicant's response to ESL-2 and ESL-3. The Applicant has considered impacts with respect to the potential for effects on visual navigation and communications, radar and positioning systems within Sections 7.8 and 7.9 of the NRA (PINS Ref APP 089/ Application Ref 6.4.10.1).</p>
Estuary Services Limited	ESL-6	<p>ESL seeks protection within the Order against sedimentation of the channels in the approach to the Port and for measures to minimise navigational risk.</p>	<p>The ES has undertaken a detailed numerical modelling of the potential impacts associated with increased sedimentation within the region. The Physical Processes ES chapter (PINS Ref APP-043/ Application Ref 6.2.2), which has been subject to rigorous review during the statutory consultation period is considered a robust</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>assessment and the conclusions equally robust. There is not therefore a significant risk of sedimentation of the channels in the approach to Port as is concluded within the chapter.</p> <p>As such, the Applicant does not consider that any further measures are required.</p>



**1.45 RR-045 - Member of the Public (labelled from Estuary Services Ltd in PINS library)**

48 The Applicant's responses to the Relevant Representation RR-045 is presented in Table 46.

**Table 46: Applicants responses to RR-045**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-24	"Safe navigation of vessels into and out of The Thames estuary. How much of an eye sore.....!!! we all ready have.....!!! , Cost and how much more of taxpayers money is going to be wasted...!!! Damage to the local fishing industry ( fishing grounds )."	This is noted by the Applicant.

## 1.46 RR-046 - Hazel Soper

49 The Applicant's responses to the Relevant Representation RR-046 is presented in Table 47.

**Table 47: Applicants responses to RR-046**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Member Of Public	MOP-25	<p>"I object to the extension in that Vattenfall Wind Power Ltd has not made it known it is a wholly owned subsidiary of the Swedish State, with the confirmed intention to retain state ownership and not to allow privatisation. As such its interests are solely to benefit its shareholders, the Swedish State. Vattenfall has disseminated a leaflet in Thanet which says "Many told us they wanted to recognise Thanet's world leading role in renewables". In that case, many have made clear they wish Thanet to have a world leading role, they have not expressed a want for the Swedish State to have such a role in Thanet. The educational benefits in Thanet appear limited to education in energy consumerism. As a state backed operation there has been no open competition, and unless there is some sharing with the UK state, there should be more investigation into Vattenfall/Sweden's activity in UK waters. "</p>	<p>As described in the Application, for example paragraph 9 of the Non-Technical Summary of the Environmental Statement (PINS Ref APP-129/ Application Ref 6.7.1), Vattenfall Wind Power Ltd (VWPL) is a subsidiary of Vattenfall AB which is owned by the Swedish state. VWPL has operated in the UK for 10 years and to date has invested more than £3 billion into UK wind projects, both onshore and offshore. Further details on the structure of Vattenfall and the company's involvement in the UK and more locally in Kent can be found in Section 2 of the Planning Statement (PINS Ref APP-134/ Application Ref 8.2).</p>

## 1.47 RR-047 - Historic England

50 The Applicant's responses to the Relevant Representation RR-047 is presented in Table 48.

**Table 48: Applicants responses to RR-047**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Historic England	HE-1	On 1st April 2015 Historic England was vested (retaining the formal title of the Historic Buildings and Monuments Commission for England) and is now the government service championing England's heritage and giving expert, constructive advice. Historic England has had significant pre-application discussion with the Applicant, providing comments on the Scoping and PEIR stage. Historic England has maintained a constructive partnership and been fully engaged with the Applicant at this stage of the planning process on all aspects of the historic environment and its heritage assets, on land (onshore) and on the seabed (offshore).	The Applicant notes and welcomes the continued engagement by Historic England for both onshore and offshore matters of relevance to the historic environment and archaeology.
Historic England	HE-2	1. We note that the levels of harm caused by the proposal to onshore designated heritage assets have been amended since the PEIR report. We are not in a position to comment in detail on these amended levels of harm, but will provide substantive	The Applicant welcome the continued dialogue with Historic England, noting the site visit and discussions held on the 4 <sup>th</sup> December 2018.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>comments at the DCO response stage. We do however question the report's assessment of the harm to Margate's Conservation Area which has been assessed as negligible and the assessment of the relationship between the buildings within it to the sea.</p>	
Historic England	HE-3	<p>2. We do not agree with the stated level of impact upon onshore geoarchaeological deposits. Further assessment of this impact, and appropriate geoarchaeological mitigation, should be discussed with Ben Found of Kent County Council (KCC). The availability of geoarchaeological data is disparate for the area; any further geoarchaeological assessment should therefore be undertaken with the aim of contributing to an overall, integrated deposit model for the Wantsum Channel Area.</p>	<p>The Applicant welcome continued discussion on this matter and have presented a draft onshore Written Scheme of Investigation (WSI) at Appendix 40 of the Applicant's Deadline 1 Submission, and to KCC directly, for consultation. The draft WSI represents the basis of the final document provided for within the draft DCO requirements (Requirement 22 – Archaeological written scheme of investigation) and this will provide further information on geoarchaeological deposits and will inform the necessary mitigation measures to be adopted. The Applicant also refers to the confirmation from Kent County Council in Relevant Representation response KCC-19 that the general mitigation is supported, subject to a submitted written scheme of investigation.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Historic England	HE-4	<p>3. Further assessment of the potential for 20th century anti-invasion defences at and buried archaeology relating to the possible Caesarian invasion site (both in Pegwell Bay), may also be necessary to inform design of a route that will avoid harm as far as possible; these matters should be discussed further with Ben Found.</p>	<p>The final alignment of the project will take into account any baseline pre-construction site investigations that are undertaken, in accordance with the WSI. A worst case assessment has been undertaken that considers the potential for impacts on 20<sup>th</sup> century anti-invasion defences and buried archaeology relating to any possible Caesarian Invasion site.</p> <p>This has been discussed with Ben Found on KCC on [Insert Date] and [conclusion of that discussion] OR This is being discussed with Ben Found of KCC and a meeting has been arranged on [Insert].</p>
Historic England	HE-5	<p>4. KCC's Heritage Team is best also placed to advise the Applicants about their detailed scheme design and archaeological work, but we are ready to contribute if we can add value, particularly if archaeology of national significance emerges. Archaeological mitigation of unavoidable harm is likely to be necessary.</p>	<p>The final alignment of the project will take into account, where possible, any baseline pre-construction site investigations that are undertaken. This will be set out in a draft onshore WSI which forms Appendix 40 of the Applicant's Deadline 1 submission. DCO Requirement 22 requires that consultation takes place with KCC prior to that being approved by the relevant planning authority. Continued liaison with Historic England and the KCC heritage team is welcomed.</p>
Historic England	HE-6	<p>5. With regard to implementing the Offshore Written Scheme of Investigation (WSI), in accordance with any Development Consent Order (DCO) (including a Deemed Marine Licence) secured for this proposed project, Historic England considers clear</p>	<p>The offshore WSI (Appendix 39 of the Applicant's Deadline 1 submission which supersedes PINs Ref APP-141/ Application Ref 8.6) provides for consideration of the optimisation of survey methods to ensure that any data is fit for the purpose for which it was</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		and systematic time-framed method statements will be required to optimise survey opportunities. Each planned package of work - in addressing the need for appropriate mitigation for predicted impacts to potential archaeology - should also include the objectives of local and national research frameworks.	designed and provides for archaeological analysis where appropriate.
Historic England	HE-7	6. We note and welcome (from the Offshore Archaeology and Cultural Heritage – Document Ref: 6.2.13, para. 13.4.26 and WSI respectively) that gaps in existing geophysical/geotechnical data will be acquired prior to construction. In the planning of the geotechnical survey it is important that the appropriate depth for continuous stratigraphy is incorporated - to mitigate impacts to deposits of high archaeological potential. Additionally boreholes should be stored and maintained to maximise archaeological objectives.	The request to ensure pre-construction data are planned appropriately is noted. The WSI provides for the consideration of archaeological investigation during the survey planning and will continue to inform post-consent liaison with Historic England. Post consent liaison will include design of appropriate geotechnical surveys with Historic England to ensure that appropriate data are collected.
Historic England	HE-8	7. Within the Draft DCO (Document Reference 3.1), the wording under the subheading 'Pre-construction plans and documentation' in Schedule 11 (Deemed Licence under the 2009 Act – Generation Assets) and Schedule 12 (Deemed Licence under the 2009 Act – Export Cable System)	This is noted by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		requires amendment and we will supply revised wording in our Written Representation.	
Historic England	HE-9	8. Close to the proposed development is the Goodwin Sands, an extremely dynamic mobile sand bank, well recognised as a major seafaring navigational hazard over the centuries, containing sediments conducive to the preservation of significant heritage assets. Added to this, at times, sediments can cover heritage assets at substantial depths masking their identification by standard methods of geophysical survey techniques. The Applicant is therefore encouraged to accurately address and consider the changing nature of the seabed, in relation to the total depth and width of the trenches required for the installation of the export cables, and in respect to the high potential for buried objects of archaeological interest."	It is considered that Volume 4, Annex 13-1: Marine Archaeological Desk-based Assessment Technical Annex (PINS Ref APP-091/ Application Ref: 6.4.13.1) adequately consider the effects associated with the Project and Goodwin Sands. The effects are summarised in paragraph 13.7.26 of Volume 2, Chapter 13: Offshore Archaeology and Cultural Heritage (PINS Ref App-054/ Application Ref 6.2.13 and concluded that the Goodwins have international and localised significance in terms of heritage not only as the gateway to the Continent, and as a major navigational hazard. The effects are considered primarily to be positive in terms of secondary sedimentation of existing features, but this is considered in the context of the changing nature and high mobility of the seabed within the area.

### 1.48 RR-048 - Kent Wildlife Trust

51 The Applicant's responses to the Relevant Representation RR-048 is presented in Table 49.

**Table 49: Applicants responses to RR-048**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Kent Wildlife Trust	KWT-1	<p>"Kent Wildlife Trust (KWT) is the county's leading nature conservation charity which manages over 60 nature reserves covering over 8,000 hectares across Kent. We are supported by over 31,000 members and some 1,000 registered volunteers. KWT aims to protect and improve habitats in the countryside, coasts, seas and towns for the benefit of wildlife. This representation focuses on our longstanding strong objection to the onshore cable landfall route, and includes comments regarding offshore cables and monitoring proposals.</p>	<p>The Applicant acknowledges KWT's role as a conservation charity, and the long-standing objection to the proposed onshore cable route.</p>
Kent Wildlife Trust	KWT-2	<p>We strongly object to the chosen landfall option of Pegwell Bay due to the direct impacts on its important nationally and internationally designated habitats. Sandwich and Pegwell Bay comprises a National Nature Reserve (NNR), Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Ramsar site and Special Protection Area (SPA). We believe that alternative routes with less of an impact on designated areas have not been adequately assessed. KWT has repeatedly requested the evidence behind the</p>	<p>The Applicant acknowledges KWT's objection. The ES and supporting information provides a detailed account of the consideration of multiple designations and, importantly, the features within them (Site Selection and Alternatives (PINS Ref APP-040/ Application Ref 6.1.4), and Report to Inform Appropriate Assessment (PINS Ref APP-031/ Application Ref 5.2) and gives detailed accounts of the sites considered and assessments undertaken of potential effects on the relevant sites.</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>claim made by the Applicant that there is ecological parity between the chosen landfall (Pegwell Bay) and other potential (since discounted) landfall options; however the evidence provided to date has been limited.</p>	<p>The Site Selection and Alternatives chapter sets out where consideration of ecological receptors and other constraints have been assessed at each stage of the project's development. The reference to 'ecological parity' is not made in the chapter, however the assessment at paragraphs 4.9.24 – 4.9.27 explains that for the two landfall options presented the impacts, following mitigation, on ecological receptors and designations were broadly comparable with a slight favourability toward Pegwell Bay (option 1). The outcomes of the ES confirm that no significant effects are predicted for onshore or intertidal ecology. As is recognised in all assessments of potential effects to designated sites, the sites themselves should not represent a barrier to development, it is the consideration of likely significant effects that should inform the suitability of a given project within a designated site. This is apparent in the multiple developments in designated sites within UK waters that have not resulted in an effect on the integrity of those sites, and which form an important component in the consideration of subsequent project developments through informing potential mitigation measures and the confidence in those mitigation measures.</p> <p>The ability of the receiving environment to accommodate a given impact and recover from an</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>effect is an important consideration in all assessments. In the case of Pegwell Bay the non-designated, non-priority habitat intertidal mudflats do not form part of the designated sites. They form a supporting habitat for the SPA over wintering bird assemblage and as such the seasonal restriction on works mitigates the effects on the overwintering bird assemblage during this critical phase. This commitment has been welcomed by all parties and has been secured within Condition 10 of the Export Cable System dML (if granted).</p> <p>As set out in paragraph 4.9.26 of the Site Selection and Alternatives chapter (PINS Ref APP-040/ Application Ref: 6.1.4) the relevant features of the Sandwich Bay SAC are those that fall south of Pegwell Bay and are more closely associated with the other landfall option to the south (Sandwich Bay option) that was discounted post-scoping. The information that informed this decision included both initial site specific 'scoping surveys' (surveys that aid in the focussing or 'scoping' of the more detailed Phase 1 surveys) and through desk based freely available data.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Kent Wildlife Trust	KWT-3	When an onshore ecological surveying programme was circulated by the Applicant, it was stated that ecological surveys would be carried out along two potential onshore cable routes (Pegwell Bay and Sandwich Bay landfall route options). However, the majority of ecological surveys (with the exception of ornithological surveys) were only carried out along one route – the Pegwell Bay landfall route. The Applicant has therefore not provided comparative ecological data from other potential onshore options. Full and comparable ecological surveys should have been carried out on both potential onshore routes before the landfall decision was made in order to influence this decision.	The ecological surveys were planned with a view to characterising the receiving environment in which the proposed project would take place, as is required by the EIA Regulations and Habitats regulations. It is not a requirement of legislation or policy, necessary or indeed possible to undertake a comprehensive survey of all potential options of a project. Instead the site selection and alternatives process has considered the weight of evidence available at the time and a judgement was made on the best option. The weight of evidence available included environmental considerations, engineering feasibility, and practicality. This process is described in detail within the Site Selection and Alternatives chapter (PINS Ref APP-040/ Application Ref 6.1.4).
Kent Wildlife Trust	KWT-4	Without adequate evidence KWT cannot accept arguments of parity since the original options show high levels of variability in areas of designated onshore and intertidal habitats affected. KWT therefore maintains its overarching objection to this development.	Please see the response to KWT-2.
Kent Wildlife Trust	KWT-5	KWT do not agree that examining the features of designated sites in isolation (for instance, when conducting recommended Marine Conservation Zone (rMCZ) assessments, SSSI assessments) is sufficient. A more thorough and comprehensive approach is to conduct full assessments which	The Applicant has followed the available guidance with regards undertaking assessments of potential impacts on MCZs and/or SSSIs. Whilst the integrity of the overall site is a material consideration, interaction with the features and the conservation objectives associated with those features and which are recorded on the MCZ designation form the primary basis for

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>encompass the designated site as a whole, not just the designated features.</p>	<p>assessment. This approach is set out in the MCZ Assessment (PINS Ref APP-083/ Application Ref 6.4.5.3)</p>
<p>Kent Wildlife Trust</p>	<p>KWT-6</p>	<p>The Marine Management Organisation (MMO) has granted permission to the Dover Harbour Board to dredge part of the Goodwin Sands rMCZ, which is in close proximity to the proposed development. Therefore, the Applicant will need to evaluate the cumulative impacts of the proposed dredging activity alongside the current proposal.</p>	<p>The relevant cumulative effects associated with reasonably foreseeable projects have been included throughout the ES, including within the RIAA and MCZ assessments (PINS Refs APP-03 and APP-083/ Application Refs 8.5 and 6.4.5.3 respectively).</p> <p>As presented in the Applicant's response on ExA Written Question 1.1.46 (Appendix 25 of the Applicant's Deadline 1 submission) the Applicant considered the Dover Harbour Marine Licence application and concluded there would be no temporal overlap between the two projects.</p>
<p>Kent Wildlife Trust</p>	<p>KWT-7</p>	<p>We approve of the turbines and offshore export cable corridor being micro-sited to avoid areas of biogenic reef. However, we would like to see the evidence behind the suggestion that biogenic reefs are likely to reform over the top of buried offshore cables.</p>	<p>The Applicant welcomes KWT approval of the micro-siting of cables around biogenic reef and the agreement with Natural England on the principles which inform the biogenic reef mitigation plan. The evidence of reef reforming following disturbance is available through monitoring of existing windfarm projects, where those reports have been published by the MMO, and through publicly available sources which are encouraged by relevant environmental management organisations such as IEMA which encourages the use of the MarLIN habitat sensitivity resources. Details of these reports, including those</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			specifically for the TOWF are included in Appendix 34 of the Applicant's Deadline 1 submission.
Kent Wildlife Trust	KWT-8	We seek reassurance that the offshore cables will be buried to a sufficient depth (at least 1m) in order to reduce the impacts of Electromagnetic Field (EMF) on benthic species and reduce the likelihood of the cables becoming exposed.	As noted within the Application documents (PINS Ref APP-041/ Application Ref 6.2.1), where practicable the cables will be buried to a target depth as defined by the post-consent Cable Burial Risk Assessment. In the absence of this other suitable forms of protection will be employed. The EIA assesses the realistic worst case scenario, where shallow burial results in EMF impacts and concluded, through reference to the available literature referred to within the relevant chapters, that no significant effects are anticipated on benthic species. Appropriate protection will be employed to ensure that the potential for the exposure of cables is reduced as much as is reasonably possible.
Kent Wildlife Trust	KWT-9	We believe that post-construction benthic monitoring should be incorporated into the conditions of the Deemed Marine Licence (DML). This will provide comparative data for pre- and post- construction conditions in and around the windfarm which can be added to existing datasets and literature on UK windfarms to help inform future offshore developments. This would also follow best practice and is a way of examining whether the pre-construction assumptions made by the Applicant were accurate.	Pre- and post-construction benthic monitoring is proposed in the context of the biogenic reef mitigation plan and the saltmarsh mitigation and reinstatement plan. This is secured by condition 15(2) of the Generation Assets dML (Schedule 11 of the DCO) and condition 13 (2) of the Export Cable System dML (Schedule 12 of the DCO). Monitoring for previous OWFs has informed future monitoring and provided a material consideration in the review of post construction monitoring for OWFs undertaken by MMO. As documented within the outputs of that study monitoring should address uncertainty. Thanet extension is in the position that as it is an extension to

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>a project, it has had significant monitoring associated with it and the uncertainty with regards potential effects on the receiving environment are well understood and limited in uncertainty. The uncertainty is limited to locations of ephemeral biogenic reefs and as such the monitoring is proposed to focus on these sensitive features.</p>
<p>Kent Wildlife Trust</p>	<p>KWT-10</p>	<p>We suggest that post-construction monitoring of the cable route is carried out to measure the presence or absence of biogenic reefs and species on the sediment overlaying the cables.</p>	<p>This is acknowledged and captured within the Biogenic Reef Mitigation Plan (Appendix 43 which supersedes PINS Ref APP-149/ Application Ref 8.15) and associated monitoring requirement. This is secured by condition 15(2) of the Generation Assets dML (Schedule 11 of the DCO) and condition 13(2) of the Export Cable System dML (Schedule 12 of the DCO).</p>

## 1.49 RR-049 - Marine Management Organisation

52 The Applicant's responses to the Relevant Representation RR-049 is presented in Table 50.

**Table 50: Applicants responses to RR-049**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-1	<p>1.1 The DCO includes a Schedule (Schedule 9) detailing the process for arbitration, which is supported by Article 36 and several conditions throughout the DCO. The process for arbitration detailed in this DCO proposes that any difference shall be referred to and settled in arbitration in accordance with the rules at Schedule 9 of the DCO. Whilst not referenced in the DMLs, the MMO assumes that the Applicant intends for this provision to also apply to any difference between the regulator and the undertaker in respect of the DMLs. In comparison to previously used articles for arbitration, the process sets out significantly different conditions and timeframes, which the MMO considers are inappropriate, and therefore strongly recommends, should be removed from the DCO.</p>	<p>Model article 42 provides an arbitration provision and the inclusion of such a mechanism has existed, in this regard, since the creation of the Planning Act 2008. Such arbitration mechanisms based on the model provision have not however been utilised by the undertaker or other parties to date at the implementation stage of development as it is not considered fit for purpose. The Applicant teams' experience working on a number of DCOs (for offshore wind farms but also a wide range of infrastructure projects) has brought to bear the simple fact that there is an available provision created by the development consent order regime that is not utilised in order to resolve any areas of disagreement when discharging requirements or conditions within a DCO. Particularly, the provision does not contain any structure, timings or outcomes that allow it to operate properly as an arbitration provision. The Applicant has developed the model article in order to give it real effect and to make it more appropriate for</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>use by either party, by providing effective timeframes and detailed guidance.</p> <p>The DCO process has moved forward by some measure since its inception and it is important to ensure the provisions that exist to govern it actually work and will be adopted by the parties subject to any development consent order.</p> <p>The proposed arbitration provision is the only mechanism to resolve disputes within the dMLs and therefore it is an important inclusion in order to provide a fair, impartial and final award on substantive difference between parties.</p> <p>The Applicant agrees entirely with the MMO that arbitration should not be the first point of call when a difference of opinion is encountered. The proposed arbitration provision does not contradict this approach. The arbitration process would only begin in the event of non-determination or non-approval through the conditions set out in the dML. The MMO would therefore have a minimum of four months to consider their position on the matter and would have already undertaken consultation with their technical and legal advisors and other consultees. It is extremely likely that further discussions</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>would continue following the end of the determination period set out in the dML and would include discussions on the potential for using the arbitration provisions. The MMO and their advisors would have a significant amount of time to consider the issues that could ultimately be presented at arbitration and to reach a conclusion on their position. The 14 day period is therefore appropriate; it allows for this already known information to be collated and avoids further delays. Allowing six weeks for further consultation would negate the purpose of the arbitration provisions in seeking a conclusion in a reasonable timeframe following a lengthy but ultimately unsuccessful process to discharge a condition under the dML.</p> <p>The Applicant notes the MMO's comment regarding the allocation of costs. The Applicant does not agree that the provision contradicts with the principle of the 'Polluter Pays', which is an entirely separate compliance regime relating, as it does, to the effects of the production of pollution. The Applicant does however appreciate that some proportionality is required in the consideration of cost and, as occurs with section 78 appeals within the Town and Country Planning 1990 regime, proposes to include wording in</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>order to clarify that each party would bear their own costs, subject to an unreasonable behaviour clause.</p> <p>The Applicant is not seeking to dis-apply statutory provisions regarding confidentiality and the arbitration process would be subject to the Freedom of Information Act and the Environmental Information Regulations. This does not need to be stated on the face of the dML as that statutory mechanism already exists and can be readily utilised accordingly. The confidentiality provision intends to ensure that correspondence between the parties during the arbitration remains confidential and is not required to be published by the Planning Inspectorate or on the MMO's website.</p>
Marine Management Organisation	MMO-2	<p>1.2 The interpretation of 'commence' for both the DCO and DMLs excludes offshore site preparation works. The definition for 'Offshore Site Preparation Works' specifically includes surveys and monitoring but also sandwave levelling and boulder clearance. Such a definition also has the potential to include Unexploded Ordnance (UXO) clearance and other works. The DML will need to define UXO works if being consented (see comment 1.73) The MMO considers that offshore preparation works must be included in the</p>	<p>The Applicant notes the representation and is content to include wording within the DMLs to require seabed preparation works to be included in a plan to be submitted for approval by the MMO within the revised order before any phase or phases of the licensed works commence, which will be amended within the draft Order (as provided in Appendix 35 of this response) for Deadline 1. To be clear, it will be proposed that this plan is submitted as part of the "pre-commencement" works as defined within the</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>interpretation of 'commence'. This would allow for appropriate consultation and formal consideration of such works and their potential impacts on marine protected areas and habitats. Exclusion of these works from the definition of 'commence' would allow the developer to undertake sandwave levelling, boulder relocation and other activities prior to the agreement of any required mitigation, sufficient consideration and consultation upon construction methods and monitoring plans and prior to the requirement to perform any necessary pre-construction monitoring surveys. See paragraph 1.7 for further information.</p>	<p>draft Order.</p> <p>The Applicant notes the MMO's comment regarding UXO clearance and refers the MMO to the Applicant's response to MMO-45.</p>
<p>Marine Management Organisation</p>	<p>MMO-3</p>	<p>1.3 The proposed timescales conditioned in the DMLs require a response period of 8 weeks following receipt of all pre, during and post construction documentation. The MMO considers that this would not provide sufficient time for consultation and subsequent comment, based on the experience of offshore wind farm licence management in the past. The MMO recommends that as long as reasonably possible but an absolute minimum period of 6 months is applied for consideration of post-consent documentation submission to allow for sufficient stakeholder consultation and comment to be provided. (Please also see comment 1.59 in regards to recommended timescales to agree survey plans).</p>	<p>The DMLs do not contain a timescale requiring of 8 weeks following receipt of all pre, during and post construction documentation. The Applicant suggests that this must be a misreading on the MMO's part. The DMLs require each programme, statement, plan or scheme requiring MMO approval to be submitted for approval at least four months prior to the commencement of the licensed activities (Schedule 11, Part 4 (14) and Schedule 12, Part 4 (12)).</p> <p>The Applicant maintains that the four month time frame conditioned within the DMLs is appropriate and proportionate to allow the MMO sufficient time for stakeholder consultation and the</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>The MMO also requests the removal of the requirement that any failure to provide a decision in time may lead for the matter to be referred to arbitration. Please see paragraph 1.10 for further detail.</p>	<p>provision of comments, whilst ensuring no unnecessary delay to the commencement of development. This time period is contained on a number of other offshore wind farm DCOs and is established as an appropriate time frame and one that ensures the expedient discharge of the necessary conditions attached to the DML.</p> <p>The Applicant notes the MMO's comment regarding timescales for the arbitration provision and refers the MMO to the response to MMO-01.</p>
<p>Marine Management Organisation</p>	<p>MMO-4</p>	<p>1.4 The volumes and figures presented in the DCO are not always represented within the ES project description. On numerous occasions, the total figures for cable protection, scour protection and disposal volumes do not match across the ES, the DMLs and Schedule 1 of the DCO. The MMO requests that these volumes and figures for maximum parameters are provided in a clear table to allow for accurate consideration of the potential impacts of these elements of the proposed development, and requests that this level of clarity is reflected in the maximum parameters set out in the DMLs. Please see paragraphs 1.19, 1.20 and 1.59 for further detail.</p>	<p>A tabulated clarification note is included as Annex A to this representation which provides detail of all assessed parameters.</p> <p>The Applicant notes the representation and will produce a table clearly referencing the maximum scour protection volumes and disposal volumes with the documents submitted for Deadline 1. The Applicant is content to provide the volumes and figures for maximum parameters on the face of the DMLs in the revised draft Order submitted for Deadline 1.</p>
<p>Marine Management Organisation</p>	<p>MMO-5</p>	<p>1.5 The MMO recommends that figures for maximum sandwave levelling and boulder clearance should be included in the DCO/DMLs to</p>	<p>A tabulated clarification note is included as Annex A to this representation identifying all assessed</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>ensure that the limits permitted under the DML are clearly defined and adhered to. For sandwave levelling this should include both the maximum footprint and maximum volume.</p>	<p>parameters has been submitted by the Applicant for Deadline 1.</p>
<p>Marine Management Organisation</p>	<p>MMO-6</p>	<p>1.7 Part 1(2) (page 6) "commence" and offshore site preparation works. Interpretation of 'commence' and 'offshore site preparation works'. The MMO does not agree with the definition of commence which currently excludes seabed preparation and clearance. This interpretation implies that offshore site preparations works such as UXO clearance, pre- grapnel runs or sand wave levelling can be undertaken without being subject to any notifications and inspections (condition 6), aids to navigation (condition 7), or pre-construction plans, documentation or surveys (conditions 12-15). Offshore site preparation works have been identified in the ES as having the potential to cause significant impacts on the marine environment. The MMO therefore considers that offshore site preparation works should be included within the definition of commence, in order to ensure that the works cannot be undertaken until the pre-construction documentation for those activities has been approved by the MMO and all pre-construction monitoring has been undertaken (where relevant). The MMO considers that pre-construction surveys</p>	<p>See the Applicant's response to MMO-02.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>and monitoring activities should be the only activities that can be excluded from the interpretation of 'commencement'. This interpretation of 'commencement' should be applied throughout the DMLs within Schedules 11 and 12.</p>	
<p>Marine Management Organisation</p>	<p>MMO-7</p>	<p>1.8 Article 5(1) and 5(13) (page 10) Benefit of the Order. The MMO notes that the DMLs cannot be split and will be transferred in whole, and that any obligation regarding the DML is not discharged when the licence is transferred or leased for anything that occurred before that transfer. As referenced within Section 1 of the DML, the undertaker of the current DCO means "Vattenfall Wind Power Limited". Should the benefit of the order be transferred, it is the responsibility of the undertaker to ensure that all details on the DML are accurate. It is the undertaker's responsibility to ensure that for monitoring and enforcement purposes, the DML reflects a new undertaker if the benefit of the order is transferred. Where a benefit of the order is transferred, the undertaker must formally notify the MMO to submit a variation to request such a change. The undertaker must provide written notification to Secretary of State, the MMO and the relevant planning authority at least 14 days prior to transferring or granting any benefit. The MMO notes that article 5 has included</p>	<p>The Applicant notes the representation and is aware of the obligations on the undertaker should the benefit of the order be transferred. Article 5 of the DCO sets out these obligations.</p> <p>The Applicant notes the MMO's comments regarding the arbitration process and refers the MMO to the Applicant's response to MMO-01.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		reference to arbitration under article 36. Where the SoS is minded to refuse any application or fails to determine an application within 8 weeks of receipt then the Undertaker may refer the matter for determination under article 36 (arbitration). Whilst the MMO is an interested party in the process, and as such is unable to provide advice on the mechanics of the DCO process or what is permissible under the Planning Act 2008 / PA 2008, it disagrees with the inclusion of the arbitration conditions and timeframes. Please see paragraph 1.10 for further detail.	
Marine Management Organisation	MMO-8	1.9 Part 6, 29 (page 24) Operations. The MMO requests that the permitted timeframe for the operational phase of the generation station is referenced here. See also comment 1.29 and 1.38.	The operational life of the wind farm is stated as being "expected to be 30 years". This is an approximation only and is used for the purposes of the environmental statement primarily to make clear that all topic chapters have undertaken their assessment assuming that any operational impacts would be long term. That period of 30 years is not specifically relied upon as a result. It is not appropriate, nor necessary, to anyway limit time period of the consent.
Marine Management Organisation	MMO-9	1.10 Article 36 (page 27) – Arbitration. Article 36 proposes that any difference shall be referred to and settled in arbitration in accordance with the rules at Schedule 9 of the DCO. In comparison to previously used articles for arbitration, Article 36 sets out significantly different conditions and	See the Applicant's response to MMO-01.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>timeframes, which the MMO does not consider to be appropriate. The MMO therefore recommends this article be removed from the DCO and DMLs. The Applicant's reasoning for departing from the model provision and for including the extended clause is that it agrees with the approach on the draft Hornsea Three Offshore Wind Farm Order in that "this approach will provide greater certainty to all parties involved in the process and is preferential to the approach adopted in the model provisions". It is the MMO's opinion that the proposal goes beyond providing greater certainty. Arbitration provisions tend to follow model clauses and be confined to disputes between the Applicant/beneficiary of the DCO and third parties e.g. in relation to rights of entry or rights to install/maintain apparatus. The MMO does not consider that it was intended to apply such provisions to disagreements between the undertaker and the regulator, and strongly questions the appropriateness of making any regulatory decision or determination subject to any form of binding arbitration as set out by Article 36 and Schedule 9. It is the MMO's opinion that Article 36 and Schedule 9 would shift the MMO's decision making responsibility from the hands of the regulator with primary responsibility for administering the marine licensing regime to an</p>	



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		independent arbitrator. This would be contrary to the intention of Parliament set out in the MCAA 2009 and would potentially usurp the role of the MMO as a regulator. The MMO therefore requests removal of Articles 36(2) and (3) from the DCO. Please find below the detailed reasoning in support of this request. [bullets in full rep] Please also see comments on Schedule 9 (comments 1.21 to 1.24)	
Marine Management Organisation	MMO-10	1.11 Article 38 (page 27) – Abatement of works abandoned or decayed. The MMO requests that Works no 2 is also included in this article.	The Applicant notes the representation and is content to include Work no. 2 in this article in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-11	1.12 Part 1, 1(d) - Work number 1 (d) and Works 3. Work No 1 and Works No. 3 note the inclusion of one or more cable crossings. The maximum number of crossings is not mentioned in Schedule 1 Part 3 requirements. The ES project description Table 1.10 and Table 1.17 states 9 cable crossings for the inter array cables and 20 for export cables. However, the maximum number of crossings is not mentioned in Schedule 1 Part 3 requirements. The maximum number of cable crossings assessed in the ES represents the maximum number of crossings that are permitted. The maximum parameters should therefore be clearly defined on the DCO and, accordingly, in both DMLs.	A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-12	1.13 Part 1, 1 (page 29) – authorised development. Work No. 1 and Works No. 3 note the inclusion of 'one or more' cable crossings. The maximum number of crossings is not mentioned in Schedule 1 Part 3 requirements. The ES project description Table 1.10 and Table 1.17 assessed 9 cable crossings for the inter array cables and 20 for export cables. The maximum number of cable crossings should be clearly defined on the DCO as this sets out the maximum number of crossings permitted for the development. This also applies to part 3 of Schedules 11 and 12.	A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.
Marine Management Organisation	MMO-13	1.14 Part 1, 1, Further Works (b) (page 31). The cable protection measures include "with or without the use of frond devices". The ES project description for the frond mattress describes "continuous lines of overlapping polypropylene fronds (Chapter 1, paragraph 1.4.54). The MMO considers the use of polypropylene fronds should be avoided where possible due to potential degradation and release of plastic into the marine environment. This also applies to part 3 of Schedules 11 and 12.	Following discussion with the MMO on 8 <sup>th</sup> October 2018 it is understood that this relevant representation does not represent the current position of the MMO and that frond mattressing may be used where appropriate. As such, no changes are proposed to the draft Order.
Marine Management Organisation	MMO-14	1.15 Part 1 Further Works (c) (page 31) - Disposal volumes. The DCO states "In connection with Work Nos. 1 to 3 and above the MLWS to Work No. 3A and 3B to the extent that they do not otherwise form part of any such work, "further	A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>associated development comprising..." states the maximum disposal volume as 1,728,000 cubic metres. This total appears to match the totals for the worst case scenario reported within the disposal site characterisation report. Total disposal volumes stated on the DMLs are 1,430,317.3m<sup>3</sup> (generation assets) and 1,449,600m<sup>3</sup> for Schedule 12 (transmission assets). When added together the total is 2,879.917.3m<sup>3</sup> which is significantly more than the maximum amount stated in the DCO. See below for breakdown. The MMO queries whether the array cables will require any seabed preparation works as the ES project description for array cable installation is similar to that of the export cables, where disposal of 1,440,000m<sup>3</sup> is required. The MMO seeks clarification on the actual disposal quantities required and where these were derived from in the ES. The MMO requests that the maximum disposal volumes for each activity are clearly defined on the DML, and that the disposal volumes are split into licensed quantities for each type of material e.g. drill arisings, boulders, sand etc. to clearly define the maximum amount of each type of disposal material to that which is permitted. For example the current wording of the DCO/DML would allow for the disposal of more drill arisings than has been assessed in the ES. This would cause greater</p>	

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>impact as potentially drill mounds persist for years, while disposal of sand may be distributed relatively quickly. Schedule 11 Generation DML Part 3 details of activities: Condition 1 (2) (d) (i) 1,112,647.4 m<sup>3</sup> for Wind Turbine Generator (WTG) Conditions 1 (2) (d) (ii) 39,269.9m<sup>3</sup> for Meteorological Mast (Met Mast) installation Condition 2 (4) (c) 278,400m<sup>3</sup> for associated development Total for Schedule 11: 1,430,317.3 m<sup>3</sup>. Schedule 12 Transmission DML Part 3 details of activities: Condition 1 (d) (i) 9,600m<sup>3</sup> for Offshore substation (OSS) Condition 1 (d) (ii) 1,440,000m<sup>3</sup> for export cable installation Total for Schedule 12: 1,449,600m<sup>3</sup>. Total disposal on DMLS: 2,879,917.3m<sup>3</sup></p>	
Marine Management Organisation	MMO-15	<p>1.16 Part 1, 1 (i) (page 31) Further Works. The MMO requests confirmation that part (i) referencing works to alter the course of, or otherwise interfere with, non-navigable rivers, streams or watercourses only includes works that are located above the level of mean high water springs (MHWS).</p>	<p>The Applicant notes the representation and can confirm that part (i) refers only to the temporary interference with non-navigable rivers, streams or watercourses located above the level of mean high water springs (MHWS). The draft Order will be amended to make this point clear.</p>
Marine Management Organisation	MMO-16	<p>1.17 Part 3, 3(1) (page 34) requirements The requirement states that the maximum number of Floating Lidar Devices (FLD) must not exceed one. The ES project description states one FLD and one wave buoy. The wave buoy should also be included within the requirement.</p>	<p>The Applicant notes and agreed with the representation made and the amended wording will be included in the revised draft Order submitted for Deadline 1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-17	<p>1.18 Part 3, 2(1)(b) (page 34) requirements. The draft DCO references a maximum hub height of 140 metres to the height of the centreline of the generator shaft forming part of the hub when measured from HAT. However, ES project description does not detail the maximum hub height. Additionally, ES project description table 1.14 (Maximum design envelope for the offshore Meteorological Mast (Met Mast) states the maximum hub height is "a figure not provided on the ES project description". The MMO requests clarification on where the WTG height of 140m is stated and assessed.</p>	<p>A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.</p>
Marine Management Organisation	MMO-18	<p>1.19 Part 3, 4 (page 35) - Detailed offshore design parameters. This requirement details the length of cables and the volume of cable protection. The impact assessed in the ES (e.g. Chapter 5 Table 5.10: Maximum design scenario assessed) includes both the footprint area of impact. Both the maximum volumes and area of impact should be clearly defined on the DCO and DMLs in order to ensure the impacts remain within the worst case scenario assessed. Additionally, the ES project description only clearly defines the maximum area of cable protection for the export and inter array cables, but does not define the maximum volume. For cable crossings a cable protection volume per crossing is provided, which</p>	<p>A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>allows the total volume for cable protection at cable crossings to be calculated. However, for array and export cable installation these figures are not evident. This makes it difficult to be certain the correct figures are included within the DCO. Figures in project ES description: Table 1.9 array cables 80,000m<sup>2</sup>. Table 1.10 array cables cable crossings 12 x 1000m<sup>2</sup> Table 1.16 export cables 210,000m<sup>2</sup>. Table 1.17 export cables cable crossings 20 x 1000m<sup>2</sup>. Figures on DCO: Array cables 92,000m<sup>3</sup>. Export cables 145,000m<sup>3</sup>. Clarity on how these figures were derived, and the maximum quantities that are permitted on the DCO/DMLs, is required.</p>	
<p>Marine Management Organisation</p>	<p>MMO-19</p>	<p>1.20 Part 3, 5 (page 35) – Detailed offshore design parameters. Scour protection is given as a total volume for the entire project (1,112,647m<sup>3</sup>). The ES project description, table 1.7, pages 1-16 details a maximum volume of 1,112,647m<sup>3</sup> for WTGs which matches the volume stated on the DCO. However, tables 1.12 and 1.13 in the ES project description give the maximum footprint of the scour protection area for the offshore substation as 7,854m<sup>2</sup>, this would be in addition to the scour protection stated for the WTG. Clarification is required on the maximum volume of scour protection that is permitted for the offshore substation. The maximum volume and</p>	<p>The Applicant notes the representation and a tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>footprint of scour protection permitted for each activity should then be clearly defined on the DCO/DMLs, in order to ensure scour protection is installed within the predicted maximum parameters assessed in ES. Recent experience related to construction of an offshore windfarm has highlighted an issue that a developer had adhered to only volumes on the licence. This led to an impact that was several times the area assessed (but within the volume assessed). Therefore, the use of volume alone is no longer considered appropriate. This also applies to figures given within Schedules 11 and 12. Additionally clarification is sought on whether cable protection is required for the proposed offshore Met Mast, and if so, what volumes/footprint has been assessed.</p>	
<p>Marine Management Organisation</p>	<p>MMO-20</p>	<p>1.21 General comment. Notwithstanding the MMO's position set out in comments 1.10 above, in the MMO's opinion, arbitration should be a measure of last resort, following open discussions and debates between the regulator, developer and relevant stakeholders. Schedule 9 implies that arbitration will be the first point of call should any difference in opinion be encountered. The MMO considers the DCO approval process should allow for the Secretary of State to refuse an arbitration request due to other issue resolution options being</p>	<p>Please see Applicant's response to MMO-1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		available. The MMO therefore considers that the proposal for an independent arbitration process should be removed, together with the subsidiary conditions proposed in the draft DCO. Current procedures in place to resolve disputes have been proven to be effective in taking account of relevant stakeholder perspectives to enable appropriate consideration of their views in line with existing legislation (see Paragraph 1.10).	
Marine Management Organisation	MMO-21	1.22 Provision 3 (page 83) – Timelines. The timeline within this provision would require the MMO to undertake consultation with its consultees and produce reports within 14 days of notice. The MMO considers the time period proposed to be insufficient to allow for appropriate consultation and any necessary legislative assessments which may arise from the fulfilment of conditions. The proposed 14 day timescale for responses would present unacceptable resource implications for the MMO and its consultees. The MMO generally recommend time scales of a minimum of 6 weeks. This includes a 4 week consultation period and a 2 week determination period.	Please see Applicant's response to MMO-1.
Marine Management Organisation	MMO-22	1.23 Provision 6 (page 85) - Costs. This provision stated that the award of costs will be made by the arbitrator and would be based on the degree of success of the party as stated under provision 6(4).	Please see Applicant's response to MMO-1.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>It is the MMO's interpretation that, in the event that any arbitration decision goes against the opinion of the MMO, the MMO may be required to cover any cost for the arbitration process including the costs to the developer and other parties involved. The MMO considers that such an approach would directly contradict the 'Polluter Pays' principle which underlines a sustainable approach to environmental consenting. The MMO considers that the costs associated with determining a marine licence (or any part of it) including any costs for arbitration should not be borne by the taxpayer, but should be solely borne by the Applicant, unless it is deemed that a party has acted unreasonably or in bad faith. Moreover, such an approach may encourage developers to resolve issues by challenging them through arbitration early in the consideration process, since only limited discussions and expert involvement would be expected to have taken place at this stage. The MMO is concerned that such an approach could hinder MMO's ability to make robust decisions based on best available evidence.</p>	
Marine Management Organisation	MMO-23	<p>1.24 Provision 7 (page 85) – Confidentiality This provision states that all matters discussed as part of the arbitration process must remain confidential. As the matters discussed will relate to environmental consenting decisions, the MMO is</p>	Please see Applicant's response to MMO-1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>confident that it would not be able to refuse a request for such information under the Freedom of Information Act or the Environmental Information Regulations (2004). Confidentiality clauses for arbitration process discussions would directly contradict the requirement for transparency in decision making.</p>	
<p>Marine Management Organisation</p>	<p>MMO-24</p>	<p>DCO Schedule 11 Deemed Marine Licence – Generation Assets. The comments made below should, where appropriate, be duplicated in Schedule 12 and are to be read across both DMLs [1.25 to 1.73]</p>	<p>The Applicant notes the representation and has applied the comments below accordingly.</p>
<p>Marine Management Organisation</p>	<p>MMO-26</p>	<p>1.26 Part 4, 5 (page 95) - Maintenance. The ES project description states that various Operational &amp; Maintenance (O&amp;M) activities are included in the ES. However, for non -cable related activities the impact assessment (Chapter 1, Section 1.6), appears to be limited to the number of jack up vessels required over the lifetime of the project. No detail is provided on the total number of licensable activities that have been assessed under each category (e.g. anode replacement / ladder replacement) either in the Project Description or the Operations and Maintenance plan. The MMO requires these amounts to be stated in any standard marine licence application for O&amp;M activities and considers that the maximum number of instances that each discrete O&amp;M activity will</p>	<p>As agreed with the MMO in a meeting on 8<sup>th</sup> October 2018 it is not necessary to quantify all volumes of material to be deposited into the marine environment (i.e. volumes of bird guano are not necessary). The controlling factor for assessments is the factor that results in the effect - i.e. for O&amp;M activities vessel anchors/spud can deployments represent effects for assessment. The total number of activities is used to calculate the scale of effect, and it is appropriate to control this in terms of total annual vs total project lifetime effects etc., but it is not necessary to enumerate the component activities themselves in the dML. Arguably aside from providing the justification for the total numbers of activities sought, the component activities are immaterial.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>be undertaken needs to be defined in DMLs and the O&amp;M plan. In addition, an assessment of expected volumes of material to be deposited in the marine environment from the activities is required (e.g. J-tube, ladder cleaning, and bird waste removal). Please also see comments on Outline Operations and Maintenance Plan point 8.1.</p>	<p>The Applicant retains the view that it is not reasonable to state the maximum number of instances for each O&amp;M activity over the lifetime of the project. O&amp;M activities must be undertaken in accordance with the Environmental Statement, which assesses long term effects on the basis of a reasonable estimation of the lifetime of the wind farm. The Applicant will need to ensure that any O&amp;M activity is not undertaken outwith the assessment provided in the Environmental Statement. Providing a precise number of O&amp;M activities creates unnecessary rigidity within the DCO that is not required when any such application of activities is still subject to MMO monitoring and enforcement. Unnecessarily constraining the provisions contained within the DCO could potentially result in the asset not capable of maintenance without further MMO approval due to reliance on outdated figures and estimations. This would increase pressure on both the Applicant and the MMO in the delivery and administrative burdens of the project. Retaining some flexibility in this condition is therefore advantageous to both parties and does not result in any lack of control on the part of the MMO.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-27	<p>1.27 Part 4 (decommissioning) The MMO recommends the inclusion of decommissioning condition; some suggested wording is provided for consideration;</p> <p>a) No decommissioning activities may commence until a plan for the carrying out of the activities has been submitted to and approved in writing by the MMO</p> <p>b) The plan must be submitted for approval at least six months before the intended start of the decommissioning activities, except where otherwise stated or unless otherwise agreed in writing by the MMO.</p> <p>c) The plan must be implemented as approved.</p>	The Applicant is content to include the amended wording suggested by the MMO relating to decommissioning in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-28	<p>1.28 Part 4 (Dredge disposal) The MMO recommends the inclusion of the following conditions in relation to disposal activities:</p> <ul style="list-style-type: none"> <li>· 'The licence holder must notify the MMO within 48 hours of the completion of the final authorised disposal at disposal site (reference to be provided).' To ensure that the disposal sites are closed in line with OSPAR recording requirements.</li> <li>· 'Any man-made material must be separated from the dredged material and disposed of on land.' to ensure that no man-made material is disposed to sea.</li> </ul>	The Applicant is content to include the amended wording suggested by the MMO relating to dredge disposal and this will be provided in the revised draft Order submitted for Deadline 1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-29	1.29 Interpretations The lifetime of the project given in the ES project description is 30 years. This is an important metric for the assessment of impacts. The project operation lifetime should be defined in the interpretation section and limited to the period assessed in the detailed impact assessment chapters of the ES. See also comment 1.9 and 1.38.	The operational life of the wind farm is stated as being "expected to be 30 years". This is an approximation only and is used for the purposes of the environmental statement primarily to make clear that all topic chapters have undertaken their assessment assuming that any operational impacts would be long term. That period of 30 years is not specifically relied upon as a result. It is not appropriate, nor necessary, to anyway limit time period of the consent.
Marine Management Organisation	MMO-30	1.30 Part 1, 1 (page 88) "2007 Regulations", "European Offshore Marine Site and "European Site" This requires updating to the Conservation of Offshore Marine Habitats and Species Regulations 2017.	The Applicant notes and agreed with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-31	1.31 Part 1, 1 (page 88) "authorised deposits" This should say "authorised deposits" means the substances and articles specified in Part 2, paragraph 2(3) of this licence.	The Applicant notes and agreed with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-32	1.32 Part 1, 1 (page 88) "authorised scheme" This should say "authorised scheme" means Work No. 1 and 2 described in Part 2, paragraph 3 of this licence or any part of that work; In addition "authorised scheme" includes Works No. 2 which is for Offshore Substation. The MMO seeks clarity of the intention as to which DML work No. 2 will be built under, and preference is for the construction to be captured on one DML only. The	The Applicant notes the representation and is content to include the Offshore Substation only in the Deemed License for the Export Cable System. The wording in the generation DML will be amended appropriately to remove all reference to the construction of the Offshore Substation in the revised draft Order submitted for Deadline 1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>DMLs should act as standalone marine licences, and as such, as a minimum; a condition should be included to each DML requiring the undertaker to confirm which DML the substation will be built under, prior to the submission of pre-construction plans/documentation.</p> <ul style="list-style-type: none"> <li>· Part 3, 2(3) (page 93) – licensed marine activities</li> <li>· Part 4, 3(3) (page 95) - Design parameters – the reference to OSS should be removed</li> <li>· Part 4, 12(1)(b)(iv) (page 99) - Pre-construction plans and documentation</li> </ul>	
Marine Management Organisation	MMO-33	<p>1.33 Part 1, 1 (page 88) –“cable protection” “cable protection” includes frond devices. The ES project description for the frond mattress is comprise continuous lines of overlapping polypropylene fronds. The MMO does not support the introduction of plastic into the marine environment. This also refers throughout the DML e.g. Part 3, 2 (4)(b) (page 94).</p>	<p>Following discussion with the MMO on the 8<sup>th</sup> October 2018 it is noted that this does not represent the current position of the MMO and that frond mattressing may be used where appropriate.</p>
Marine Management Organisation	MMO-34	<p>1.34 Part 1, 1 (page 89) “commence” and “pre-commencement works” Interpretation of “commence” and “offshore site preparation works”. The MMO does not agree with the definition of commence including save for ‘seabed preparation and clearance’ and considers that pre-construction surveys and monitoring should be the only licenced works not included in the</p>	<p>See the Applicant's response to MMO-02.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		interpretation of 'commencement' and 'pre-commencement works'. See comments at 1.7.	
Marine Management Organisation	MMO-35	1.35 Part 1, 1 (page 89) "condition" This should read: "condition" means a condition in Part 4 of this licence.	The Applicant notes and agreed with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-36	1.36 Part 1, 1 (page 89) "licensed activities" This should read: activities specified in Part 2 of this licence.	The Applicant notes and agreed with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-37	1.37 Part 1, 1 (page 90) "offshore platform" The MMO notes and agrees with the interpretation of 'Offshore substation' in Schedule 12 as the detailed description and request this is used across both DMLs for consistency. However as indicated in point 1.32, the MMO seeks clarity of the intention of inclusion of the offshore substation on both DMLs.	See the Applicant's response to MMO-32.
Marine Management Organisation	MMO-38	1.38 Part 2, 1 (page 92) – licensed marine activities- general The DML should reference the end date or lifespan of the operation/maintenance. See also comment 1.9 and 1.29 above.	See the Applicant's response submitted for MMO-29.
Marine Management Organisation	MMO-39	1.39 Part 2, 2 (page 92) – licensed marine activities- general This refers to benefit of the Order and cross references to article 6, this should be corrected to article 5.	The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-40	1.40 Part 3, 1(a) (page 93) 1(a) refers to "the deposit at sea of the substances and articles specified in sub-paragraph (3) below:" The MMO queries whether this is the correct reference.	The Applicant notes the representation and considers that the reference to sub-paragraph 3 is the correct reference. This will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-41	1.41 Part 3, 1(d) and 2(4)(c) (page 93-94)- licensed marine activities Please note the specific disposal site reference number will need to be inserted once the number has been provided to MMO by Centre for Environment Fisheries and Aquaculture Science (Cefas). In addition please see comment 1.15 regarding clarification required on the disposal quantities and sediment types required.	The Applicant notes the representation and agrees that the specific disposal site reference number will be inserted once it has been provided.
Marine Management Organisation	MMO-42	1.42 Part 3, 2(1)(d) (page 93) – licensed marine activities It is noted that maximum number of cable crossings permitted under the licence are not included here. As they are licensed activity they should be clearly defined and limited to the maximum number of crossings assessed in the ES.	The Applicant notes the representation and a tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.
Marine Management Organisation	MMO-43	1.43 Part 3, 2(2)(b) (page 93) – licensed marine activities The condition should state "up to one meteorological mast fixed to the seabed within the area shown on the works plan by an associated foundation (namely one or more of the following: monopoles, three legged jackets on either pin piles or suction caisson anchoring; four legged jackets	The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		on pin piles or suction caisson anchoring and their associated foundations);	
Marine Management Organisation	MMO-44	1.44 Part 3, 2(4)(c) (page94) – licensed marine activities It is not clear how the activities described are different from 1(d) other than it mentions the 'removal and disposal'. As comment 1.15 the DMLs should clearly set out the volumes and sediment types permitted for dredging/disposal under each individual activity	The Applicant notes the representation and a tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.
Marine Management Organisation	MMO-45	1.45 Part 3, 2(5)(c)(page 94) – licensed marine activities The MMO queries the need for this condition, as the licensable activities that are permitted under the licence should be clearly stated in the DML. The MMO considers that this provision implies activities such as UXO detonation would be able to be undertaken. The MMO does not consider this appropriate, and considers that UXO activities are not included under the DMLs, and the MMO considers the activities within this provision should be defined more clearly in order that an enforcement officer can be clear what is permitted.	The Applicant is not applying for a licence to UXO disposal or detonation within the DCO. A license would be applied for will be licensed separately and would include the maximum parameters of UXO detonation activities and the necessary conditions to satisfy the UK Marine Noise Registry requirements. The Applicant is content to amend the wording of the condition to make it clearer that "such other works" does not include activities relating to the denotation or clearance of UXOs.
Marine Management Organisation	MMO-46	1.46 Part 4 (page 94) - Condition for maximum hammer energy The MMO recommends that a condition is included to restrict the maximum hammer energy to the worst case scenario (5,000 kilojoules)(kJ) assessed in the ES. The MMO suggests the following condition wording for	The draft Order requires the production and submission of a construction method statement (CMS) (Schedule 11, Part 12(1)(c) and Schedule 12, Part 12 (1)(d)), which will include details of the maximum hammer energy. It will also require all construction parameters to be the same as

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>consideration:                      In the event that driven or part-driven pile foundations are proposed to be used, the hammer energy used to drive or part-drive the pile foundations must not exceed 5,000kJ.</p>	<p>those assessed within the ES. In the Applicant's experience, variations are common where precise figures of this nature are included on the face of the DML. The CMS as required provides a more effective mechanism for the MMO to approve these details at the stage when they can be fully defined.</p>
<p>Marine Management Organisation</p>	<p>MMO-47</p>	<p>1.47 Part 4, 3(1) (page 95) – Design parameters, (cable protection) The total length of cable protection includes Work No. 1 (inter-array) and Work No. 1 (export cable). The export cables are listed as Work No. 3, No 3A and No. 4A and should be removed from Schedule 11. Additionally please see 1.19 regarding cable protection values required for both volume and area.</p>	<p>The Applicant notes and agrees with the representation and the references will be removed in the revised draft Order submitted for Deadline 1.</p> <p>The Applicant notes the representation and a tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.</p> <p>The Applicant is content to provide the maximum cable protection volumes on the face of the DMLs in the revised draft Order submitted for Deadline 1. The Applicant notes the MMO's comment regarding the area of cable protection and refers the MMO to the Applicant's response to MMO-18.</p>
<p>Marine Management Organisation</p>	<p>MMO-48</p>	<p>1.48 Part 4, 3(3) (page 95) - Design parameters                      The maximum diameter should also include the Met Mast.</p>	<p>The Applicant notes and agrees with the representation and the maximum diameter of the met mast will be included in the revised draft Order submitted for Deadline 1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-49	<p>1.49 Part 4, 4 (page 95) - Design parameters The total amount of scour protection on this DML currently includes scour protection for the OSS. This is recommended to be included on the transmission asset DML only. The ES project description does not include scour protection for the Met Mast. The MMO seeks clarification that no scour protection is considered to be required for the Met Mast. The MMO seeks clarification on the scour protection values, associated with each asset. See comments at 1.20.</p>	<p>The Applicant notes the representation and a tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A to deadline 1.</p>
Marine Management Organisation	MMO-50	<p>1.50 Part 4, 5(3) (page 95) – Maintenance of the authorised development. The MMO recommends the removal of “not limited to- “ to ensure that the activities permitted under the licence are clearly defined and it is clear that only the maintenance activities listed in 5(3) are consented under the DML.</p>	<p>The Applicant believes that the wording as currently drafted in the draft Order submitted with the application is appropriate. It is not to the MMO's benefit that all licensable activities are limited: the MMO retains control over ensuring the DML is complied with and this flexibility acts only to allow activities that have been assessed in the Environmental Statement, as and when they are required.</p>
Marine Management Organisation	MMO-51	<p>1.51 Part 4, 6(6), 6(8), 7(1), 7(3) (page 96-97) – Notifications and inspections/Aids to navigation The MMO recommends the condition wording is amended from “authorised project” to “licensed activities”, as “authorised project” in DCO interpretation in the DCO includes onshore activities.</p>	<p>The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-52	1.52 Part 4, 6(7)(a) (page 96) - Notifications and inspections The MMO recommends "two weeks" is changed to "10 days" for consistency with Schedule 12 condition 5(7)(a)	The Applicant notes the representation. In order to ensure consistency, the wording of the condition will be amended to 'fourteen days' (rather than ten days) in both Schedules in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-53	1.53 Part 4, 7(2) (page 97) – Aids to navigation This states 'start of construction'. The MMO requires a definition for the start of construction.	The Applicant notes the representation. In order to ensure consistency, the wording of the condition will be amended to 'commencement of development' in both Schedules in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-54	1.54 Part 4, 7(3) (page 97) – Aids to navigation The MMO queries whether the cross reference to the aids to navigation plan should be 12(1)(j), not 12(1)(i) as stated.	The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-55	1.55 Part 4, 9 (page 97) – Aviation safety The MMO requires a timeframe included for when the copies of the notifications that are to be submitted to the MMO, i.e. within 5 days of issue.	The Applicant is providing the MMO with copies of the notifications for information purposes only, and as such a timeframe for that notification is not required.
Marine Management Organisation	MMO-56	1.56 Part 4, 10(2) (page 98) – Chemicals, drilling and debris The MMO believes the Environment Agency Pollution Prevention Control Guidelines have been withdrawn and reference should be removed from the condition.	The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-57	1.57 Part 4, 10(5) (page 98) – Chemicals, drilling and debris It is unclear how 'inert material produced during the drilling installation of foundations' is different to 'drilling mud'. The specific disposal site reference number will need to	Inert material refers to the inner geology present on site, which is released upon drilling mud. Drilling mud is a product taken to the site and used in order to lubricate the drill. The Applicant therefore maintains this distinction but hopes this

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>be inserted once the disposal site reference has been provided to MMO by Cefas.</p>	<p>clarification assists the MMO. These terms are both well-known and defined, however the specific definitions can be stated on the face of the DML and updated in the revised draft Order submitted for Deadline 1.</p> <p>The Applicant notes the representation and agrees that the specific disposal site reference number will be inserted once it has been provided.</p>
<p>Marine Management Organisation</p>	<p>MMO-58</p>	<p>1.58 Part 4, 12(1)(a) (page 99) and Part 4, 12(1)(j) - Pre-construction plans and documentation The MMO requires “agreed in writing” to be changed to “approved in writing by”</p>	<p>The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.</p>
<p>Marine Management Organisation</p>	<p>MMO-59</p>	<p>1.59 Part 4, 12(1)(b)(iii) and (aaa) (page 99) - Pre-construction plans and documentation The MMO recommends that monitoring plans should be submitted 18 months prior of the commencement of licenced activities to enable at least six months consultation time and the completion of the pre-construction surveys prior to commencement. The current timeframe of submission of survey proposals at 4 months prior to the first survey leaves the decision on when the first survey should commence to the undertaker. This poses a potential risk to the undertaker that there is insufficient time to agree the survey</p>	<p>Whilst this may be appropriate for other projects of a larger scale or proposed in new/novel areas this is disproportionate for a comparatively small extension project. The Thanet Extension project has put forward detailed monitoring proposals that are based on the uncertainties present. By virtue of the project being an extension project the uncertainties are very limited. the monitoring proposals put forward are therefore very focussed, advanced, and based on addressing the very limited areas of uncertainty.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>scopes, and that the MMO may not consider the commencement date to be appropriate, which could potentially lead to delays in the construction programme. The MMO would welcome further discussion on proposed monitoring timelines, which can inform some suggested wording for the condition which would capture more appropriate timescales. In addition, timescales for submission of pre-construction documents are also referred to in conditions 12(1)(b) (page 99), 12(1)(h) (page 100) and 12(1)(i) (page 101) and condition 14(1) at four months prior to the commencement of licensed activities and should be changed to six months throughout the DML for all pre-construction plans and documentation.</p>	
<p>Marine Management Organisation</p>	<p>MMO-60</p>	<p>1.60 Part 4, 12(1)(b)(iv) (page 99) - Pre-construction plans and documentation The MMO queries the cross reference to paragraph 3(1) of Part 1 (Licensed marine activities) and believes this should be Part 3 paragraph 1. In addition “(licenced marine activities” should read “licensed activities”.</p>	<p>The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.</p>
<p>Marine Management Organisation</p>	<p>MMO-61</p>	<p>1.61 Part 4, 12(c) and (g) (pages 99 -100) – Pre-construction plans and documentation These conditions both require the submission of cable installation plans. However, neither of the conditions detail a requirement to discuss ground preparation activities, exclusion zones and</p>	<p>Seabed preparation works are distinct and separate from cable installation in the majority of cases. It is therefore appropriate for the activities to be maintained as separate within the dML and associated documents. The Applicant does not consider that the detail</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		potential disposal activities involved. Given the preparation works have potential to pose the greatest impact due to cable installation, the MMO considers such activities be included in the cable installation plans to ensure the likely impacts of the detailed plans are with what was assessed in the ES, and that appropriate mitigation is secured, where relevant. The plans provide detailed information on the location, methodology and volumes of any disposal activities involved.	contained within the cable installation plan must be included on the face of the DML. The Condition requires the cable installation plan to be approved in writing by the MMO and can be amended and approved through this mechanism if required. This is more efficient than amendment through a variation to the approved DML, whilst still maintaining the required control by the MMO in relation to the development as consented.
Marine Management Organisation	MMO-62	1.63 Part 4, 10(1)(i) (page 116) - Pre-construction plans and documentation The MMO suggests the deletion of "mean low water" as the Written Scheme of Investigation (WSI) will also need to cover the intertidal area for licensable activities undertaken under work number 3A.	The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-63	1.64 Part 4, 12(1)(j) (page 101) – Pre-construction plans and documentation The MMO queries whether the cross reference to Aids to Navigation condition 8 should be condition 7.	The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-64	1.65 Part 4, 11(1) (page 117) – Pre-construction plans and documentation The offshore WSI referred to in this condition (see comment 1.63 above) is only for works below mean low water springs (MLWS). The MMO seeks clarification on whether the WSI referred to should cover up to mean high water springs.	The Applicant notes and agrees with the representation and can confirm that the Written Scheme of Investigation (WSI) (Appendix 39 which supersedes PINS Ref APP-141/ Application Ref 8.6) covers up to mean high water springs. Amended wording will be included in the revised draft Order submitted for Deadline 1 to reflect this.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-65	1.66 Part 4, 13(2) (page 101) – Pre-construction plans and documentation The MMO requests the insertion of "Any archaeological reports produced in accordance with condition 12 are to be agreed with the statutory historic body and must be submitted to the MMO for approval"	The Applicant does not consider that the archaeological reports themselves require approval. The scope of the report will be defined in the approved WSI (a draft of which is included at Appendix 39 which supersedes PINS Ref APP-141/ Application Ref 8.6) and the production of any report can be controlled and monitored through this mechanism.
Marine Management Organisation	MMO-66	1.67 Part 4 14(1) (page 101) – Pre-construction plans and documentation 14(2) and 14(3) cross reference to condition 13, the MMO considers condition 12 should also be cross referenced.	The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-67	1.68 Part 4, 15(2)(a) (page 102) – Pre-construction monitoring and surveys The wording "agreed with the MMO" should be amended to "agreed by MMO". The MMO also considers the word "habitat" should be deleted.	The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-68	1.69 Part 4, 15(2)(b) (page 102) – Pre-construction monitoring and surveys This condition requiring a bathymetric survey to be undertaken includes "an appropriate buffer area around the site of each work". The MMO recommends that the extent of the buffer is specified in the condition.	It is not considered appropriate to include arbitrary buffers at this stage when it is commonplace to subsequently amend the buffers post consent. It is therefore proposed that the buffers, here identified as appropriate, be agreed with the relevant authority at the appropriate time.  The details of the proposed surveys are required to be contained within the construction programme and monitoring programme, which



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			must be submitted to the MMO prior to undertaking the first survey (Schedule 11, Part 12 (1)(b) and Schedule 12, Part 10 (10)(c). In the Applicant's experience, it is most appropriate for the extent of the buffer to be determined at this stage. Variations are common where precise figures of this nature are included on the face of the DML.
Marine Management Organisation	MMO-69	1.70 Part 4, 15(3) (page 102) – Pre-construction monitoring and surveys The condition states: “The undertaker must carry out the surveys agreed under sub- paragraph (2) and provide the baseline report to the MMO in the agreed format in accordance with the agreed timetable”. The wording of the equivalent condition in Schedule 12 (13(3) - page 118) cross references to sub-paragraph (1). The MMO recommends both DMLs include reference to sub-paragraph (1).	The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-70	1.71 Part 4, 16 (page 102) - Construction monitoring The MMO considered that mitigation should be included to minimise noise impacts if the noise monitoring indicated the observed noise is greater than predicted, The MMO require further discussion with the Applicant on how this could be secured as a condition on the DMLs.	This relates to a separate project and is no longer considered to represent the MMO position.  Furthermore the Applicant is required to submit proposed monitoring and mitigation to the MMO and is to conduct further noise monitoring as required by the MMO (Schedule 11, Part 16 (2) and Schedule 12, Part 14 (2). The Applicant therefore does not believe that it is necessary to

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			amend the wording of the draft Order at this stage.
Marine Management Organisation	MMO-71	<p>1.72 Part 4, 17(1) (page 102) – Post construction The MMO recommends that the condition is amended to include reference to an In- Principle Monitoring Plan. The MMO considers a standalone document post consent which sets out the rationale that underpins the monitoring that will be undertaken during all phases will be beneficial. In addition amendments are made as underlined below (as per condition 15 on Schedule 12).</p> <p>17.—(1) The undertaker must, in discharging condition 12(b), submit details which accord with the In Principle Monitoring Plan of a full sea floor coverage swath-bathymetry survey for approval by the MMO in consultation with relevant statutory bodies of proposed post- construction surveys, including methodologies and timings, and a proposed format, content and timings for providing reports on the results. The MMO will wish to make further comment on this section of the DML upon receipt and review of the In Principle Monitoring Plan. There will be further monitoring requirements (e.g. marine mammal/ ornithological) that will need to be secured within the DML.</p>	<p>The Applicant discussed this with the MMO for the Thanet Extension project (8<sup>th</sup> October 2018) it is not considered appropriate to submit an IPMP when detailed monitoring plans have already been submitted. This comment appears to apply to projects that have not submitted such advanced monitoring plans.</p> <p>Furthermore the Applicant does not agree that an IPMP is required for this project. Extensive monitoring has taken place as part of the existing Thanet Offshore Wind Farm, and as such there is very little uncertainty and limited justification for an extensive monitoring plan. Given the Applicant's confidence in the existing monitoring, the more efficient step has been taken to include specific monitoring plans for the two areas of uncertainty relating to the Project. The Biogenic Reef Mitigation Plan (PINS Ref APP-149/ Application Ref 8.15) and the Saltmarsh Mitigation, Reinstatement and Monitoring Plan (PINS Ref APP-147/ Application Ref 8.13) are near-final, extensive monitoring plans and can reassure regulators that all necessary monitoring, micro-siting and reinstatement is secured.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-72	<p>1.73 Part 4, 18 (page 103) – Reporting of impact pile driving Under the UK Marine Strategy, all developers are committed to record human activities in UK seas that produce loud, low to medium frequency (10Hz-10Hz) impulsive noise. UXO detonation is detailed within the ES Project Description (Table1.21) however no specific mention of UXO is detailed within the DCO/DML. The MMO believes the intention is for the Project to apply for a separate marine licence for UXO disposal prior to construction. However if it is decided during the DCO application (and a full assessment presented in the ES) to include UXO detonation or removal, the use of explosives, and the maximum parameters of UXO detonation activities should be clearly defined in the DCO/DML. In addition condition 18 should be amended to refer to UXO detonation to satisfy the UK Marine Noise Registry requirements.</p>	<p>The Applicant is not applying for a licence to UXO disposal or detonation within the DCO. A license would be applied for and licensed separately and would include the maximum parameters of UXO detonation activities and the necessary conditions to satisfy the UK Marine Noise Registry requirements.</p>
Marine Management Organisation	MMO-73	<p>DCO Schedule 12 Deemed Marine Licence – Export Cable System [1.74 to 1.92]                      1.25 The MMO recommends the inclusion of a pre-construction plans and documentation condition requiring the submission of a Site Integrity Plan, to allow the consideration of impacts on harbour porpoise based on the final project envelope as defined in the construction plan alone and in combination with projects at the</p>	<p>See Applicant's response to MMO-25.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>time. The plan should set out detailed timings for consultation, suitable mitigation and the process for the condition to be updated. Some proposed wording is suggested below for consideration:                      In the event that driven or part-driven pile foundations are proposed to be used, the licensed activities, must not commence until a Thanet Extension Southern North Sea cSAC Site Integrity Plan which accords with the principles set out in the In Principle Thanet Extension Southern North Sea cSAC Site Integrity Plan has been submitted to the MMO and the MMO is satisfied that the plan provides such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2017 Regulations) of a relevant site, to the extent that harbour porpoise are a protected feature of that site.</p>	
<p>Marine Management Organisation</p>	<p>MMO-74</p>	<p>1.74 MMO preference would be for Schedule 12 Deemed Marine Licence – Transmission Assets.</p>	<p>The marine licence has been labelled in such a way so as to ensure it is proper and accurate when it is utilised by the holder of the appropriate electricity licence. At present, it is possible that the holder of that licence may benefit from a distribution, not a transmission, licence. As such it is considered correct to keep the reference as the Deemed License for the Export Cable System.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-75	1.75 The MMO recommends that an additional condition should be added to this Schedule, which would require that an updated Saltmarsh Mitigation, Reinstatement and Monitoring Plan is submitted to the MMO for approval at least 8 months prior to construction. This is to ensure that the plan is updated and aligned once the detailed cable installation plans are known.	The Applicant notes this representation and welcomes the continued liaison with MMO, Natural England and other parties to ensure that the saltmarsh plan is appropriate and updated to allow for lessons to be learnt from the Nemo Interconnector project when those lessons are available. The Applicant
Marine Management Organisation	MMO-76	1.76 Part 1, 1 (page 105) "restricted area" The interpretation of 'restricted area' "means the area hatched black on the works plan being 250 metres from site 30". The works plan document reference 2.5 Thanet Extension Offshore Wind Farm Works Plan (Offshore) does not appear to contain an area hatched black or reference to site 30. The MMO seeks clarification on this.	The Applicant notes the representation and can confirm that 'restricted area' is a superfluous defined term that will be removed from the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-77	1.77 Part 1, 1 (page 106) "wind turbine generator" Any reference to generating assets not licensed under the export cable DML should be removed from Schedule 12.	The Applicant notes and agrees with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-78	1.78 Part 1, 4(b) (page 106) – contact details The contact details for the MMO (local office) is: Marine Management Organisation Fish Market Rock-a-Nore Road Hastings East Sussex	The Applicant notes and agrees with the representation and the amended wording well be included in the revised draft Order submitted for Deadline 1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		TN34 3DW Tel: 01424 424 10	
Marine Management Organisation	MMO-79	1.79 Part 3 1(a) (page 109) – details of licensed marine activities 1(a) refers to “the deposit at sea of the substances and articles specified in sub-paragraph (7) below.” The MMO queries whether this is the correct reference to sub-paragraph (7).	The Applicant notes the representation and considers that the correct cross reference should be to the same paragraph 1. The amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-80	1.80 Part 3, 2(4)(b) (page 110) – details of licensed marine activities The MMO queries at what point the sea wall will be reinstated and this should be defined in DML.	The reinstatement of the sea wall is contained with Work No. 3B (3B(b)(iii)). Prior to the commencement of any part of Work No. 3B the Applicant is required to notify the MMO in writing and submit a method statement including the anticipated timing of the proposed works being undertaken (Schedule 12, Part 4 (17)). The Applicant does not therefore agree that is appropriate for the timeframe to be included on the face of the DML.
Marine Management Organisation	MMO-81	1.81 Part 3, 2(6)(d) (page 111) - details of licensed marine activities Typographical error “buoys” should read “buoys”.	The Applicant notes and agreed with the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-82	1.82 Part 3, 3(6)(e) (page 111) - details of licensed marine activities The MMO seeks confirmation whether “temporary works for the benefit or protection of land or structures affected” is referring to works only below MHWS i.e. cofferdams.	The Applicant notes the representation and can confirm that the MMO's interpretation is correct. The wording will be amended to make explicitly clear that this refers only to works below MHWS and this will be included in the revised draft Order submitted for Deadline 1.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-83	1.83 Part 4, Conditions The MMO recommends that a condition is included to secure the cable exclusion zone restriction. Set out in ES project description figure 1.2.	The Applicant notes the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-84	1.84 Part 4, 5(1)(a) (page 112) – notifications and inspections The MMO recommends the wording of 'principal contractors' is changed to 'agents and contractors' for consistency with Schedule 11. The MMO queries whether the reference to condition 4(12) should refer to 5(12).	The Applicant considers that 'principal contractors' is appropriate and proportionate. It would not be appropriate to notify every single agent and contractor involved in the proposed development. A definition of 'principal contractors' will be included in the Order submitted for Deadline 1 within both Schedule 11 and Schedule 12.
Marine Management Organisation	MMO-85	1.85 Part 4, 5(10) (page 113) – notifications and inspections The MMO requests the insertion of the following text at the end of the paragraph: "Copies of all notices must be submitted to the MMO within 5 days."	The Applicant is providing the MMO with copies of the notifications for information purposes only, and such as a timeframe is not required.
Marine Management Organisation	MMO-86	1.86 Part 4, 7 (page 113) – Aids to navigation The MMO requests the insertion of the following new paragraph: "(2) Subject to sub-paragraph (1) above, unless the MMO otherwise directs, the undertaker must paint the remainder of the structures submarine grey (colour code RAL 7035)."	The Applicant notes and agrees with the representation and the additional wording will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-87	1.87 Part 4,- Aviation safety The MMO queries whether condition 9 (Aviation Safety) on Schedule 11 should also be included in Schedule 12, to the	The Applicant notes and agrees with the representation and the additional wording will be

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		extent that it applies to the construction of the OSS.	included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-88	1.88 Part 4, 8(8) (page 114) - Chemicals, drilling and debris This condition cross references to the survey agreed under condition 10(j). The MMO seeks clarity on the correct reference as 10(j) relates to the offshore operations and maintenance plan.	The Applicant notes the representation and the amended cross reference should state condition 10(d). This will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-89	1.89 Part 4, 10,(1)(b)(v) – Pre-construction plans and documentation The MMO queries whether the cross reference should be to 1(i)(iv) as there is no 1(j)(iv) as currently worded.	The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-90	1.90 Part 4, 10(1)(c)(iii) (page 115) - Pre-construction plans and documentation The MMO queries what the cross reference should be as there is no condition 9(1)(i).	The Applicant notes the representation and the reference to condition 9(1)(i) will be removed in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-91	1.91 Part 4, 10(1)(c)(iv) (page 115) - Pre-construction plans and documentation The MMO believes the condition should cross reference to 'Part 3 (licensed marine activities)', not 'Part 1'.	The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-92	1.92 Part 4, 12 and 12 (1) (page 117) – Pre-construction plans and documentation This condition cross references to condition 10 and should include condition 10 and 11.	The Applicant notes and agrees with the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Marine Management Organisation	MMO-93	2.1 The MMO has made an initial assessment of the ES and subject to the comments and issues outlined below believes that the application documents are well presented and fit for purpose.	The Applicant notes and welcomes this response and confirmation of the adequacy of the application documents.



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Marine Management Organisation	MMO-94	3.1 The MMO considers that the physical processes chapter identified all relevant topics that would be expected for this proposal and clearly defines each topic in terms of its role as a pathway or a receptor. The chapter is well structured, and where impacts to pathways are identified, their linkages to other ES chapters clearly stated.	The observations made by the MMO are welcome
Marine Management Organisation	MMO-95	3.2 There is an assumption made that local wave energy reduction (10% in the lee of the array) will be immeasurable at sandbank and coastline receptors (Document 6.2.2, Paragraph 2.11.94). Clarification is required to understand the rationale for this statement.	The statement (in PINS Ref APP-043/ Application Ref 6.2.2; Paragraph 2.11.94) is made on the basis that the project is sufficiently distant from land (with regards prevailing wave direction) that a 10% reduction in local wave energy will not be measurable at the Margate Sands sandbank and coastal receptors.
Marine Management Organisation	MMO-96	3.3 It is stated that as the foundations in Thanet Offshore Wind Farm (TOWF) have small pile diameters in comparison to the likely wavelengths at the site, there will be no impact on the wave regime from these structures; and on this basis, subsequent analysis addresses impacts from the larger diameter foundations in Thanet Extension Offshore Wind Farm (TEOWF) only. Whilst this report does not aim to assess impacts of TOWF, the MMO considers that further detail is required relating to potential cumulative impacts of the turbines from both wind farms, given the proximity of the two sites, and the potential that the full array of TOWF and TEOWF together may cause a	The presence of TOWF and its affects on the local wave climate are considered within the baseline of the assessment (PINS Ref APP-043/ Application Ref 6.2.2; Paragraph 2.7.11). Therefore, by assessing the presence of the additional presence of WTGs for Thanet Extension the two projects are considered cumulatively.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>significant impact on waves passing through the site. Whilst the MMO acknowledges the basic assessment of a single TOWF turbine indicates minimal impact, the MMO seeks to understand how other factors that may influence how the waves will respond to a larger group of turbines may interact in a cumulative manner. Given that the result of this section of the EIA feeds many other sections of the assessment, it is essential to ensure cumulative impacts have been appropriately assessed.</p>	
Marine Management Organisation	MMO-97	<p>3.4 Clarification is sought on how the cable landfall installation plan required as condition 10(d)(iv) (Schedule 12) will account for the dynamic nature of the intertidal channel of the River Stour, in order to avoid re-exposure of the cables post installation, as stated as a requirement in ES Chapter 2, paragraph 2.11.100.</p>	<p>A wide range of potential future geomorphological scenarios exist for the evolution of the Stour channel. Some could theoretically interact with the new defences at the landfall although it is noted here that under these scenarios channel behaviour will be governed almost entirely by the position of the existing defences, not the new (modified) defence at the landfall. Regardless, the design of the cable landfall will give consideration to environmental factors, including morphological behaviour over the lifetime of the project. The plan associated with this will be submitted to MMO for approval in order to ensure that the necessary design measures are employed.</p>

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Marine Management Organisation	MMO-98	3.5 Whilst a full hydrodynamic modelling exercise has not been undertaken to assess impacts to waves and tidal processes, the MMO considers that the utilisation of available evidence from other modelling studies, and analysis of datasets from TOWF where conditions are largely analogous, is sufficient.	The Applicant welcomes the observations of the MMO.
Marine Management Organisation	MMO-99	3.6 There is some uncertainty regarding impacts on coastal configuration as a result of the potential seawall extension. Whilst it is predicted that minimal impact is expected based on the historical stability of the immediate area, the Pegwell Bay area as a whole is rather more dynamic in nature. Further information is required on the approach taken to assess the impacts of extending the seawall at the cable landfall site within Pegwell Bay in order to understand what, if any, medium term impacts may occur, and whether any monitoring requirements would be appropriate. For example, it may be appropriate to undertake basic geomorphological monitoring of the coastal features in Pegwell Bay (for example using Environment Agency LIDAR survey data) over the medium term, however the MMO will defer to Natural England for monitoring at designated sites.	The Applicant has decided to reduce optionality and remove Landfall Option 2 (sea wall extension) from the project envelope. Therefore, there is no longer a proposed seawall extension.
Marine Management Organisation	MMO-100	3.7 Whilst particle size analysis (PSA) was undertaken for locations within the intertidal and subtidal areas of the proposed development, the	The survey data collected during the Fugro 2016 survey including grab samples, interpreted multi-beam backscatter and side-scan sonar data is

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		results of which are presented in the documents relating to benthic surveys, it would aid clarity if this data was integrated into the baseline section of the physical processes chapter, as they are of direct relevance when interpreting impacts to coastal receptors.	presented in Figures 2.8 and paragraph 2.7.15 of the chapter (PINS Ref APP-043/ Application Ref 6.2.2). Paragraph 2.7.44 and Figure 2.14 present both the Fugro 2016 and Nemo 2011 survey data.
Marine Management Organisation	MMO-101	4.1 The disposal sites are generally considered to be acceptable for the disposal activities proposed in the site characterisations, subject to the following clarifications: [see points below]	The Applicant welcomes the confirmation of the MMO that the disposal sites are suitable.
Marine Management Organisation	MMO-102	4.2 The draft DCO proposes far higher volumes for deposit than assessed in the ES. On page 93 (in Part 3 of Schedule 11 of the DCO), 1,112,647.4 m <sup>3</sup> is requested for the WTGs, plus 39,269.9 m <sup>3</sup> for the meteorological masts. The disposal site characterisation report (document 8.14, table 4.1) quotes a worst case 288,000m <sup>3</sup> for the array area and it is this volume which the assessment has been made against. Likewise, Schedule 12 of the DCO, states a disposal volume of 9,600m <sup>3</sup> for the offshore substation, while in the ES this is incorporated into the array totals, not the Offshore Export Cable Corridor (OECC). The licensed volumes in the DCO should reflect tables 14.1 and 14.2 from the disposal site characterisation report (document 8.14) i.e. a total of 288,000m <sup>3</sup> for the array and 1,440,000m <sup>3</sup> for the offshore export cable corridor.	The Applicant notes the representation and will produce a table clearly referencing the volumes for deposit with the documents submitted for Deadline 1.

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Marine Management Organisation	MMO-103	<p>4.3 Disposal sites cannot overlap with existing open designated disposal sites. It appears the proposed offshore export cable corridor disposal site overlaps with the existing Pegwell Bay disposal site (TH140) and Nemo Disposal Site C (TH152). The MMO requests that the proposed cable corridor disposal site excludes these areas, and if necessary the Applicant applies to use the existing disposal sites for any material they consider will need to be disposed of within the disposal sites already designated.</p>	<p>The Applicant welcomes further discussion on the use of the existing disposal sites.</p>
Marine Management Organisation	MMO-104	<p>4.4 The proposed disposal site geometry cannot have 'holes' in the shapes (Figure 14.1 in document 8.14 illustrates a geometric hole in the centre of the array disposal site and on the western end of the cable corridor). For OSPAR return purposes, the co-ordinates must be written in a format that draws a continuous line without any breaks for inside / outside co-ordinates. For licensing purposes, the MMO suggests that the whole area from the outer boundary inwards is designated. Although the excluded 'holes' have not specifically been assessed in the ES, it is not expected substantial volumes (if any) of material will be required to be disposed in these areas and therefore the MMO considers it low risk to designate this additional area of the seabed as a disposal site.</p>	<p>The Applicant's response to MMO-103 notes that existing disposal sites should be excluded from a disposal site application, whereas this comment appears to contradict it by observing that a disposal site cannot be a geometric hole. The geometric hole within the cable route is a disposal site, whereas the geometric hole in the array is an existing windfarm. The Applicant welcomes confirmation from the MMO how best to address this.</p>

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Marine Management Organisation	MMO-105	<p>4.5 With regards to the release and redistribution of sediment bound contaminants; the number of samples collected for contaminants is low compared to the number which may be expected for maintenance or capital dredging campaigns. However considering the offshore nature of the works, local redeposit of the material, and that most of the material has been characterised as coarse material (sand and gravel), the MMO considers the contamination risk to be low. Pending clarification on the level of sampling see comment 4.6, the MMO is therefore content that the current level of sampling is acceptable to characterise the chemical contaminants to support dredging.</p>	<p>This is noted by the Applicant. See response to MMO-106.</p>
Marine Management Organisation	MMO-106	<p>4.6 As raised in MMO's Section 42 response, the number of stations sampled for contaminants is not clear. Paragraph 3.7.8 describes 19 array samples plus 4 intertidal samples, however in section 3.7.14 seven array samples are referred to. The subtidal report (document 6.4.5.2), also appears to confirm 7 samples were tested for contaminants. Furthermore, Figure 3.6 appears to show 2 samples from in the route area (CR10 and CR03); whereas the Subtidal report document (document 6.4.5.2) details chemistry results from three stations (CR03, CR04 and CR10). Clarification on the sampling regime undertaken is required.</p>	<p>Full details of the intertidal contaminants sampling is presented in Volume 4, Annex 5-1: Export Cable Route Intertidal Report (PINS Ref APP-081/ Application Ref 6.4.5.1). Five and three transects were undertaken within Pegwell Bay and Sandwich Bay respectively. One sample per transect was taken. The locations of the transects and sampling locations are presented in Figures 3 and 4 of 6.4.5.1. The results of sediment contaminants analysis undertaken in the array and offshore parts of the OECC, for seven samples, are presented in Section 5.6 of Volume 4, Annex 5-2: Benthic Characterisation Report</p>

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			(PINS Ref APP-082/ Application Ref 6.4.5.2). The 19 samples presented in paragraph 3.7.8 refer to the initial grab samples undertaken for heavy metal and hydrocarbon analysis as presented in Table 5.1 of 6.4.5.2, however only seven of these grabs were analysed in the laboratory for contaminants.
Marine Management Organisation	MMO-107	4.7 Potential effects of construction presented in table 3.10 (volume 6.2.3) appears to be missing the 9,600m <sup>3</sup> of dredge material expected from the Met Mast installation (as detailed in volume 8.14, table 14.1), the MMO believes this should not affect the overall conclusion of the ES.	The Applicant notes the total volume should have included an addition foundation for a met mast and agrees that it should not affect the conclusions drawn in the assessment.
Marine Management Organisation	MMO-108	5.1 The ES (Section 1.6.6 of Offshore Project Description, chapter 6.2.1) details operation and maintenance activities such as bird waste removal, paint and repair, J-tube and ladder cleaning. The likely effects to the benthos need to be assessed within Table 5.10 (O&M) of ES Chapter 5 Benthic Subtidal and Intertidal Ecology to meet the requirements of the maintenance condition in Schedules 11 (condition 5) and Schedule 12 (condition 4).	As previously discussed with the MMO it is agreed that quantification of the volumes of bird guano released into the marine environment is not required. The relevant O&M phase impacts have been considered. Further to this the impacts of operations and maintenance works on the benthos, including from the possible use of jack-up vessels is considered in paragraphs 5.11.23 <i>et seq</i> of Chapter 5: Benthic and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5). The presence of the jack-up vessel is the only impact expected to occur on the benthos from these works and therefore, it is not necessary to assess these works directly, but rather considered them

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			under the general impacts from operations and maintenance works.
Marine Management Organisation	MMO-109	<p>5.2 Assessment (Chapter 6.4.5.3) Section 5.4.8 states that any impacts that are concluded to have a negligible effect on benthic ecology receptors can be screened out (following guidance in MMO 2013). However, the MMO considers such effects should be screened in for the inter-related effects assessment as per the S42 response submitted by Agence Francaise pour la Biodiversite (P1-2 of doc 6.1.3.1_TEOW_CEA), and the text in document 6.1.3.1_TEOW_CEA (paragraph 1.6.8) which states: 'effects that have no impact are unlikely to have inter-related effects when combined with other impacts and therefore can be scoped out of the inter-related effects assessment. However, where impacts that have a significance of negligible or higher are identified, interactions may be of greater significance than the individual impacts in isolation; these are considered through professional judgement.' The MMO considers that all relevant impacts greater than negligible should be screened in to the inter-related effects assessments and clarification is required as to whether this is the case.</p>	<p>All impacts greater than negligible are screened in subject to professional judgement. The detailed assessment has considered all relevant inter-related effects as identified within the inter-related effects chapter (Volume 2, Chapter 14 of the ES (PINS Ref APP-055/ Application Ref 6.2.14)).</p>
Marine Management Organisation	MMO-110	<p>5.3 Table 5.9 of Chapter 5: Benthic and Subtidal and Intertidal Ecology (Chapter 6.2.5) 'Subtidal biogenic reefs', should be updated to include</p>	<p>Reference is already made to the Goodwin Sands rMCZ in both the chapter (PINS Ref APP-046) and the MCZ assessment (PINS Ref APP-083/</p>



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		reference to the Goodwin Sands recommended Marine Conservation Zone (rMCZ).	Application Ref 6.4.5.3). Further to this the Goodwin Sands recommended MCZ has not been formally designated at this stage. However, the impacts on biogenic reefs was considered throughout the entire cable corridor and the features of the Goodwin Sands rMCZ were considered within the MCZ assessment
Marine Management Organisation	MMO-111	<p>5.4 Page 5-39 of ES Volume 2 Chapter 5 Benthic Subtidal and Intertidal Ecology (Chapter 6.2.5) Paragraph 5.7.44 states that no benthic Features of Conservation Importance are present within the section of the OECC which coincides with the Goodwin Sands rMCZ. However, limited data were collected along the OECC and none were collected within the area which corresponds with the Goodwin Sands rMCZ (according to figures 5.6 and 5.7). As such further evidence is required to support this statement. If additional data sources were used, the MMO requests that these sources are appropriately referenced in the text and figures. Additionally, cable preparation works (sandwave clearance) are likely to occur where the cable corridor passes through Goodwin Sands rMCZ (paragraph 5.10.44). The MMO requests evidence to demonstrate that no benthic Features of Conservation Importance will be affected by the cable works.</p>	<p>All the features of the rMCZ were considered within Volume 4, Annex 5-3: MCZ assessment (PINS Ref APP-083/ Application Ref 6.4.5.3) and the impacts on the more general features of the rMCZ have been incorporated where relevant within the benthic ecology assessment. Moreover, the characterisation surveys included a full characterisation of the sediment types present within the cable corridor, including the overlap with the rMCZ, with no features of conservation interest identified.</p>

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Marine Management Organisation	MMO-112	5.5 The MMO has some concerns regarding the use of the core reef approach to identify which areas may require mitigation, and whether the monitoring proposals are adequate.	This document has updated in line with all received comments and resubmitted to stakeholders.
Marine Management Organisation	MMO-113	5.6 The suggested approach documented in paragraph 4.6.3 of the Biogenic Reef Mitigation Plan (Chapter 8.15) for a theoretical set of surveys, states that if surveyed areas do not meet the core reef value of > 1 they will not be considered core reef and will not need mitigation. This suggests that even if an area of 'high reefiness' was observed in the most recent survey, it will not be mitigated for as it does not meet the criteria of core reef as outlined within this document. The MMO would advise mitigation where any reef (low to high reefiness) has been observed.	As agreed with Natural England the project propose to trial the core reef approach which does not require mitigation for all observed reef given that the proposed Order Limits are not within a MPA but we do note that <i>S. spinulosa</i> are protected under the NERC Act. There has been a net increase of reef in TOWF array and surrounding seabed. Therefore, if there is not a loss of the potential for reef then there could be a net benefit from the project even without mitigation for all observed reef.
Marine Management Organisation	MMO-114	5.7 The core reef approach outlined here is reliant on excellent weather and expert interpretation of the acoustic and Drop-Down Video (DDV) information during all surveys selected for inclusion. Annex 5-2: Subtidal Benthic Characterisation Report (Chapter 6.4.5.2) states that the characterisation video footage was limited in quality due to poor underwater visibility at the time of the survey, presumably due to the survey taking place late Nov - early Dec. Poor survey conditions may result in areas of reef being missed due to the quality of the data. The MMO seeks	It is noted that the survey methodology followed for the data collection consisted of an acoustic survey (not affected by poor visibility) that was then groundtruthed by video surveys. As these video surveys were targeted and focused on specific sites considered to have the potential to constitute reef, the Applicant considers that the limited quality of the footage does not pose a risk of false negatives as it would consequently lead to a more conservative identification of potential reef features. Furthermore, the Applicant believes the existing data is of a similar quality to

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		clarification on how the quality of the data will be taken into account, and how the risk of false negative results will be avoided.	that used in the Wash. Thanet OWF has a lot of data available and some of which is in the public domain/ peer reviewed literature. Similar survey methodologies would be undertaken for the pre-construction surveys to ensure suitable quality data for the identification of reefs.
Marine Management Organisation	MMO-115	5.8 Para 4.5.6. states that the characterisation surveys for TEOW will be used along with pre-construction surveys and site-specific data (within the TEOW area) collected for the existing TOWF. The MMO notes that the characterisation survey for TEOW was not designed specifically to survey areas of <i>S. spinulosa</i> reef. The MMO considers that the core reef approach needs at least two site specific surveys in order to work. The approach requires good quality side-scan sonar and targeted DDV.	As noted above (MMO-114) it is in the Applicant's opinion that the survey data, including those within peer reviewed literature, presented in Appendix 43 of Applicant's Deadline 1 submission, are of sufficient quality for the identification of reefs. The Thanet Extension characterisation survey data includes high-quality MBES backscatter data (an accepted alternative to SSS) which was then groundtruthed by video data. The Applicant maintains that the characterisation survey can act as one of the site specific surveys for use in the core reef approach and that the pre-construction survey for Thanet Extension (the methodology for which will be agreed with the MMO and Natural England) will act as the second survey. This data will all be backed up with the survey data from Thanet Offshore Wind Farm (the methodology for which was also agreed with the MMO).
Marine Management Organisation	MMO-117	5.10 ES Volume 2 Chapter 5 Benthic Subtidal and Intertidal Ecology (Chapter 6.2.5), Table 5-10 'O&M', mentions 'Direct introduction and	Turbid wakes are a well-known phenomenon in this area and have been the subject of previous studies (Forster, 2017), which monitoring at

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		<p>subsequent colonisation of hard substrate (scour protection/ cable protection) may affect benthic ecology and biodiversity' and 'Indirect disturbance leading to alterations of seabed habitats arising from scour effects and changes in the sediment and wave regime plus that of the turbid wakes arising from the presence of the WTGs'. As these impacts are specific to the operational phase, the MMO considers that operational monitoring should be undertaken to assess the significance of any changes observed.</p>	<p>Thanet Extension would not provide significant evidence.</p> <p>Colonisation of hard substrate also is a phenomenon seen at all offshore wind farms, with no extra effects predicted to occur at Thanet Extension. Therefore, operational monitoring would not provide any new information beyond that already available from earlier developments.</p>
<p>Marine Management Organisation</p>	<p>MMO-118</p>	<p>5.11 ES Volume 2 Chapter 5 Benthic Subtidal and Intertidal Ecology (Table 5-10) (Chapter 6.2.5) – 'Decommissioning', mentions direct loss of species and habitats from the removal of foundations. Furthermore, paragraph 5.12.11, states that 'where it is identified that reef structures (e.g. <i>S. spinulosa</i> reef) have formed on the foundations, the appropriate approach to the decommissioning of these areas will be agreed with the MMO and Natural England'. The MMO therefore considers that a survey of any species/habitats and reef structures should to be undertaken prior to decommissioning, and suggests that this requirement is captured as a condition on the DMLs. See comment 1.27 on decommissioning condition required in DMLs.</p>	<p>This is noted by the Applicant.</p>

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Marine Management Organisation	MMO-119	5.12 Based on data from the original TOWF, the effects of placement of the turbine foundations and subsequent scour, and changes in sediment regime (including turbid wakes) have been assessed as minor adverse to negligible. However, this is based on only one-year post construction monitoring at TOWF. This MMO questions whether this is sufficient to draw conclusions the long-term effects of foundation presence.	The Thanet Extension project, by virtue of being an extension, has both a robust site specific dataset and can draw on wider industry literature in order to have confidence in the assessment findings. The combination of site specific and wider industry experience suggests that the assessment conclusion of minor-negligible is robust.
Marine Management Organisation	MMO-120	5.13 There is a discrepancy in the number of samples taken for sediment chemistry. The Subtidal Benthic Characterisation Report (Chapter 6.4.5.2) section 5.6 (Sediment chemistry) details results for 7 stations. This doesn't match with the information in section 5.1 which states that 22 samples were acquired for chemistry analysis. This should be clarified as per comment 4.6.	See response to MMO-106.
Marine Management Organisation	MMO-121	5.14 None of the data collected for the original TOWF were used for the characterisation of the benthic environment for Thanet Extension. This would have been useful information particularly on the distribution of <i>S. spinulosa</i> reef. The MMO seeks clarification as to why the benthic survey data for TOWF was not used.	The Thanet Extension project site specific data has been used for the purposes of characterising the receiving environment (as presented within paragraph 5.7.5 <i>et seq</i> of PINS Ref APP-046/ Application Ref 6.2.5). This dataset is considered to be fit for this purpose. Where relevant the existing Thanet OWF (TOWF) project data are also use to compliment the site specific characterisation data. For example, data for TOWF were referred to within the core reef assessment document.

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Marine Management Organisation	MMO-122	5.15 The Biogenic Reef Mitigation Plan (8.15), paragraph 2.4.3 suggests that only reef classified as 'high reefiness' qualifies for assessment, however, paragraph 4.1.2 suggests that all reefiness (high, med and low) will be included in the assessment. Clarification is required whether sentence (2.4.3) relates only to the previous assessment undertaken by Pearce et al, 2014.	It has been agreed with Natural England that the core reef assessment will include reference to reef of all reefiness levels.
Marine Management Organisation	MMO-123	5.16 ES Volume 2 Chapter 5 Benthic Subtidal and Intertidal Ecology, P5-38 (Chapter 6.2.5): Please provide a figure showing intertidal sediments/biotopes as has been presented for the Array and OECC.	Figure 19 of Volume 4, Annex 5-1: Export Cable Route Intertidal Report (PINS Ref APP-081/ Application Ref 6.4.5.1) of the ES presents the intertidal biotopes present within the intertidal based on the sampling locations. A biotope map was not produced from this data.
Marine Management Organisation	MMO-124	6.1 Generally, the ES chapters have correctly identified the fish species present in the TEOWF study area, and characterisation of fish and fish ecology is adequate, with relevant potential impacts considered. However, there are some areas of the ES which the MMO feels should be addressed in order to add greater confidence to the assessment;	This is noted by the Applicant.
Marine Management Organisation	MMO-125	6.2 The MMO requests a provisional timetable of site preparation and construction activities to consider how the activities may overlap with the seasonal spawning events of sole, herring and sandeel. Once this information is presented the need for additional mitigation in the form of	The assessment considers a worst case wherein piling may take place at any time during the 12 month piling window. The project assessment concludes that on the basis of the overall short duration of the effect, the impact ranges predicted through the site specific modelling, and

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		seasonal piling restrictions can be reviewed. See additional information below:	the understanding of the receiving environment the effects are minor. The Applicant considers this assessment robust and providing a high level of confidence in the assessment outcomes. As discussed with the MMO (8 <sup>th</sup> October 2018) the overall outcomes of the assessment are agreed. The outcomes of the assessments on fish and shellfish concludes all effects to be not significant with regards the EIA Regulations, and as such no further mitigation is considered appropriate.
Marine Management Organisation	MMO-126	<p>Herring (6.3 to 6.9)</p> <p>6.3 It is not clear from Figure 6.14 'Comparison of SELcum1 noise contours with herring spawning grounds' (Chapter 6) what scenario is being modelled, i.e. this should be clarified.</p>	As explained in paragraph 6.10.51, Figure 6.14 (PINS Ref APP-047/ Application Ref 6.2.6) shows an overlay of the 186 dB re 1 uPa2s (threshold for temporary threshold shift) contours from the two modelled piling locations with herring spawning areas. The herring spawning areas are defined in two ways: by Coull <i>et al.</i> (1998) and larval abundance using IHLS data.
Marine Management Organisation	MMO-127	6.4 Behavioural impact ranges for spawning herring do not appear to have been adequately assessed as no modelling has been presented for this. Should piling be undertaken just before and during the spawning season, noise and vibration may impede gravid herring from transiting to nearby spawning grounds. The MMO considers this should be addressed.	This is noted by the Applicant. The Applicant considers that the assessment presented from paragraph 6.10.52 (PINS Ref APP-047/ Application Ref 6.2.6) robustly assesses the behavioural effects of underwater noise on herring.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-128	<p>6.5 Additionally, the modelling presented in the ES (Chapter 6, sections 6.10.45, .46 and .49) describe that the modelling has used an assumed fleeing swimming speed of 1.5ms<sup>-1</sup> for fish as a receptor. The MMO requests that the justification for the use of the 1.5ms<sup>-1</sup> swimming speed is provided and appropriately referenced. Furthermore, the MMO considers that the assumption that fish will be able to flee from the source of impact overlooks other factors such as fish size and mobility, biological drivers, and philopatric behaviour which may cause an animal to remain/return to the area of impact. The use an assumed swimming speed is not appropriate when modelling the impact ranges to eggs and larvae which are a stationary receptor hence, MMO queries whether it may be more suitable to assess the impacts to fish as stationary receptors.</p>	<p>This is noted by the Applicant. For Popper <i>et al.</i> (2014) and fish, the assessment assumes a fleeing animal model for the SELcum results with a flee speed of 1.5 ms<sup>-1</sup>. This is based on data from Hirata (1999). The Applicant considers that the assessment undertaken is robust and that further modelling would not alter the outcomes of the assessment. No significant effects were identified.</p>
Marine Management Organisation	MMO-129	<p>6.6 The MMO understands that had modelling been undertaken for eggs and larvae as part of the EIA, and considers the predicted Temporary Threshold Shift (TTS) impact range zones presented would probably extend into the herring spawning ground in Herne Bay, as well as extend further into the Eastern Channel spawning ground. As no modelling of eggs and larvae as a stationary receptor has been presented, there is currently insufficient evidence to be confident that noise</p>	<p>This is noted by the Applicant. Modelling has been undertaken on eggs and larvae as a stationary receptor through consideration of the SPLpeak metric (207 dB). The associated ranges are presented within Application Refs 6.4.6.3 (PINS Ref APP-086) throughout and Application Ref 6.2.6 (PINS Ref APP-047) at 6.10.34 <i>et seq</i> (underwater noise and technical annex and fish and shellfish chapter respectively). The maximum ranges are 330 m and are therefore considered to</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		and vibration won't affect the Herne Bay and Downs herring spawning grounds.	be a small scale effect that will not result in a significant effect on herring spawning grounds, and eggs/larvae in particular. The Applicant therefore considers that the assessment undertaken is robust and that further modelling would not alter the outcomes of the assessment. No significant effects were identified.
Marine Management Organisation	MMO-130	6.7 In the absence of further modelling to the contrary, suitable mitigation measures must be made to minimise the impacts to spawning herring and their eggs and larvae at both the Eastern Channel and Herne Bay sites. This should be in the form of temporal restrictions to pile driving between February and April (inclusive) for the Thames herring stock, and the last week of November (23rd) to 15th January (inclusive) for the Downs herring stock.	See the Applicant's responses to MMO-125 and MMO-129.
Marine Management Organisation	MMO-131	6.8 Acknowledging that the piling restrictions equate to four and half months of each construction year when piling would not be permitted which would inevitably create a prolonged construction schedule, the MMO suggests the Applicant considers the use of additional mitigation measures. As raised previously for other offshore wind farm developments, the MMO has previously advised that the most direct and comprehensive way to mitigate the risk of acoustic impact on marine	See the Applicant's responses to MMO-125 and MMO-129.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		species is to reduce the amount of noise emitted at source.	
Marine Management Organisation	MMO-132	6.9 The use of bubble curtains to reduce noise propagation when piling could reduce the impact of underwater noise and vibration on fish. If such measures are put in place (in accordance with the standards applied in German waters; Umweltbundesamt, 2011), this may lower the risk of impact sufficiently for piling to be unhindered during all or part of all of the spawning seasons for herring, or could be used in conjunction with spatial piling restrictions Cumulative sound exposure level (SELcum). This method could reduce potential impacts to those species which have spawning and nursery grounds in the TEOFW area, and also to species which transit through the TEOFW area for their seasonal migratory movements.	See the Applicant's response to MMO-125 and MMO-129. The use of bubble curtains to mitigate non- significant effects is considered disproportionate. In particular in light of the low level of evidence available to demonstrate the effectiveness of bubble curtains to mitigate small scale effects on fish and shellfish receptors.
Marine Management Organisation	MMO-133	Sole 6.10 to 6.11 6.10 The high intensity sole spawning and nursery grounds in the Thames estuary are considered to be of national and international importance to the North Sea stock. Additionally, the Thames estuary is also one of the more important sole fisheries, especially for the UK fleet.	This is noted by the Applicant.
Marine Management Organisation	MMO-134	6.11 Whilst the MMO acknowledges the challenges attributing the direct or indirect impacts of anthropogenic activities such as fishing,	The Applicant considers that the assessment undertaken is robust and that no significant effects were identified. It is therefore not

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		dredging, shipping, offshore wind farms, cables etc. to the state of sole stocks, the MMO considers that further assessment is required on the impact of piling activities on sole spawning grounds in the Thames estuary. The MMO also considers that, mitigation in the form of temporal piling restrictions for sole due to the potential attenuation of noise into the Thames sole spawning grounds, may be required and secured as a condition on the DML, as has been secured in other offshore wind farm DMLs (e.g. Greater Gabbard and Galloper OWFs).	considered appropriate to enforce seasonal restrictions to mitigate against impacts on fish.
Marine Management Organisation	MMO-135	Sandeel (6.12 to 6.17) 6.12 The MMO notes that the biology of herring and sandeel have been considered under the same section, and several of the assessments of impacts have assessed herring and sandeel together, rather than separately, despite these two species' having very different ecology, life-cycles, spawning seasons etc.	This is noted by the Applicant.
Marine Management Organisation	MMO-136	6.13 Throughout the Fish and Shellfish ecology chapter, the assessment of impacts to sandeels has been based on sandeel spawning habitat, e.g. 'Herring and sandeel spawning'; 'Potential herring and sandeel spawning habitat'; and Figure 6.11 'Preferred and Marginal Sandeel Spawning Habitat According to Site-Specific Data'. Sandeels spawn in the same areas that they inhabit; therefore the	This is noted by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		MMO considers the assessment of impacts should refer to sandeel habitat rather than sandeel spawning habitat.	
Marine Management Organisation	MMO-137	6.14 The MMO response to PEIR 11 January 2018 recommended that an assessment of sandeel habitat was undertaken using the method described in Latto et al. 2013. This has not been done, and instead, the ES has provided a description of potential 'sandeel spawning habitat' based on peer-reviewed literature, and presented Figure 6.11 based on broad-scale EU sea-map and data collected by Fugro during the geophysical and benthic ecology characterisation surveys in 2016. In the TEOWF Benthic Characterisation Report, 31 grab samples were acquired for particle size analysis (and other purposes). Figure 1.1 of the report shows the grab locations plotted in the array area and export cable corridor. The MMO notes that it would have also been useful if any sandeels caught in grab and trawl surveys were counted and recorded and the data plotted on Figure 6.11, as this would have provided anecdotal presence/absence information on the species present within the study area, adding confidence to the assessment.	The Applicant considers that the assessment of impacts to fish and shellfish habitats, including sandeel, are robust and can be attributed with a high level of confidence. The Applicant notes the MMO response 6.15 [MMO-138] below, in which the MMO agree that the sandeel habitat suitability assessment was adequate.
Marine Management Organisation	MMO-138	6.15 Whilst the approach taken for the EIA was not the recommended one, the MMO considers that the sandeel habitat suitability assessment	The Applicant welcomes the MMO's confirmation as to the adequacy of the assessment.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		presented is adequate from which to conclude that a large proportion of the area is considered to be 'preferred' sandeel habitat.	
Marine Management Organisation	MMO-139	6.16 The MMO considers that section 6.10.6 contradicts Figure 6.11 by stating that for herring and sandeel: 'with the heterogeneous sediments present within the development area being considered generally less than optimal'. The MMO considers that this demonstrates the need for herring and sandeel to be assessed under separate headings.	This is noted by the Applicant. However, this would not alter the findings of the assessment which concludes no significant effect.
Marine Management Organisation	MMO-140	6.17 The MMO agrees that the recolonisation of sandeel habitat is likely to occur over time once construction work is complete, with the exception of those areas where habitat loss occurs to installation of hard structures and rock placement. The removal of substrate and settlement of suspended sediment from activities such as jetting, trenching and dredging is considered to have the greatest impact on sandeels. The MMO considers that where possible, disturbance to sandeels through during their spawning seasons (Nov-Feb) should be avoided, especially in relation to cable laying activities and that this restriction should be secured through a condition in the DML.	It is well established that sandeel are not considered to be sensitive to the effects of increased suspended sediment. This forms part of the guidance outlined within Latta <i>et al.</i> which the MMO have referenced. In light of the scale of the effect, and the low sensitivity to suspended sediment the Applicant considers that the assessment undertaken is robust and that no significant effects were identified. It is therefore not considered appropriate to enforce seasonal restrictions to mitigate against impacts on fish.
Marine Management Organisation	MMO-141	6.18 Section 6.7.7 of the Fish and Shellfish Chapter lists fish species of commercial and conservation interest. The MMO considers there	This is noted, however the applicant disagrees that any species are missing, with all species listed under paragraphs 6.7.4 and 6.7.7 of Volume

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>are several commercial species missing from this list (as outlined in section 6.7.4) namely; dover sole, whiting, plaice, herring, sandeel, mackerel, thornback ray. Similarly, several species of conservation interest/importance are also missing from the list (also outlined in section 6.7.4) namely; allis shad, twaite shad, Atlantic salmon, sea trout and smelt.</p>	<p>2, Chapter 6: Fish and Shellfish Ecology (PINS Ref APP-047/ Application Ref 6.2.6), including all species raised by the MMO in Relevant Representation MMO-141. All species listed have been identified as a part of the existing environment and are a material consideration in the assessment. All species have been considered in the context of their specific sensitivities to environmental impacts and in terms of both their legal protection and policy considerations. In addition, the commercial sensitivity of a species is not generally relevant to the sensitivity of a fish or shellfish species in the context of a fish and shellfish EIA chapter, and is more relevant to the commercial fisheries assessment (Volume 2, Chapter 9: Commercial Fisheries (PINS Ref APP-050/ Application Ref 6.2.9). The outcome of the assessment of impacts to fish and shellfish receptors therefore remains robust and appropriate.</p>
<p>Marine Management Organisation</p>	<p>MMO-142</p>	<p>6.19 It should be acknowledged that Gobies are not species of commercial importance and are not considered to be species of conservation interest or importance, with the exception of the giant goby (<i>Gobius cobitis</i>) and Couch's goby (<i>Gobius couchii</i>), which are both protected under the Wildlife and Countryside Act 1981. However,</p>	<p>The applicant acknowledges that in general, gobies are not species of commercial or conservation importance, with the exception of the species identified in relevant representation MMO-142. Gobies are listed under Section 6.7.7 of Volume 2, Chapter 6: Fish and Shellfish Ecology (PINS Ref APP-050/ Application Ref 6.2.6) as they were recorded in site specific beam trawls (see</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		neither species has been recorded in or near the TEOWF study area.	Volume 4, Annex 6-1: Site Characterisation Fish Survey Report – Spring 2017 (PINS Ref APP-084/Application Ref 6.4.6.1) and Volume 4, Annex 6-2: Site Characterisation Fish Survey Report – Autumn 2016 (PINS Ref APP-085/ Application Ref 6.4.6.2). Gobies form part of the existing baseline and are therefore considered in the assessment, regardless of the fact that they are not considered to be of commercial or conservation importance. Therefore, the outcomes of the assessment remain robust and appropriate. .
Marine Management Organisation	MMO-143	6.20 In terms of conservation interest, the slipper limpet is listed under Schedule 9 to the Wildlife and Countryside Act 1981 with respect to England and Wales because it is a non-native species. As such, it is an offence to plant or otherwise allow this species to grow in the wild.	The applicant acknowledges that the slipper limpet ( <i>Crepidula fornicata</i> ) is listed under Schedule 9 of the Wildlife and Countryside Act 1981 as a non-native species. The applicant notes that the slipper limpet is already present within the site and Thanet Extension is not predicted to act as a stepping stone for invasive and/or non-native species. See paragraph 5.11.13 <i>et seq.</i> of Volume 2, Chapter 5: Benthic Subtidal and Intertidal Ecology (PINS Ref APP-046/ Application Ref 6.2.5) for further information regarding the colonisation of WTGs/ scour protection and its effects on benthic ecology and biodiversity. There is therefore no material impact to the outcome of the assessment.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-144	6.21 The MMO considers the information on species of commercial and conservation importance would have been more clearly presented in table form, with one table for species of commercial importance, and one for species of conservation importance, accompanied by their protected status/listing.	This is noted by the Applicant. However, the applicant does not intend to re-draft the Environmental Statement to reflect this, noting that it has no material impact to the outcome of the assessment. All species identified as part of the baseline were considered in the context of their sensitivities to the impacts assessed, and were considered in the context of their legal protections and policy considerations.
Marine Management Organisation	MMO-145	6.22 Similarly, the MMO considers that Table 1 of the Site Characterisation Fish Survey Report - Spring 2017 should include two tables; and if a species is to be listed under conservation importance, its associated listing or status should be included to aid clarity.	This is noted by the Applicant. However, the applicant does not intend to re-draft the Environmental Statement to reflect this, noting that it has no material impact to the outcome of the assessment.. All species identified as part of the baseline were considered in the context of their sensitivities to the impacts assessed and were considered in the context of their legal protections and policy considerations.
Marine Management Organisation	MMO-146	6.23 Sections 6.7.9, 6.7.11 and 6.7.15 of the Fish and Shellfish Chapter: The MMO considers that further consideration on the type of trawl (i.e. otter or 2m scientific beam) and the limitations of fishing methods should be discussed in the context of the catch data. For example; beam trawls target demersal species e.g. flatfish, cod and whiting, and will not adequately target pelagic species such as herring, sprat and mackerel. Similarly, the use of 2m scientific beam trawls targets small and	The limitations of sampling methodologies are established within the supporting technical reports. The Applicant considers the characterisation to be robust and fit for the purposes of EIA, this has been recorded within the EIA Evidence Plan Report (PINS Ref APP-137/ Application Ref 8.5) as agreed with MMO and their advisers.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		juvenile fish, hence larger and adult species may not be proportionally represented.	
Marine Management Organisation	MMO-147	6.24 Section 6.7.22 of the Fish and Shellfish Chapter discusses juvenile fish and epifaunal invertebrate communities and their associated substrates, with butterfish, common sea snail, common dragonet and pogge being the species which dominated hard substrate areas. It is uncertain whether all of these were actually juveniles of the species, or if they were small-bodied species of fish that have been described as juveniles.	The data record both juveniles and small-bodies species of fish.
Marine Management Organisation	MMO-148	6.25 Section 6.10.4 discusses the direct impacts to fish and shellfish (e.g. crushing) as a result of construction activities such as foundation installation and cable installation. The impact is predicted to be of local spatial extent, of short-term duration, intermittent and reversible. Whilst the impact of foundation and cable installation can be reversed, the impact of crushing on fish and shellfish as the receptor is not reversible. The MMO considers that this statement should be amended to reflect this.	The applicant acknowledges that individual fish and shellfish subject to direct impacts (crushing) would not be reversible in terms of direct impacts to individuals, however, notes that communities/ assemblages are expected to recover from these impacts. Therefore, in the context of these communities/ assemblages, the impact is reversible. There is therefore no material impact on the outcomes of the assessment and the assessment remain robust and appropriate.
Marine Management Organisation	MMO-149	6.26 There are a number of typographical errors throughout, the correction of which would aid interpretation. For example; in the Cumulative Effects Assessment, Table 1.4 makes reference to Triton Knoll OWF Electrical System. In the 'Site	The Applicant acknowledges that there are some typographical errors throughout, however Table 1.4 is not contained within Volume 2, Chapter 6: Fish and Shellfish Ecology (PINS Ref APP-047/ Application Ref 6.2.6) or its annexes, and no such

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>Characterisation Fish Survey Report - Spring 2017', Table 2 is titled; 'Summary of the total abundance of species of commercial or conservation interest recorded in otter and beam trawls sampled during the autumn 2016 survey'. Table 6 is titled; 'Specifications of the otter and beam trawls used during the autumn 2016 TEOW Site Characterisation fish surveys.'</p>	<p>reference is made to Triton Knoll OWF or Electrical System. Table 2 of Volume 4, Annex 6-1: Site Characterisation Fish Survey Report – Spring 2017 (PINS Ref APP-084/ Application Ref 6.4.6.1) should be entitled 'Summary of the total abundance of species of commercial or conservation interest recorded in otter and beam trawls sampled during the spring 2017 survey'. Similarly, Table 6 should be entitled 'Specifications of the otter and beam trawls used during the spring 2017 TEOW Site Characterisation fish surveys. The Applicant notes that these errors do not have any material bearing on the outcomes of the assessment.</p>
<p>Marine Management Organisation</p>	<p>MMO-150</p>	<p>6.27 Embedded mitigation measures proposed for fish include soft start procedures to be undertaken on commencement of piling operations; and to reduce the effects of EMF, cables will be buried to a minimum target depth of 1m. Although, it is also noted in the Schedule of Mitigation, burial of inter-array and export cables to a maximum target burial depth of 3m is also proposed. Where it is not possible to bury the cables sufficiently, cable protection will be used. As per the National Policy Statement for Renewable Energy Infrastructure (EN-3) (Dept. of Energy &amp; Climate Change, 2011), to minimise the potential effects of EMF we recommend that</p>	<p>This is noted by the Applicant.</p>

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		<p>cables are buried to a depth of greater than 1.5m. However, the MMO recognises that this may be subject to local seabed geology conditions, and burial requirements for other receptors in the area.</p>	
<p>Marine Management Organisation</p>	<p>MMO-151</p>	<p>6.28 All relevant shellfish species and issues appear to have been correctly identified and covered, with the exception of the below points: [6.29 to 6.32]</p>	<p>The Applicant notes and welcomes the MMO's confirmation that the characterisation is adequate.</p>
<p>Marine Management Organisation</p>	<p>MMO-152</p>	<p>6.29 As the Succorfish data for 2017 has now been provided, the MMO considers the magnitude of the impact from 'Loss or restricted access to traditional fishing grounds' on the potting fleet in the area should be increased to 'medium'. The definition of a medium magnitude is 'A moderate proportion of the total annual landings weights/values derived from fishing within Thanet Extension and/or the change is temporary but recovery within a reasonable timescale is not possible'. From the Succorfish data it is evident that during the months of June-November the proposed Thanet Extension array area is fished extensively, although it isn't clear what these vessels are targeting. Given whelk potting represents one of the most important fisheries locally it is likely that a reasonable proportion of the succorfish data relate to potting, supported by figure 9.3, which highlights key potting grounds</p>	<p>The Succorfish data were reviewed and considered in detail within the assessment. It is considered a minor proportion of local potting that occurs within the project boundary will have a loss of access.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>within the proposed Thanet Extension array. This therefore suggests that a moderate proportion of local potting occurs within the extension array, rather than a minor proportion as inferred by the minor magnitude allocated in the assessment.</p>	
<p>Marine Management Organisation</p>	<p>MMO-153</p>	<p>6.30 The MMO queries whether, since shellfish species have been identified as those likely to be most vulnerable to direct damage and disturbance, the vulnerability should be greater than 'low'. Whelks are considered likely to be the most vulnerable as they are relatively slow moving and were found in moderate numbers in the array area. The MMO does however acknowledge that this is unlikely to change the overall outcome of the assessment in table 6.6, with the significance still being Minor.</p>	<p>The Applicant stands by the assessment of low sensitivity to direct damage for shellfish receptors, inclusive of whelks given their moderate abundance and relative recoverability rates. As noted by the MMO, increasing this sensitivity from 'low' to 'medium' would not change the outcome of the assessment and would not result in any significant impacts (moderate or major). Therefore, the outcome of the assessment stands and the conclusions remain robust and appropriate.</p>
<p>Marine Management Organisation</p>	<p>MMO-154</p>	<p>6.31 Succorfish data have been used to supplement VMS data, which doesn't represent the &lt;15m fleet. In summarising the data, the ES states that the Thanet Extension is used to varying degrees. It also states that the data confirm that alternative grounds are available in the vicinity of Thanet Extension and that in many cases the vessels transit through the area rather than fishing there. The MMO considers it should be highlighted in the report that the Thanet Extension array area is used by numerous potting vessels throughout the year, with a peak from June-September, when</p>	<p>The Applicant acknowledges that the array area is used by potting vessels throughout the year as described in Volume 2, Chapter 9: Commercial Fisheries (PINS Ref APP-050/ Application Ref 6.2.9). Volume 2, Chapter 6: Fish and Shellfish Ecology (PINS Ref APP-047/ Application Ref 6.2.6) does not make any reference to 'alternative' fishing grounds and finds effects associated with both reduced fishing pressure within the array and increased fishing pressure outside the array to be of negligible significance.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>many vessels fish the area. The MMO advises caution against referring to 'alternative' grounds as this suggests there is capacity for them to relocate all their gear to these areas. In practice, this may only be possible if there is sufficient capacity at those 'alternative' grounds to support additional fishing gear.</p>	
Marine Management Organisation	MMO-155	<p>6.32 The MMO considers that the limitations of MMO landing statistics should be discussed. For example, it is considered that they are likely to under-represent the under 10m shellfish fleet. Data on landings are collected via buyers and sellers notes, a requirement for individual sales of over 30kg to be registered. Vessel owners selling directly to the public may make sales under this threshold which would not be represented in the official landing statistics. This has shown to be the case in some areas of England for pot fisheries, when comparing buyers and sellers notes to monthly shellfish activity return (MSAR) forms (Cefas, unpublished). MSAR data are not currently used in the official landings.</p>	<p>The data limitations and uncertainties associated with the assessment, including the weaknesses of the MMO data are discussed within Volume 2, Chapter 9: Commercial Fisheries (PINS Ref APP-050/ Application Ref 6.2.9). The chapter, and associated technical reports employ alternative data methods, such as the Succorfish data welcomed by Thanet Fisherman's Association, to ensure that all fleets are adequately represented.</p>
Marine Management Organisation	MMO-156	<p>7.1 The potential effects of underwater noise have been appropriately identified in the ES. Underwater noise modelling has been undertaken and the potential effects are discussed in detail within the marine mammals and fish and shellfish chapters. All activities with the potential to</p>	<p>The Applicant welcomes MMO confirmation as to the adequacy of the assessment.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		generate noise have been considered. Previous concerns and queries raised during the evidence plan process and in MMO's s42 response have appear to be adequately addressed, however there are a few additional clarifications required as noted below.	
Marine Management Organisation	MMO-157	7.2 The proposed mitigation is general, standard mitigation measures usually proposed for offshore wind farm developments. The MMO considers that details of the Marine Mammal Mitigation Protocol (MMMP) will need to be agreed with the relevant bodies and should consider the (maximum) predicted impact ranges (see comment 7.4 below). The MMO agrees with the approach outlined in paragraph 7.11.75 of the marine mammals chapter which states "the maximum (instantaneous) Permanent Threshold Shift (PTS) impact range for porpoise is 660 m for the installation of monopiles at Location East. This suggests that a mitigation zone of up to 700 m would be sufficient to mitigate against instantaneous PTS, although the exact distance of the mitigation zone should be determined post-consent, once further information is available, including a full pile drivability assessment and the refinement of the piling profiles and hammer energies likely to be used".	The Applicant welcomes MMO agreement on the MMMP.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Marine Management Organisation	MMO-158	<p>7.3 As raised previously for other offshore wind farm developments, the MMO has previously advised that the most direct and comprehensive way to mitigate the risk of acoustic impact on marine species is to reduce the amount of noise emitted at source. For pile driving this could include noise reduction technologies, such as bubble curtains and acoustic barriers that are integrated into the piling rig (e.g. IHC Noise Mitigation System). The MMO considers such mitigation should be considered further as a primary means of reducing the potential acoustic impact of pile driving operations.</p>	<p>It is not considered necessary for Thanet Extension to apply further mitigation in the form of bubble curtains or other noise suppression methods. All predicted effects are not significant, with the exception of the cumulative effect on marine mammals which is 'moderate' and therefore significant with regards EIA Regulations, immaterial of Thanet Extension. Any mitigation applied to Thanet Extension would not therefore have a material benefit and would be disproportionate. We would also highlight the nature of the precaution inherent in this assessment both in terms of the likelihood that all the Tier 2 projects will come forward and overlapping construction periods with Thanet Extension, in addition to the likelihood that all these projects will realise their maximum worst case design envelope parameters. We would also highlight that although this assessment concluded moderate in terms of the short term magnitude of disturbance, there is not expected to be a lasting significant effect at population level from this magnitude of disturbance.</p>
Marine Management Organisation	MMO-159	<p>7.4 The MMO considers the predicted impact ranges in Para 7.11.81 are slightly misleading. The predicted impact ranges should be based on the maximum largest impact ranges (i.e. 1.2km), not the mean ranges (i.e. 960m) as stated in the</p>	<p>The MMO is correct, the PTS ranges presented in Tables 7.25 and 7.26 of the ES are the mean ranges not the maximum. The mean range was presented in the ES as it is important to note that the mean ranges present an indication of the risk</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>report. The MMO notes that maximum values for other scenarios have been considered elsewhere, and queries whether this was intentional.</p>	<p>averaged out across all the directions and smooths out the effect of predicted local variations in noise propagation conditions. As such, the average impact ranges present a better indication of the overall risk averaged over space and time. The maximum range indicates the total maximum distance of the impact range but is only accurate for a small number of possible trajectories from the piling site. The impact areas are asymmetrical and as such, use of the maximum range significantly overestimates the overall general extent of the impact. However, the MMMP and EPS risk assessment will be updated to present both mean and maximum ranges before final sign off.</p>
<p>Marine Management Organisation</p>	<p>MMO-160</p>	<p>7.5 Following on from the previous point, para 7.11.83 states that “the potential for exposure to noise levels that could cause PTS over the whole piling sequence can be reduced by extending the mitigation zone out to the maximum range (across all species) predicted by the National Oceanic and Atmospheric Administration (NOAA) thresholds of 960 m”. The MMO considers the maximum ranges should be taken into account here when considering mitigation. In addition, para 7.11.102 and Table 3.3 states a cumulative SEL PTS impact range of 30m, however the maximum cumulative</p>	<p>See the Applicant's response to MMO-159.</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		SEL PTS impact range is 40m. This should be corrected.	
Marine Management Organisation	MMO-161	7.6 Note that the NOAA criteria provide thresholds for PTS and TTS for impulsive noise, based on the peak Sound Pressure Level (SPL) (unweighted) and the cumulative sound exposure level (SEL) (weighted) within a 24-h period. There is no SEL single strike criteria in NOAA, see Tables 4-8 to 4-9.	This is noted by the Applicant. These tables were presented to allow like for like comparison with previous use of an SEL single strike criteria based on Southall Thresholds.
Marine Management Organisation	MMO-162	8.1 All operations and maintenance activities listed in the plan have been marked as green, needing only notification to the MMO that works are being undertaken. However many of these works are licensable activities that would require an additional marine licence if they exceed the values assessed in the ES. Therefore the MMO disagrees that all activities can be marked as green. Activities such as cable repair, cable replacement, additional cable laying, and cable reburial should be marked as amber, as a minimum the MMO would require notification of the intended works, and a method statement demonstrating that the actual works are within the parameters of those assessed in the ES, and confirmation that any mitigation conditions on the DML are being adhered to e.g. Notice to Mariners. The plan should include details that would normally be required for a stand alone marine	See the Applicant's response to MMO-26.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>licence application. This should include details for each type of activity permitted; methodology, the maximum number of each discrete activity (per year and over the operational lifetime of the wind farm), duration, footprint, location (where possible) and timings of works. Also see comments at 1.26.</p>	
<p>Marine Management Organisation</p>	<p>MMO-163</p>	<p>The MMO queries whether the Fisheries Liaison and Co-Existence Plan is intended to be submitted as a final plan at application stage. The DML interpretations state the document certified by the Secretary of State for the purposes of the Oder. Section 1.1 of the plan states “As such this should be considered to be a draft for consultation and agreement prior to the development’s application.” If a final certified plan, the MMO consider insufficient contact details for fisheries liaison officers are included at this stage and it would also require reference to any changes being notified to the MMO and industry at the appropriate stage. If the intention is to submit a final plan for approval by the MMO, this should be included in the pre-construction plans and documentation conditions of the DML.</p>	<p>The Fisheries Liaison on Co-Existence Plan (FLCP) (PINS Ref APP-143/ Application Ref 8.8) was submitted as agreed with TFA. The statement referring to the document being a 'draft for consultation' is an error which should have been removed and which reflects the consultation process that has been undertaken for the plan. A revised plan will be submitted during the examination process by the Applicant.</p> <p>Whilst it is not possible to identify the Fisheries Liaison Officer (FLO) for construction at this time, details of the FLO would usually be provided to the MMO in the Project Environmental Management Plan (Condition 12 (d) (Pre-construction plans and documentation)). A commitment to inform the local fishing industry and the MMO of both the FLO and the Offshore Fisheries Liaison Officers (OFLO) (if required) has also now been included in Section 3.6 of the revised FLCP.</p>

## 1.50 RR-050 - Maritime and Coastguard Agency

53 The Applicant's responses to the Relevant Representation RR-050 is presented in Table 51.

**Table 51: Applicants responses to RR-050**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Maritime Coastguard Agency	MCA-1	In the early stages, MCA raised concerns regarding extent of the red line boundary to the west and requested that specific impacts were thoroughly assessed in the Navigation Risk Assessment (NRA). Vattenfall have considered these issues in line with our guidance MGN 543, and our published risk assessment methodology.	The Applicant welcomes confirmation from the MCA that the NRA and associated assessments are in line with the guidance.
Maritime Coastguard Agency	MCA-2	The NRA deems the increase in risk to be tolerable; that pilot boarding is still feasible, the increase in vessel routing is not significant, that vessels will be constrained and that these issues are manageable. The NRA also states that the increase in risk is further mitigated by a reduction of the redline boundary, as submitted in the application for consent. The MCA does not accept that the increase in risk is tolerable with the current proposed redline boundary, considering the collective impact and the resultant changes that will be required in an already highly complex area for navigation.	Following detailed discussion with the MCA it is agreed that the method of determining tolerability is accepted. Furthermore, it has been agreed that the wider assessment and baseline is agreed as fit for purpose. The conclusions are therefore based on an agreed methodology and baseline and are, in the view of the Applicant, robust. The Applicant welcomes further dialogue on the assessment conclusions but has not received any detailed or evidenced substantive criticism of the NRA as submitted.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Maritime Coastguard Agency	MCA-3	There will be more pressure on pilots, additional burden on the PLA within their VTS jurisdiction, operational implications, and more pressure on mariners with a reduction of available sea space on the western extent.	<p>It is noted within the Navigational Risk Assessment (PINS Ref APP-089/ Application Ref 6.4.10.1) in Section 3.4.2 through reference to Figure 10.2 that the project area is partially within the PLA VTS jurisdiction, but outwith the PLA Statutory Harbour Limits within which PLA have jurisdiction and responsibility for navigation safety.</p> <p>The pilotage study included within the Application (PINS Ref APP-090/ Application Ref 6.4.10.2) was undertaken with pilots using the Port of London Authority simulator, concluded there is sufficient sea room, with the extension in place for pilotage operations to remain feasible under the metocean and scenario conditions considered within the study and agreed with participants. Together with the wider NRA and shipping and navigation chapter (PINS Ref APP-051/ Application Ref 6.2.10) the Applicant has concluded the reduction in sea room is tolerable and ALARP.</p> <p>The applicant notes that no detailed substantiation of these concerns identified have been provided and concerns will be addressed by the Applicant as and when further evidence is submitted.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Maritime Coastguard Agency	MCA-4	The MCA's view is that the reduction to the redline boundary was not to the extent we were expecting in response to the concerns raised during the pre-application consultation, and we cannot conclude that the risks are reduced to ALARP with the risk controls identified in the NRA. The MCA strongly recommends that Vattenfall reconsider the western boundary, and we would welcome the opportunity to discuss further options with Vattenfall until such time the risk is considered to be acceptable by MCA and its stakeholders.	See the Applicant's response to MCA-2. The Applicant continues to welcome dialogue on the findings of the NRA and on whether further mitigation is required.
Maritime Coastguard Agency	MCA-5	The MCA must take into account the significant concerns raised by our stakeholder regarding this extension, and we support the representation submitted by the SUNK VTS User Group, which includes representatives of both Navigation Safety Branch at MCA and HM Coastguard.	The Applicant acknowledges the MCAs support of the representation submitted by the SUNK VTS User Group. The response to the relevant representation from the SUNK VTS User Group can be found at section 1.51 of this response to Deadline 1.

## 1.51 RR-051 - Sunk VTS User Group

54 The Applicant's responses to the Relevant Representation RR-051 is presented in Table 52.

**Table 52: Applicants responses to RR-051**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Sunk User Group	SUG-1	This response is written on behalf of the Sunk User Group, and endorsed by the Chairperson, representatives of HMCG and the Vessel Traffic Services Policy Steering Group (VTS PSG). This VTSPSG was established by the MCA to help meet the United Kingdom's obligations under SOLAS Chapter V Reg. 12 and the EU Traffic Monitoring Directive. The Sunk User Group is a principal stakeholder forum chaired by MCA, to ensure co-operation between relevant key stakeholders for the safe and efficient operation of the Sunk Vessel Traffic Services (VTS). This Forum concluded at its meeting on 25th July 2018 that the significant concerns raised by its stakeholders remain, despite the mitigation proposed in the Navigation Risk Assessment (NRA) and the reduction in the red line boundary.	The views of the Sunk User Group are noted. The project has undertaken a detailed Navigational Risk Assessment and ES chapter (PINS Ref APP-089/ Application Ref 6.4.10.1, and PINS Ref APP-051/ 6.2.10 respectively) and the methodology of assessment has been recognised by the MCA (see the Applicant's response to MCA-1) and THLS as being in accordance with MGN 543 and published risk assessment methodology. The conclusions of the assessment are that whilst there is an increase in risk likelihood the increase has been assessed by the Applicant as tolerable.
Sunk User Group	SUG-2	The forums' opinion on the recent alterations to the red line boundary is extant in the understanding that it has not addressed the issue. Whilst it is understood that the NRA mentions only a limited impact to traffic routing, it is evident that	The potential effects on pilotage are considered in detail within the NRA, which as noted in response to SUG-1 has been agreed as fit for purpose and based on the appropriate guidance (MGN 543).

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>the traffic passing between the windfarm and the Kent coast will be squeezed further to the west. The sea-room for pilot boarding and landing at the NE Spit will be significantly reduced, forcing more vessels to use the Tongue, which will also be forced to be relocated further out to the north east. This will further impact on pilotage transfer times and piloted voyage times and in worse weather will reduce the availability of the pilot stations altogether.</p>	<p>The assessments presented within the NRA and ES chapter do not conclude there is sufficient sea room at North East Spit for continuation of pilot transfer operations. The section specifically addressing these in detail is Section 7.2 of the NRA (PINS Ref APP-089/ Application Ref 6.4.10.1), and the Pilot Transfer Bridge Simulation exercise presented in Annex 10-2 of the application (PINS Ref APP-090/ Application Ref 6.4.10.2).</p>
Sunk User Group	SUG-3	<p>There is also concern regarding the required 500m safety zones around windfarms, further reducing navigable sea room, unless Vattenfall do not place any turbines within 500m of the red line boundary.</p>	<p>The 500m safety zones noted by the Sunk User Group applicable only relevant during construction and would be a safety zone around active construction vessels. The construction safety zones are applied as rolling safety mitigation and has been assessed in the NRA and wider ES as a contributing measure to ensuring the impact of collision risk remains tolerable.</p>
Sunk User Group	SUG-4	<p>The forum agrees that the current NRA is not detailed enough and do not believe this to be a true reflection of the operations within the area. This is particularly evident in the pilotage study which appears to have been completed in sterile conditions, using experienced pilots and not unfamiliar overseas Masters', as is the clear risk to navigation within the area.</p>	<p>As noted previously the project has undertaken a detailed Navigational Risk Assessment with a methodology that has been recognised by the MCA (Applicant's response to MCA-1) and THLS as being in accordance with MGN 543 and published risk assessment methodology. The addition of studies such as the pilotage bridge simulation study allow a detailed review of key sensitivities for the project and expansive responses to Sunk User Groups comments on the pilot bridge simulation are provided within the oral speaking note summaries although it is noted that</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>the PLA Bridge Simulator, tested scenarios and conditions were developed and agreed in close consultation with operative pilots in order to provide representative simulations.</p>
Sunk User Group	SUG-5	<p>The current NRA relies heavily on the others to change their operation to fit with the development, particularly with regards to buoyage, pilotage, communications and traffic. It is felt that this will put extra pressure on coordination on the movement of ships and efficiency of operation, which could impact safety within the area.</p>	<p>It is noted that, in addition to assessing that continued pilot transfer operations remain feasible, the participants in the bridge navigation simulation identified a range of measures to ensure safe and efficient transfer operations (themed as co-ordination/situational awareness, training, regulatory/geographical). It should be emphasised that there is no reason why some of these should not be applied anyway as good practice and would serve to the broad benefit of safeguarding safety for current and future operations with and without the extension.</p> <p>Building on this, and wider assessment, the NRA identifies a number of mitigation measures which the applicant considers may be appropriate (refer Table 21 of the Navigation Risk Assessment). The proposed mitigation does not require significant adaptation and increasing co-operation and co-ordination would not have an adverse effect on safety but safeguard it.</p> <p>The wider measures included within the NRA (as presented in Table 20 and Table 21 of the NRA) require coordination with others, such as Port of Ramsgate and PLA, but do not require a change in operations.</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>The burden for additional communications and construction coordination insofar as ensuring adequate promulgation of information (Measures 3, 4 and 5 of Table 21) is concerned will be instigated by the Applicant. The requirement for further measures such as relocation of the cardinal buoys at Drillstone and Thanet North (measure 7) is dependent on the final layout (and will agreed with MCA and THLS) and the responsibility for undertaking the associated work would be discussed with the relevant regulators (in this case understood to be THLS).</p> <p>No further measures are proposed or required as the project is considered to be tolerable and ALARP.</p>
Sunk User Group	SUG-6	<p>Previous mitigation methods included a Marine Coordination Centre, which Vattenfall have since removed. The forum is not certain that the risk to navigation is suitably mitigated following the removal of this, however it was never determined who would coordinate the traffic. It also appears that the recommended watch of radar and CCTV during construction and decommissioning by Vattenfall would be limited due to the lack of coverage over other vessels.</p>	<p>As identified in response to SUG-5 all mitigation measures considered necessary to ensure the project is tolerable and the risk ALARP have been applied. These are presented at Table 20 and Table 21 of the NRA.</p> <p>No further measures are proposed or required as the project is considered to be tolerable and ALARP.</p> <p>The Applicant has considered impacts with respect to impacts on communications, radar and positioning systems during construction and decommissioning within Section 7.9 of the NRA (Application Re 6.4.10.1 PINS Ref APP 089) and, as per Table 20 of the NRA, the</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			project has committed to a comprehensive watch of site by radar, AIS, VHF, DSC and CCTV during construction by project's Marine Coordinator and this will be developed to ensure adequate coverage is achieved. Furthermore, a guard vessel is identified within Table 21 to enforce construction safety zones and advise other passing vessels of the works.
Sunk User Group	SUG-7	In conclusion, the current NRA does not appear to have suitably mitigated the risks with regards to current or anticipated future traffic to the area.	The assessment undertaken by the Applicant has concluded that whilst there is an increase in risk likelihood the increase is deemed tolerable. Existing and future traffic profiles have been analysed within the assessment. The Applicant would welcome detailed and evidenced substantiation of concerns where SUG do not consider the mitigations to be sufficient and which will be addressed by the Applicant as and when further evidence is submitted.

## 1.52 RR-052 - Ministry of Defence

55 The Applicant's responses to the Relevant Representation RR-052 is presented in Table 53.

**Table 53: Applicants responses to RR-052**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Ministry of Defence	MD-1	I write to confirm the safeguarding position of the Ministry of Defence (MOD) in relation to the above application to construct and operate the proposed Thanet Extension Offshore wind farm. I am writing to tell you that the MOD has no objection to the proposal.	The Applicant notes and welcomes that the MOD has no objection to the project.
Ministry of Defence	MD-2	The application is for 34 turbines at 250.00 metres to blade tip. This has been assessed using the grid references below for the boundary outline as based upon the coordinates detailed in the application documentation.	Please see the Applicant's response to MD-1.
Ministry of Defence	MD-3	The turbines and some of the associated tall ancillary offshore structures will affect military low flying training activities conducted in this area. As such it will be necessary for these structures to be fitted with appropriate aviation warning lighting to maintain the navigational safety of military aviation.	Requirement 6 (Aviation Safety) of the DCO requires the Project to exhibit such lights as are required by the Air Traffic Navigation Order 2016.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Ministry of Defence	MD-4	<p>The MOD has assessed the effects of the proposed wind farm development upon the effective operation of its air traffic and air defence radars. It has been confirmed that the proposed wind turbines will not be in line of sight or detectable to MOD air traffic radars and are not expected to impact upon the operation of air defence radars. However, the MOD has recently identified that in certain conditions the performance of air defence radars may be adversely affected by large scale offshore wind farm developments when they become operational. Based upon the technical evidence currently available the MOD does not identify a need for any form of mitigatory measures to address this potential issue to be implemented in relation to the scheme for which consent is currently sought.</p>	Please see the Applicant's response to MD-1.
Ministry of Defence	MD-5	<p>If consent is given the MOD will need to be advised of the following prior to commencement of construction;</p> <ul style="list-style-type: none"> <li>• the date construction starts and ends;</li> <li>• the maximum height of construction equipment;</li> <li>• the latitude and longitude of every turbine.</li> </ul>	Condition 9 (Aviation Safety) of the Generation Assets dML requires the Applicant to submit the details requested in the Relevant Representation to the Defence Infrastructure Organisation Safeguarding 14 days prior to the commencement of the authorised scheme.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		This information is vital as it will be plotted on aviation charts which are used in the management of military low flying activities conducted in the area.	

### 1.53 RR-053 - Natural England

56 The Applicant's responses to the Relevant Representation RR-053 is presented in Table 54.

**Table 54: Applicants responses to RR-053**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-1	1.10. Natural England intends to continue discussions with Vattenfall Wind Power Ltd. to seek to resolve all concerns through the provision of further assessment and / or information by which can then lead to the agreement of the outstanding issues in statements of common ground. Failing satisfactory agreement, Natural England advises that the matters set out in sections 3 to 6, and the appendix, will require consideration by the Examining Authority as part of the examination process.	This is noted by the Applicant.
Natural England	NE-2	2.2.1. Special Protection Areas (SPAs) - The following interest features are those which may be affected by the proposed project for which Natural England have outstanding concerns: [table provided in rep] Thanet Coast and Sandwich Bay SPA; Outer Thames Estuary SPA and Flamborough and Filey Coast pSPA	This is noted by the Applicant.
Natural England	NE-3	2.2.2. Special Areas of Conservation (SACs) - The following sites and interest features are those for which Natural England have outstanding concerns:	Following discussions with Natural England, it is the Applicant's understanding that the reference to Margate and Long Sand SAC was erroneous, and is no longer considered relevant as all relevant

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		[table in rep] Southern North Sea cSAC, Thanet Coast SAC and Margate and Long Sands SAC.	effects have been considered and appropriate conclusions drawn. Southern North Sea cSAC and Thanet Coast are dealt with on a point by point basis below.
Natural England	NE-4	2.2.3. Ramsar sites – The following sites and interest features are those for which Natural England has outstanding concerns: [table in rep] Thanet Coast and Sandwich Bay Ramsar	This is noted by the Applicant.
Natural England	NE-5	2.2.4. Sites of Special Scientific Interest (SSSI) – The following notified features are those for which Natural England have outstanding concerns: [table in rep] Sandwich Bay and Hacklinge Marshes SSSI	This is noted by the Applicant.
Natural England	NE-6	2.2.5. Marine Conservation Zones (MCZ) – The following designated features are those for which Natural England have outstanding concerns: [table in rep] Thanet Coast MCZ and Goodwin Sands pMCZ	This is noted by the Applicant.
Natural England	NE-7	2.3. Nationally Protected Species (NPS) – The following marine and terrestrial European protected species may be affected by the proposed project: · Harbour porpoise	This is noted by the Applicant.
Natural England	NE-8	3.1. Natural England considers that the documents presented to the Planning Inspectorate, to support the Application for Development Consent, are of sufficient quality and detail to allow a considered assessment of the impacts on nature conservation issues in line with	The Applicant notes and welcomes this response and confirmation of the adequacy of the Application documents.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended), the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) and Conservation of Habitats and Species Regulations 2017.	
Natural England	NE-9	3.2. However, Natural England does have outstanding concerns regarding the impacts on the Thanet Coast and Sandwich Bay SPA and Ramsar, Thanet Coast SAC and the Sandwich Bay and Hacklinge Marshes SSSI. We also have concerns on the proposed Goodwin Sands MCZ.	Noted. The Applicant welcomes the ongoing dialogue on these matters.
Natural England	NE-10	3.3. On the basis of information submitted, Natural England is not satisfied that it can be concluded beyond all reasonable scientific doubt that the project would not: [3.3.1 to 3.3.3]	Noted. The Applicant welcomes the ongoing dialogue on these matters.
Natural England	NE-11	3.3.1. have an adverse effect on the integrity of the: · Thanet Coast and Sandwich Bay SPA and Ramsar; and · Thanet Coast SAC;	Noted. The Applicant welcomes the ongoing dialogue on these matters.
Natural England	NE-12	3.3.2. hinder the conservation objectives of the Goodwin Sands pMCZ;	Noted. The Applicant welcomes the ongoing dialogue on these matters.
Natural England	NE-13	3.3.3. damage the features for which the Sandwich Bay and Hacklinge Marshes SSSI is designated for.	Noted. The Applicant welcomes the ongoing dialogue on these matters.
Natural England	NE-14	3.4. Natural England's primary, but not only, concerns relate to the potential loss of a large area of saltmarsh under one of the landfall options	The Applicant recognises the concern in relation to the loss of saltmarsh and as discussed with Natural England on the 7 <sup>th</sup> January 2019 and confirmed in



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>described within the Application. This saltmarsh is a notified feature of the SSSI and a supporting habitat for the SPA. In addition to this we are still awaiting key site investigation data which will help decide the final landfall option and help us determine the overall impact upon these protected sites. Further still, as has been raised throughout our previous responses to the Applicant, we continue to question the site selection process throughout the evidence plan process. There is a lack of clarity and information on why Pegwell Bay was chosen for the landfall area, when options further south could potentially have less of an impact upon protected sites. Other concerns include, but are not limited to, the potential effects upon the Thanet Coast SAC and proposed Goodwin Sands MCZ and inconsistencies within the draft DCO and DML.</p>	<p>subsequent emails has decided to remove landfall Option 2 from the design envelope for the proposed project. A revised Report to Inform Appropriate Assessment will be submitted at Deadline 2 detailing the implications for European designated sites.</p>
<p>Natural England</p>	<p>NE-15</p>	<p>4.1. This section outlines the principal issues that Natural England has with the Application. The issues set out below require further work, or clarification, to enable a complete and robust assessment to be undertaken. If the issues are not resolved Natural England will not be able to conclude beyond all reasonable scientific doubt that there will be 1) no adverse effects on the integrity of the SPAs, SACs and Ramsars; 2) no likely damage to the features of the SSSI; and 3) no</p>	<p>These matters are noted and addressed on a point by point basis below.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		hindrance to the achievement of the conservation objectives for the MCZs. This is not an exhaustive list and section 5 should also be reviewed in conjunction with this section.	
Natural England	NE-16	4.2.1. Natural England previously asked for further information to help determine why certain landfall options have been progressed for further consideration and why others have not. On receipt of the final Application Natural England acknowledge the site selection chapter (Doc. Ref. 6.1.4) and the additional information that is provided within it. However, Natural England currently believe the reasoning and information as to why Pegwell Bay was chosen over options further south in Sandwich Bay is particularly weak in its current form.	This is noted and addressed on a point by point basis below.
Natural England	NE-17	4.2.2. In that the Sandwich Bay Option (SBO), has overall less interactions with designated sites than the Pegwell Bay option (PBO). However, further reasoning by the Applicant states that the SBO crosses a greater range of priority habitats (as highlighted by figure 4.10 in document 6.1.4) compared to the PBO. These habitats include intertidal mudflat, coastal sand dunes and coastal vegetated shingle.	The overall footprint of interaction is marginally less for the SBO, however the Applicant considers the risk of interaction with the designated features is greater for the SBO. As noted by Natural England this is highlighted by figure 4.10 in PINS Ref APP-040/ Application Ref 6.1.4). It is clear from this figure that whilst the footprint of temporary effects in the designated sites may be greater for PBO, the interaction with designated features/priority habitats is lower. The converse is apparent for SBO.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-18	<p>4.2.3. However, there is no acknowledgment that the PBO would interact with priority habitat saltmarsh, as highlighted in figure 4.10. With the current landfall options described within the environmental statement (ES), one option could result in a permanent loss of saltmarsh habitat, which is a notified feature of the Sandwich Bay and Hacklinge Marshes SSSI and a supporting habitat of the Thanet Coast and Sandwich Bay SPA and Ramsar.</p>	<p>The interaction with the saltmarsh is noted throughout the ES, inclusive of the site selection chapter (Application Ref 6.1.4). It is recognised as a notified feature of the SSSI but previous discussion within the evidence plan process had indicated that it was not considered a supporting habitat of the SPA, due to its elevation and the ecology of the SPA features as noted within the Evidence Plan Report (Application Ref 8.5), and in the relevant representation received from RSPB. Notwithstanding this the Applicant has confirmed that there will no longer be permanent loss of saltmarsh, as a result of landfall Option 2 being withdrawn from the proposed project design envelope.</p>
Natural England	NE-19	<p>4.2.4. The interaction with coastal sand dunes for the SBO could potentially be avoided by utilising engineering techniques such as Horizontal Directional Drilling (HDD). The Applicant states there is uncertainty with HDD in this substrate due to "underlying geological heterogeneity." However, Natural England have not received or are aware of independent engineering constraints information, such as geotechnical investigations, to be able to confirm these conclusions. Other recent offshore windfarm developments have successfully utilised HDD to bypass sand dunes. For example, Triton Knoll offshore windfarm are</p>	<p>The use of Horizontal Directional Drilling (HDD) was considered for the Sandwich Bay landfall option but for the reasons set out in Paragraph 4.9.32-3 of Volume 1, Chapter 4: Site Selection and Alternatives (Application Ref 6.1.4) of the Environmental Statement it was considered to perform less favourably than Option 1 in relation to the particular SBO, given the sensitivity of the specific habitats it would potentially affect, including direct interaction with not only priority mudflats but shingle beach, sand dunes at multiple and extensive locations, and the ancient dune</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>proposing to HDD at Anderby, Lincolnshire to bypass both sand dunes and sea defences. Additionally, Hornsea Project 1 has just successfully completed works at Horseshoe Point on the Lincolnshire coast that have again bypassed sand dunes, sea defences and in one case a large drainage channel.</p>	<p>pastures. See further the response to NE-20.</p>
<p>Natural England</p>	<p>NE-20</p>	<p>4.2.5. Although identified as being sensitive to physical disturbance, the role the coastal vegetated shingle currently plays in this area and the weighting it receives from the Applicant needs to be further examined. Only a small bar of shingle exists in this area, with any SPA bird features favouring other areas within the bay. Comparisons are made to the shingle at Dungeness, however the shingle habitat here exists over 1600 ha with very distinct parallel ridges with a characteristic zonation of vegetation. The scale of which is not mirrored at Sandwich Bay. The assumption is that any cabling would be HDD under the shingle and any disturbance would be temporary, and as stated above, independent engineering information has not been received to confirm the Applicant's assertions of the difficulties of drilling under this substrate. Therefore Natural England, without any further technical information to demonstrate otherwise, believe that HDD would</p>	<p>The use of HDD is noted, however due to the underlying geology (sands and the regionally important chalk aquifer as recorded and considered in Volume 3, Chapter 6: Ground Conditions, Flood Risk and Land Use (Application Ref 6.2.6) of the ES) HDD is considered to be a less favourable option given the particular features of the Sandwich Bay landfall area, including a risk of failure and/or interaction with the chalk aquifer.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		be a useful tool to mitigate any potential disturbance to the shingle in this area.	
Natural England	NE-21	4.2.6. The priority mudflats would be much harder to avoid in terms of cabling, however due to the highly tidal and ephemeral conditions that exist here recovery and disturbance would be expected to be relatively quick and temporary, without any probable lasting damage. Furthermore, the assertion that the implementation of effective mitigation and habitat restoration would be more successful with PBO has to be questioned. The permanent loss of saltmarsh associated with PBO will be extremely hard to compensate compared to the temporary disturbances associated with the SBO.	The site selection chapter (Application Ref 6.1.4) identifies the locations of the priority habitats in the context of all other facets of the site selection process, from landscape and visual effects to tourism and recreation and designated features. It is considered appropriate and accurate to identify that the priority mudflat habitats are entirely located within the SBO area of search. As noted previously the Applicant can also confirm that landfall Option 2 has been withdrawn from the project design envelope and as such there is no permanent loss of habitat.
Natural England	NE-22	4.2.7. Overall, both options have positive and negative aspects, however Natural England believe that the SBO has been discounted without sufficient consideration of the expected environmental constraints and engineering techniques that could be employed to minimise any potential impacts. Natural England consider that the worst case scenario is the potential permanent loss of saltmarsh at Pegwell Bay, when that is compared with the SBO, and that this would result in a worse environmental outcome and greater environmental risks. Many of Natural England's concerns associated with the PBO relate	These observations are noted and addressed in NE-19 and NE-24.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>to this potential permanent loss of saltmarsh. If the Applicants can commit to HDD to avoid this loss, then these concerns would be lessened. Therefore, we have asked the Applicants to provide further technical information on why the SBO is not viable and carry out the further site investigation works within Pegwell Bay as soon as possible.</p>	
<p>Natural England</p>	<p>NE-23</p>	<p>4.3.1. Natural England does not support the proposed landfall option 2 within Pegwell Bay, which involves the permanent loss of up to 1400 m2 of SSSI and SPA and Ramsar supporting habitat. Consequently, we do not agree with the conclusions reached within the Report to Inform Appropriate Assessment (RIAA) which screens out this potential loss of saltmarsh as having no adverse effect on integrity. This conclusion is based on limited survey data which determines that the saltmarsh is not a functioning supporting habitat for the SPA birds and represents a lower quality of saltmarsh when compared to other areas within the bay. There is a level of uncertainty associated with these conclusions, particularly as a roosting flock of 300 European Golden Plover were identified in the vicinity of / overlapping with the area that could be affected by the extension of the seawall.</p>	<p>The Applicant notes these concerns as noted previously the Applicant can also confirm that landfall Option 2 has been withdrawn from the project design envelope and as such there is no permanent loss of habitat.</p> <p>See the Applicant's response to comment NE-160 regarding the screening out of permanent loss of saltmarsh habitat in respect of SPA qualifying bird species. The Applicant notes that the survey record of the flock represents one out of thirty surveys undertaken, in an area recognised as not representing typical habitat.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-24	<p>4.3.2. Irrespective of the conclusions above, the saltmarsh is a notified feature of the Sandwich Bay and Hacklinge Marshes SSSI. Paragraph 175 (a) and (b) of the revised National Planning Policy Framework (2018) sets out the principles the local planning authority should apply when determining the impact of a proposal upon a SSSI. These principles do not seem to have been considered in this case as 1) it is difficult to determine successful mitigation, and potentially compensation measures for this loss within the immediate area and, 2) it is not clear whether there will be no adverse effect on integrity as a result of this loss.</p>	<p>This representation is directed at the same concerns expressed under NE-23 - see the above response.</p>
Natural England	NE-25	<p>4.3.3. Additionally, further consideration needs to be given to assemblage of invertebrate species associated with the Ramsar. There are several important habitats that exist which support parts of the assemblage which need to be recognised and assessed in further detail. Therefore, the habitats should be used as a likely indicator of potential disturbance / loss of species.</p>	<p>The Applicant notes that Natural England has previously stated they were 'content that the current [terrestrial invertebrate] assessment has provided sufficient data to characterise and evaluate the value of the site for terrestrial invertebrates' (letter dated 8/3/18 and confirmed at a meeting on 5th October). The Applicant also notes that Natural England has not previously raised any concerns regarding the proposed mitigation for terrestrial invertebrates. As discussed at the meeting on 5th October the Applicant would therefore welcome clarification from Natural England on any specific concerns relating to Ramsar Assemblage species to which the Applicant can respond as appropriate.</p>

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			<p>Please also see the Applicant's responses to comments NE-161, NE-162 and NE-166.</p>
<p>Natural England</p>	<p>NE-26</p>	<p>4.3.4. In order to avoid the issues associated with this habitat loss, Natural England strongly encourage the Applicant to pursue the alternate landfall options, in particular option 1 which involves the use of HDD to bypass the saltmarsh habitat.</p>	<p>The Applicant notes these concerns and can confirm that landfall Option 2 no longer forms part of the proposed design envelope.</p>
<p>Natural England</p>	<p>NE-27</p>	<p>4.4.1. Natural England consider there is not enough information to determine the potential impacts upon the Goodwin Sands pMCZ and therefore cannot agree with the conclusions presented. There needs to be a meaningful assessment of the ecological impacts of the installation, maintenance and decommissioning of the cables, particularly upon the proposed features of the pMCZ. This should be informed by detailed pre-construction surveys to confirm the presence of sensitive habitats (to be able to successfully microsite), with an assessment of the likely volumes of rock protection, dredged and pre-swept material that will be displaced. Any further data as soon as possible would help further inform the assessment. A cumulative effects assessment should also be carried out to determine the effects of previous works, such as</p>	<p>An assessment of potential effects on the has been presented in the context of the Project Description and associated Rochdale Envelope within the MCZ Assessment (PINS Ref APP-083/ Application Ref 6.4.5.3). It is not considered feasible to undertake a more detailed assessment using pre-construction data as this is not available.</p> <p>The Nemo interconnector works will be complete by the time Thanet Extension is constructed (if consented) and therefore there will therefore be no temporal overlap with construction works. Information regarding Nemo cable protection material in the context of the MCZ is not, at the time of writing and after discussing the MCZ assessment with Natural England, publicly available.</p>



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		<p>the NEMO interconnector cable and any proposed dredging of Goodwin Sands.</p>	<p>An assessment of other plans and projects (such as the NEMO interconnector which is assessed cumulatively with Thanet Extension in the context of the benthic ecology chapter (PINS Ref APP-046/ Application Ref 6.2.5) with the conclusions then being applied to habitats within the MCZ) cumulatively with the predicted effects of the Thanet Extension project has therefore been provided, in the context of the sensitive habitats present.</p>
<p>Natural England</p>	<p>NE-28</p>	<p>4.4.2. Natural England advises that any rock protection used within Goodwin Sands pMCZ would be likely to lead to a footprint loss of / modification to designated features and habitats. Therefore, we emphasise the importance of ensuring sufficient burial of any cables. This sufficient burial will be informed and achieved by robust pre-construction surveys and utilising the correct burial techniques and machinery respectively. Furthermore, maintaining equipment in line with manufacture recommendations will ensure machinery is working at its optimum capacity, with lessons learnt from NEMO cable installation being utilised.</p>	<p>The MCZ assessment (Application Ref 6.4.5.3) considers the addition of cable protection within the Goodwin Sands MCZ and concludes that there will not be an adverse effect on the features of the site. The assessment concludes that any cable protection will be expected to become covered by existing material, with the relevant designated habitats (in this case, at this location, sands and gravels) therefore not being loss but resulting in an overlay of the cable protection material. Specifically the physical processes chapter notes (at paragraph 2.11.36 of Application Ref 6.2.2) <i>“Following installation and under favourable conditions, an initial period of sediment accumulation would be expected to occur, creating a smooth slope against the cable protection. The process of wedge formation may take place over a</i></p>

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			<p><i>period of a few weeks to months, depending on rates of sediment transport."</i></p> <p>Notwithstanding this the use of cable protection will be informed by a cable burial risk assessment which is required under the dML. (Condition 12(g)(ii) of Schedule 11 and Condition 10(h)(ii) of Schedule 12 of the DCO (Application Ref 3.1) and will inform the necessary approach taken. Where applicable and feasible lessons learnt from NEMO will be applied, but it is important to note that the baseline data captured and the CBRA will need to be ground condition and location specific and the lessons may not always apply.</p>
Natural England	NE-29	<p>4.4.3. We note that not all the proposed export cable corridor enters the Goodwin Sands pMCZ and encourage the Applicant to install their cables within this northern section to avoid any impacts upon the pMCZ.</p>	<p>This is noted, but subject to the final detailed design and provision of the associated pre-construction documents secured within the dML.</p>
Natural England	NE-30	<p>4.5.1. Natural England has identified data and methodological issues relating to the information that underpins the ornithological assessments within the Habitats Regulations Assessment and Environmental Impact Assessment, these include:</p> <ul style="list-style-type: none"> <li>· The methodology for assessing displacement for red throated diver.</li> <li>· The Collision risk modelling predictions using Option 1 should be presented alongside Option 2 outputs.</li> </ul>	<p>Following discussion with Natural England Vattenfall have agreed to providing clarification notes on these core 3 areas. It is provisionally agreed that displacement for RTD will utilise site specific data to contextualise the status of Thanet Extension as somewhat unique with regards displacement of RTD. An agreed approach has also been determined for CRM and the use of Option 2, in the context of very low species counts at Thanet Extension. It has also been agreed that the</p>

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		<ul style="list-style-type: none"> <li>The figures used in cumulative displacement and cumulative CRM assessments.</li> </ul>	Applicant will provide further information on the methodology used to calculate cumulative effects.
Natural England	NE-31	4.6.1. Natural England does not agree with the exclusion of Tier 2 projects within the in-combination assessment.	The Applicant can confirm that further discussions will be held with Natural England regarding the tiering approach taken. To date the approach has sought to incorporate the uncertainty associated with the projects at the post-consent, pre-construction phase.
Natural England	NE-32	4.6.2. Following recent information from other offshore windfarms under construction Natural England are trying to determining the effectiveness of soft start for mitigation purposes and the implications this has upon the modelling.	It is understood that this no longer represents an issue for Natural England due to the anomalous nature of the other windfarm referred to. See the Applicant's response to NE-95.
Natural England	NE-33	<p>5.1.1. Summary of Natural England's Key Concerns</p> <ul style="list-style-type: none"> <li>There are inconsistencies between the disposal volumes stated in the DMLs compared to volumes provided for within the disposal site characterisation report and provided for within the DCO.</li> <li>The impact of cable protection - It is important to note the impact is assessed based on both the volume of material and the area of impact of the volume.</li> <li>Natural England does not believe the provision made for arbitration within this DCO is appropriate.</li> <li>Natural England has suggested changes to the current wording for condition 16 in relation to</li> </ul>	The Applicant notes the representation and has addressed each of these concerns in isolation below.

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		<p>noise measurements.</p> <ul style="list-style-type: none"> <li>Natural England is concerned with lack of In Principle Monitoring Plans submitted and proposed within the ES and draft DCO respectively.</li> </ul>	
Natural England	NE-34	<p>The volumes and figures presented in the Development Consent Order (DCO) are not always represented within the Environmental Statement (ES) project description. The project description should contain clear tables highlighting all the worst case scenarios and the figures presented there should be reflected in the DCO. On many occasions this does not seem to have been the case. This is very unhelpful and has caused a lot of additional work to cross check important figures on the DCO/Deemed Marine Licences (DMLs).</p>	<p>The Applicant notes the representation and will produce a table clearly cross referring to the Project Description figures in the project description with the documents. This will be submitted for Deadline 1.</p>
Natural England	NE-35	<p>Within both the DMLs and the DCO there is no mention of an upper limit on hammer pile energy. The maximum hammer energy assessed in the ES should be detailed within the design parameters on the DCO and all DMLs. This is the best available metric to ensure the noise generated from piling does not exceed that assessed within the ES. Given the discussions and amendments that have been requested on other projects post consent, this needs to be included on the face of the consent to ensure this important maximum parameter is only amended through an appropriate variation process.</p>	<p>The draft Order requires the production and submission of a construction method statement (CMS) (Schedule 11, Part 12(1)(c) and Schedule 12, Part 12 (1)(d)), which will include details of the maximum hammer energy. It will also require all construction parameters to be the same as those assessed within the ES. In the Applicant's experience, variations are common where precise figures of this nature are included on the face of the DML. The CMS as required provides a more effective mechanism for the MMO to approve these details at the stage when they can be fully defined.</p>

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Natural England	NE-36	The lifetime of the project given in the ES project description is 30 years. This is an important metric for the assessment of impacts. The project operation lifetime should be explained in the interpretation section and limited to the period assessed in the detailed impact assessment chapters of the ES. Natural England encourage the Applicant to ensure 30 years of operation have been appropriately considered throughout the relevant ES chapters.	The operational life of the wind farm is stated as being "expected to be 30 years". This is an approximation only and is used for the purposes of the environmental statement primarily to make clear that all topic chapters have undertaken their assessment assuming that any operational impacts would be long term. That period of 30 years is not specifically relied upon as a result. It is not appropriate, nor necessary, to in any way limit the period of the operational consent.
Natural England	NE-37	The cable exclusion zone detailed in the ES project description figure 1.2 should be captured with a condition within Schedule 12 the transmission DML. This exclusion zone is an important mitigation for both ecological and navigational concerns and should be appropriately secured within any consent given.	The Applicant notes and agrees with the representation and a new condition will be included in the revised draft Order (Schedule 12 of the DCO) submitted for Deadline 1.
Natural England	NE-38	The definition of commence in both the DCO and DMLs is not acceptable. The works detailed include seabed preparation and clearance as not part of commencement. Works such as seabed preparation and clearance could have significant impacts and need to be incorporated in pre-construction plans and documentation. This is to ensure appropriate mitigation is included and that monitoring efforts are not impacted by works outside of the sign off process. Until the pre-construction documents are signed off and all pre-	The Applicant notes the representation and is content to include wording within the DMLs to require seabed preparation works to be included in a plan to be submitted for approval by the MMO within the revised order before any phase or phases of the licensed works commence, which will be amended within the draft Order for Deadline 1. To be clear, it will be proposed that this plan is submitted as part of the "pre-commencement" works as defined within the draft

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		<p>construction monitoring has been conducted these works should not be allowed to be conducted. Therefore, Natural England, requests the definition of commence must be changed to ensure seabed preparation and clearance are part of offshore commencement.</p>	<p>Order.</p>
<p>Natural England</p>	<p>NE-39</p>	<p>Natural England propose the inclusion of a new requirement within Schedule 1 part 3 of the DCO. The purpose of this new requirement would be to require the undertaker to provide confirmation that all construction activities were completed and that the project has entered the full operational phase. It would also confirm that no further major installation work may take place. Given the current drafting of the DCO and DML there is the option for phased construction which could be construed as to be open ended. This could have potential issues when considering what monitoring needs to be completed post consent. Natural England has proposed a requirement below. We are willing to engage with the Applicant and other interested parties on the wording and location of this requirement to ensure the best possible outcome for all. Proposed requirement: The undertaker will provide a notice to the MMO, Natural England and the relevant planning authority once all phases of offshore and onshore construction are complete. Once provided no further construction works may</p>	<p>The Applicant considers that this would effectively be a form of completion notice as seen (and very rarely used) on planning permissions and is not necessary. The Operation and Maintenance plan is required to be submitted four months prior to operation and this gives the confirmation of the transitional phase when the project goes from construction to operation. In addition, 'maintain' is clearly defined within the draft Order and the activities that inform the assumptions of the assessment are provided within the ES.</p>

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		occur, save those required to maintain the existing structures.	
Natural England	NE-40	<p>Schedule 1 – Part 3 – Requirement 5 Page 35 Scour protection is given as a total volume for the entire project 1,112,647 m<sup>3</sup>. The ES project description table 1.7 page 1-16 details a maximum of 1,112,647 m<sup>2</sup> for wind turbine generators which matches the full volume on the DCO. However, Tables 1.12 and 1.13 in the ES project description give the maximum footprint of the scour protection for the offshore substation as 7,854 m<sup>2</sup> this would be in addition to the WTG. The scour protection figures on the DCO should be corrected, once the volume for the substation is provided. The DCO and DMLs should further split maximum scour protection areas out per turbine and substation. A sum total is not appropriate to ensure scour protection is installed within the predicted maximums. Natural England requests confirmation that no cable protection is required for the proposed offshore met mast.</p> <p>Additionally, the amounts of scour and cable protection permitted should be recorded and limited on the consents using both volume of material and area of impact. Natural England has had a recent experience on a UK offshore windfarm where the developer only adhered to</p>	<p>The Applicant notes the representation and has produced a table clearly referencing the maximum scour protection volumes included at Appendix 1, Annex A of the response to Deadline 1.</p> <p>The Applicant is content to provide the maximum cable protection volumes and maximum scour protection volumes on the face of the DMLs in the revised draft Order submitted for Deadline 1. The area of the maximum cable protection and the area of maximum scour protection are both secured within the scour protection management and cable protection plan (Schedule 11, Part 4 (12)(e) and Schedule 12, Part 4 (10)(f) which is required to be approved in writing by the MMO, and as such the Applicant does feel that it is necessary to include this information of the face of the DML.</p> <p>The proposed met mast does not require cable protection.</p>

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		<p>volume on the licence. This led to an impact that was several times the area assessed (but within the volume assessed). Therefore, the use of volume alone is no longer considered appropriate. This also applies to figures given within the DMLs.</p>	
<p>Natural England</p>	<p>NE-41</p>	<p>With regard to the arbitration provision in the DCO, arbitration conditions in the DML and the arbitration rules schedule, Natural England does not believe the provision made for arbitration within this DCO is appropriate. As a Statutory Nature Conservation Body, Natural England cannot be bound in the statutory advice it provides by the findings of another organisation or individual such as is proposed within this provision. Natural England is, therefore, unable to agree to a mechanism whereby its advice may be compromised or its ability to meet its statutory responsibilities are fettered by a third party. It is also noted that, within this provision, an award of costs may be made against Natural England. While it is acknowledged that the wording used is reasonably standard for arbitration agreements, Natural England considers that it is inappropriate for a Statutory Body to be subject to additional costs while performing the function government and legislation requires of it. In relation to the confidentiality clause of the arbitration schedule it should be noted that Natural England is subject to</p>	<p>Model article 42 provides an arbitration provision and the inclusion of such a mechanism has existed, in this regard, since the creation of the Planning Act 2008. Such arbitration mechanisms based on the model provision have not however been utilised by the undertaker or other parties to date at the implementation stage of development as it is not considered fit for purpose. The Applicant teams' experience working on a number of DCOs (for offshore wind farms but also a wide range of infrastructure projects) has brought to bear the simple fact that there is an available provision created by the development consent order regime that is not utilised in order to resolve any areas of disagreement when discharging requirements or conditions within a DCO. Particularly, the provision does not contain any structure, timings or outcomes that allow it to operate properly as an arbitration provision. The Applicant has developed the model article in order to give it real effect and to make it more appropriate for use by either party, by providing effective timeframes and detailed guidance.</p>



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		<p>the Freedom of Information Act 2000 ("FOIA") and the Environmental Information Regulations 2004 ("EIR"). Therefore, Natural England may be obliged to release documents in response to an FOIA or EIR request including any file notes. In respect of any FOIA or EIR request, Natural England is responsible for determining at its absolute discretion whether any information it holds, whether commercially sensitive information or otherwise, is exempt from disclosure in accordance with the provisions of FOIA or the EIR or is to be disclosed in response to a request for information. Natural England cannot therefore guarantee confidentiality or agree to be bound by such a requirement.</p>	<p>The DCO process has moved forward by some measure since its inception and it is important to ensure the provisions that exist to govern it actually work and will be adopted by the parties subject to any development consent order.</p> <p>The proposed arbitration provision is the only mechanism to resolve disputes within the dMLs and therefore it is an important inclusion in order to provide a fair, impartial and final award on substantive difference between parties.</p> <p>The Applicant agrees entirely with Natural England (and the MMO) that arbitration should not be the first point of call when a difference of opinion is encountered. The proposed arbitration provision does not contradict this approach. The arbitration process would only begin in the event of non-determination or non-approval through the conditions set out in the dML. The MMO would therefore have a minimum of four months to consider their position on the matter and would have already undertaken consultation with their technical and legal advisors and other consultees. It is extremely likely that further discussions would continue following the end of the determination period set out in the dML and would include</p>

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			<p>discussions on the potential for using the arbitration provisions. The MMO and their advisors (including Natural England) would have a significant amount of time to consider the issues that could ultimately be presented at arbitration and to reach a conclusion on their position. The 14 day period is therefore appropriate; it allows for this already known information to be collated and avoids further delays. Allowing six weeks for further consultation would negate the purpose of the arbitration provisions in seeking a conclusion in a reasonable timeframe following a lengthy but ultimately unsuccessful process to discharge a condition under the dML.</p> <p>The Applicant notes the MMO's comment (see the Applicant's response to MMO-01) regarding the allocation of costs. The Applicant does not agree that the provision contradicts with the principle of the 'Polluter Pays', which is an entirely separate compliance regime relating, as it does, to the effects of the production of pollution. The Applicant does however appreciate that some proportionality is required in the consideration of cost and, as occurs with section 78 appeals within the Town and Country Planning 1990 regime, proposes to include wording in order to clarify that each party would bear their own costs,</p>

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			<p>subject to an unreasonable behaviour clause.</p> <p>The Applicant is not seeking to dis-apply statutory provisions regarding confidentiality and the arbitration process would be subject to the Freedom of Information Act and the Environmental Information Regulations. This does not need to be stated on the face of the dML as that statutory mechanism already exists and can be readily utilised accordingly. The confidentiality provision intends to ensure that correspondence between the parties during the arbitration remains confidential and is not required to be published by the Planning Inspectorate or on the MMO's website.</p>
<p>Natural England</p>	<p>NE-42</p>	<p>Natural England requests the inclusion of a condition to ensure the production of a site integrity plan, similar to conditions used on East Anglia 3. This condition will ensure the impacts of this project do not compromise the integrity of the Southern North Sea Special Area of Conservation.</p>	<p>The Applicant would welcome further discussion on the merits of the proposed condition requiring the later preparation of a SIP. There is no dispute relating to the need to properly secure any appropriate mitigation relating to potential impacts arising from the project. However it is unclear why this could not be achieved directly through a condition in the dML which requires necessary and specific mitigation measures to be implemented through the submission of a mitigation plan to the MMO prior to construction.</p>

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			Mitigation would thereby be provided for specifically through the dML, based on identified project parameters, and provide confidence that appropriate mitigation would be secured prior to construction.
Natural England	NE-43	Schedule 11 – Part 3 Page 93-94 Part 3 condition 2 (1) (d) and 2 (4) (c) disposal see comments on Schedule 1 – Part 1 – Further Works (page 31).	See the Applicant's response to NE-236.
Natural England	NE-44	Schedule 11 – Part 4 – Condition 3 (1) Part 4 condition 3 (1) lists both array cables and export cables. The export cables are licenced under schedule 12 and should not be included here. Additionally, see comments on Schedule 1 – Part 3 – Requirement 4 regarding cable protection values.	The Applicant notes and agrees with the representation and the reference to export cables have been removed in the revised draft Order submitted at Appendix 35 of the response to Deadline 1.
Natural England	NE-45	Schedule 11 – Part 4 – Condition 4 Page 95 See comments on Schedule 1 – Part 3 – Requirement 5.	See the Applicant's response to NE-40.
Natural England	NE-46	Schedule 11 – Part 4 – Condition 12 (1) (b) (iii) and (aa) Page 98 and 99 These conditions cover the requirement for pre-construction monitoring to be agreed 4 months prior to the first survey. The standard approach of submitting monitoring plans 4 months prior to the first survey may not be the best approach. Natural England would like to discuss the possibility of the pre-construction	The Thanet Extension project has put forward detailed monitoring proposals that are based on the uncertainties present. By virtue of the project being an extension project the uncertainties are very limited. The monitoring proposals put forward are therefore very focussed, advanced, and based on addressing the very limited areas of uncertainty. These include a detailed monitoring

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		<p>monitoring plans and methodology being required 8 months prior to construction. One benefit would be a clearer deadline, the 4 months prior to the first survey leaves the decision on when the first survey should commence to the undertaker and the risk to the undertaker that that decision is wrong. Which could potentially lead to delays in construction programme. Some discussion on monitoring timelines would be useful and this condition should be reworded to capture more appropriate timescales.</p>	<p>proposal for biogenic reef habitats (PINS Ref APP-149/ Application ref 8.15) and a detailed monitoring proposal for saltmarsh habitats (PINS Ref APP-147/ Application Ref 8.13). Further reference to onshore monitoring is also made within the Outline Landscape and Ecological Mitigation Plan (PINS Ref APP-142/Application Ref 8.7). Given the detailed monitoring plans forming part of the application it is not considered appropriate or necessary to submit monitoring plans 8 months prior to survey.</p> <p>The Applicant would also note that where there are potential risks to the undertaker's construction programme from presenting pre-construction monitoring plans too close to the start of construction, this is entirely within the control of the undertaker and should be managed by them, in consultation with NE and the MMO. It is not required for other parties to seek to de-risk the undertaker's construction programme through longer timescales.</p>
Natural England	NE-47	<p>Schedule 11 – Part 4 – Condition 12 (1) (c) or (g) Page 100 These conditions both require the submission of cable installation plans. However, neither of the conditions details a requirement to discuss ground preparation works, exclusion zones and potential disposal activities involved. Given</p>	<p>Seabed preparation works are distinct and separate from cable installation in the majority of cases. It is therefore appropriate for the activities to be maintained as separate within the dML and associated documents.</p>

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		<p>the preparation works are likely to be the greatest impact of cable installation they should be specifically noted to ensure the final plans received show appropriate consideration and mitigation. The plans should be required to provide detailed information on any disposal works involved, methodology and proposed location of disposals.</p>	<p>The Applicant does not consider that the detail contained within the cable installation plan must be included on the face of the DML. condition 12(g) in Schedule 11 and condition 10(h) in Schedule 12 of the DCO requires the cable installation plan to be approved in writing by the MMO. It can also be amended and approved through this mechanism if required. This is more efficient that amendment takes place through a variation to the approved DML, whilst still maintaining the required control by the MMO in relation to the development as consented.</p>
<p>Natural England</p>	<p>NE-48</p>	<p>Schedule 11 – Part 4 – Condition 14 (1) Page 101                      This condition requires all pre construction plans to be submitted 4 months prior to construction. The timescale of this condition was originally intended for round 1 developments, i.e. much smaller projects. It is no longer an appropriate timescale for current developments. Given the potential for a phased construction, numbers of pre-construction documentation and the increased size and complexity of these round 3 projects this needs to be amended to 8 months.</p>	<p>See the Applicant's response to NE-46. It should also be noted that the Project has not proposed phased installation and is of a considerably different size to the large round 3 projects referred to.</p>
<p>Natural England</p>	<p>NE-49</p>	<p>Schedule 11 – Part 4 – Condition 16 Current Wording: (3) The results of the initial noise measurements monitored in accordance with subparagraph (1) must be provided to the MMO</p>	<p>The comments related to soft start effectiveness are understood to no longer reflect Natural England's position as it related to anomalous</p>

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		<p>within six weeks of the installation of the first four piled foundations of each piled foundation type. The assessment of this report by the MMO will determine whether any further noise monitoring is required. Proposed wording: (3) The results of the initial noise measurements monitored in accordance with sub-paragraph (1) must be provided to the MMO within six weeks of the installation of the first four piled foundations of each piled foundation type. The assessment of this report by the MMO will determine whether any further noise monitoring is required. If, in the opinion of the MMO in consultation with Natural England, the assessment shows significantly different impact to those assessed in the ES or failures in mitigation all piling activity must cease until an update to the MMMP and further monitoring requirements have been agreed. The reason for this proposed change is that recent reports received on constructing Round 3 offshore wind farm developments have cast doubt over the efficacy of the soft start mitigation measure. It has also highlighted that the standard condition, as drafted, may not be sufficient to ensure piling stops in a situation where the monitoring confirms there is a significant issue. The wording above makes it clear that if the monitoring highlights such failures the undertaker is required to stop</p>	<p>results from a specific and separate offshore wind farm project, which have since been clarified.</p> <p>The Applicant is required to submit proposed monitoring and mitigation to the MMO and is to conduct further noise monitoring as required by the MMO (Schedule 11, Part 16 (2) and Schedule 12, Part 14 (2)). The Applicant therefore does not believe that it is necessary to amend the wording of the draft DCO.</p>

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		<p>until measures are agreed to address any critical failures in modelling or mitigation. This is vital when considering the location of the development in relation to the Southern North Sea Harbour Porpoise cSAC and the potential for significant impacts on these protected species.</p>	
<p>Natural England</p>	<p>NE-50</p>	<p>Schedule 11 – Part 4 Condition 17 Natural England are concerned there is no In Principle Monitoring Plan (IPMP) included within the Application. This document allows the relevant stakeholders to agree the objectives of any monitoring required by the DMLs prior to the grant of consent. Without this information there is no clarity or certainty on what relevant monitoring will be carried out to validate conclusions within the ES. Following correspondences through the evidence plan process Natural England were expecting an IPMP to be submitted as part of the Application.</p>	<p>The Thanet Extension project has put forward detailed monitoring proposals that are based on the uncertainties present. Please see the response to NE-46 for further details on the monitoring proposals submitted with the application. By virtue of the project being an extension project the uncertainties are very limited. The monitoring proposals put forward are therefore very focussed, advanced, and based on addressing the very limited areas of uncertainty. As such this is not considered required for the Project.</p>
<p>Natural England</p>	<p>NE-51</p>	<p>Schedule 11 – Part 4 – Condition 17 Further to the above, there is very little in principle monitoring described within the draft DCO. Condition 17 (1) &amp; (2) describes a sea floor coverage swath-bathymetry survey for one year post-construction. However, there is no proposed monitoring for key environmental receptors such as ornithology (including the provision of modelling) or benthic ecology. This is of concern to Natural England and</p>	<p>See the Applicant's response to NE -50.</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		requires further discussions so we can validate the assumptions made within the ES.	
Natural England	NE-52	Schedule 12 – Transmission Assets Deemed Marine Licences General Comment Natural England advises that an additional condition should be added to this schedule. This condition should require that an updated Saltmarsh Mitigation, Reinstatement and Monitoring Plan is submitted at least 8 months prior to construction for review and approval. This is to ensure that the mitigation, reinstatement and monitoring works are refined based on the actual cable installation methods proposed.	The document will be further updated during examination if required to allow for lessons to be learnt from the Nemo Interconnector project when those lessons are provided by Natural England and/or MMO.
Natural England	NE-53	Schedule 12 – Transmission Assets Deemed Marine Licences General Comment Figure 1.1 and 1.2 of the ES project description demonstrate a Cable exclusion zone within the export cable corridor. This exclusion is due to both environmental and navigational concerns. In order to ensure this key mitigation occurs it should be secured through condition in this schedule.	The Applicant notes the representation and the amended wording will be included in the revised draft Order submitted for Deadline 1.
Natural England	NE-54	5.2.1. Summary of Natural England's Key Concerns <ul style="list-style-type: none"> <li>· Natural England's reiterate that further landfall site investigation works need to be carried out as soon as possible to determine the potential effects from all three current landfall options.</li> <li>· The process of site selection through the evidence plan process.</li> </ul>	Please see Applicant's response to NE-26.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		· Natural England's major concern at landfall option 2, and the associated loss of large areas of saltmarsh habitat.	
Natural England	NE-55	4.1.8 Natural England welcome the inclusion of further site investigation (SI) works but these need to be carried out as soon as possible to avoid further uncertainty on the current landfall options. It should be noted and reiterated that Option 2 (the loss of saltmarsh habitat) from Natural England's perspective still remains the worst and most damaging option presented by the Applicant. As a result, the burying of assets within the country park and the use of HDD should be utilised following positive results from the SI works. Where not possible alternative routes should be considered before proceeding with option 2.	Please see Applicant's response to NE-26.
Natural England	NE-56	4.8.17 Although there may be interactions with the dune features of the SAC, it would be most likely be temporary in nature particularly if HDD is used, compared to the potential permanent loss of SSSI and supporting SPA habitat within Pegwell bay. With technological advancements in HDD, drilling through sandy substrate shouldn't be an issue, Natural England would like to see further reasoning and engineering behind these technical feasibility challenges.	Please see Applicant's response to NE-26.
Natural England	NE-57	Table 4.6 and 4.8.19 Although further reasoning has now been provided as to why Pegwell Bay and	The Evidence Plan process, as recorded within the EIA Evidence Plan Report (PINS Ref APP-137/

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		<p>Sandwich Bay were decided upon and put forward during the scoping phase, this was seriously lacking at any other point during the evidence plan process. It still seems that there was very little discussion with stakeholders before the scoping phase (and up to the Preliminary Environmental Information Report (PEIR) stage) on why these options were put forward. This would have allowed further refinement of these designs including SI works before examination, with useful input from stakeholders, and would have avoided many of the confrontations and obstacles faced during the evidence plan process. Even in Natural England's scoping response we stated it would be helpful to present the alternatives presented through the process up to that point. This lack of information has been echoed amongst many other stakeholders also, therefore the comment regarding limited consultation responses (at point 4.9.55) is not considered to be a fair reflection of stakeholder concern.</p>	<p>Application Ref 8.5) considered the project brought forward for consultation after scoping. Numerous meetings were held with Evidence Plan members and included for example discussion regarding Natural England's Scoping response which asked for further information. Further information was therefore provided at PEIR, with further information provided in the final Application. This information has been presented in the Site Selection and Alternatives chapter (Application Ref 6.1.4) to address these requests. It is not considered proportionate or necessary to consult on every route brought forward, in particular where there are feasibility constraints which are understood prior to consultation and which would render the option not viable. Consultation on such an option would not in the view of the Applicant represent true or transparent consultation.</p>
<p>Natural England</p>	<p>NE-58</p>	<p>4.9.27 "The presence of the dune systems and associated botanical diversity has a lower degree of certainty associated with any mitigation measures, and thus results in greater risk of potentially unforeseen effects." Although the recovery of the original Thanet OWF cable has been a relative success, Natural England would</p>	<p>The Applicant can confirm that landfall Option 2 is no longer part of the proposed project envelope and as such there will be no need to compensate for loss of saltmarsh habitat.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		argue the current option 2 still presents a low degree of certainty associated with mitigation measures and success in compensating for the loss of SSSI and SPA supporting saltmarsh habitat.	
Natural England	NE-59	4.9.30 Natural England question how easy it is to minimise the effects of long term habitat loss posed by the current option 2 (permanent loss of saltmarsh). There is not much opportunity within Pegwell Bay to compensate for this loss. Furthermore, we advise caution on the rates of recovery of saltmarsh habitat. Any recovery of the saltmarsh post Nemo cable laying has not been as successful as for the original Thanet cable.	The Applicant can confirm that landfall Option 2 is no longer part of the proposed project envelope and as such there will be no need to compensate for loss of saltmarsh habitat. The Applicant also looks forward to further liaison with Natural England to ensure that the saltmarsh management plan accounts for both the success of the existing Thanet cable installation but also the challenges facing the Nemo Interconnector.
Natural England	NE-60	4.9.30 This paragraph states that the effects of loss of 'lower grade' saltmarsh (and temporary impacts to the feature) could be minimised with "wider management of the site such as supporting reinstatement of Salicornia in areas dominated by Spartina". No evidence has been presented that supports that this is feasible and could be achieved long term. Natural England understands that initial recovery of saltmarsh post installation of the first windfarm cable was of a high quality, but species present reverted back to Spartina over time.	See the response to NE-59
Natural England	NE-61	4.9.31 – 4.9.37 All this reasoning hinges on the ability to effectively implement mitigation and	Please see the response to NE-59

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		<p>compensatory measures. From Option 1 (Pegwell Bay) and the landfall options currently presented for Option 1 i.e. the current land fall proposals, mitigation could probably be effectively implemented apart from with option 2 (loss of saltmarsh). Therefore, the previous option 2 i.e. landfall within sandwich bay may present less of a risk, in terms of guaranteed mitigation, if the current option 2 (loss of saltmarsh) at Pegwell Bay is chosen.</p>	
<p>Natural England</p>	<p>NE-62</p>	<p>4.9.32 to 4.9.37                      It is difficult to understand the comparison of impacts between option 1 and 2. It would be preferable to have a map that clearly shows the habitats that could be 1) lost and 2) impacted by each route. There should be a clear distinction between habitats that contribute to the integrity and functioning of designated sites and those habitats that are notable for other reasons, such as priority habitats.</p>	<p>A series of maps (Figure 4.6 <i>et seq</i>, noting in particular Figure 4.9 and 4.10) illustrating the relevant designated features is presented in the Site Selection and Alternatives chapter (PINS Ref APP-040/ Application Ref 6.1.4).</p>
<p>Natural England</p>	<p>NE-63</p>	<p>4.9.56 and Table 4.9                      Again the success of avoiding major effects within the Pegwell Bay option hinges on avoiding the permanent loss of saltmarsh. Natural England acknowledge that recovery following the installation of the original Thanet OWF has been good, however there was no permanent loss of habitat. As Table 4.9 suggests the northern and</p>	<p>Please see the response to NE-59</p>

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		<p>southern routes were comparable in term of the potential effects on onshore ecology and intertidal ornithology. Considering the relative equal footing both these options have, the potential permanent loss of SSSI habitat associated with the northern option, in Natural England's opinion, could result in the southern route being more favourable.</p>	
<p>Natural England</p>	<p>NE-64</p>	<p>The offshore project description includes no scour protection for met mast foundation. Could the Applicant confirm there will be no requirement for scour protection of this structure?</p>	<p>Whilst the PD (offshore) chapter (PINS Ref APP-042/ Application Ref 6.2.1) does not explicitly reference scour protection for the met mast foundation a precautionary assessment is undertaken in all relevant offshore chapters which includes provision for scour protection of this structure. For example the relevant receptor chapters (such as Intertidal and Subtidal Ecology, PINS Ref APP-046/ Application Ref 6.2.5) assess scour protection for all foundations inclusive of the met mast. This assumption should have been updated in the Offshore Project Description chapter and is accounted for in Annex A of Appendix 1 included with this Deadline 1 submission.</p>
<p>Natural England</p>	<p>NE-65</p>	<p>Throughout the project description and ES chapters the scour and cable protection is considered as potentially to be decommissioned (or not), and as such the impacts are always being considered as long term. As it is broadly accepted now and clearly stated in other OWF projects</p>	<p>The assumption of 25% is considered on the basis of other OWF experience and the experience of the existing Thanet OWF for which a number of post consent and post construction marine licences were applied for in response to cable exposures. During the EIA evidence plan meetings</p>

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		<p>currently under Application, scour and cable protection are very unlikely to be decommissioned. Furthermore, the worst case scenario for cable protection is estimated to be 25 % (table 1.9) of the total cable length in the array area and export cable corridor, which is a relatively high figure. In the view of the number of developments foreseen in the area and the unlikelihood of scour and cable protection being removed once on the seafloor, this should be further investigated and the 25 % figure should be justified. Site specific geophysical and geotechnical surveys might help justify this figure (see comment below).</p>	<p>it was made clear by Natural England that these lessons should be applied to Thanet Extension. It is considered that whilst the material may be left in situ it would potentially be the worst case for 25% of this to be removed (destroying any epifaunal communities etc.); therefore this has been assessed (for example at paragraph 5.12.15 of the benthic ecology chapter (PINS Ref APP-046/ Application Ref 6.2.5). All chapters identify that decommissioning should be agreed at the relevant time with the relevant consultees but a worst case approach is taken. This is considered to be appropriate.</p>
Natural England	NE-66	<p>There is no information on seabed levelling, sandwave clearance, boulder clearance which is meant to be informed post-consent by site-specific geophysical and geotechnical surveys. As per the comment above these data would help to inform the impact assessment of these activities.</p>	<p>The individual technical impact assessments have taken a worst case approach for the activities listed by Natural England. By way of an example ES Chapter 5 of Volume 2 Benthic subtidal and intertidal ecology (Application Ref 6.2.5) identifies (and quantifies) direct disturbance within the subtidal as a result of cable pre-sweeping (sandwave clearance/seabed levelling) in Table 5.10, the effect of which is then assessed (alongside other direct impacts) at paragraph 5.10.3 <i>et seq.</i></p> <p>For the avoidance of doubt a tabulation of the project description, including the information on seabed levelling, sandwave clearance and bolder</p>

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			clearance provided at Appendix 1, Annex A of this response to deadline 1. revised draft Order.
Natural England	NE-67	It is not clear how / where dredged material will be deposited and the volume of dredged material expected. Similarly, the area of habitat loss from deposition of dredged material has not been determined and the impact of deposition of dredged materials has not been assessed. The methodology, volumes and deposition areas of dredged material should be made clear.	As per the Offshore Project Description chapter (Application Ref 6.2.1), Disposal Site Characterisation (Application 8.14), and as assessed in the wider ES (see para 5.10.26 of the Benthic Chapter, Application Ref 6.2.5) it is proposed to dispose of material within the requested disposal sites. These comprise one on the export cable corridor and one in the array (each matching the order limits). The disposal site characterisation document (PINS Ref APP-148/ Application Ref 8.14) included with the Application provides a summary, taken from the individual technical chapters, of the volumes, methods, and deposition of material.
Natural England	NE-68	Table 1.16 (export cables) and table 1.9 (inter-array cables) state that there isn't a minimal burial depth for these assets. Natural England believe the cables should be buried as deeply as possible to reduce the need for rock protection.	This is noted and will be informed by the cable burial risk assessment secured within the dML. The cables will be buried to appropriate depths according to the findings of the cable burial risk assessment. It should be noted that the relevant technical assessments presented within the application (for example the benthic chapter (PINS Ref APP-046/ Application Ref 6.2.5)) assume a worst case which is that burial is not possible and secondary cable protection is instead required to protect the cables.



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Natural England	NE-69	<p>1.4.97</p> <p>Option 1 – HDD, represents Natural England's preferred landfall option as it negates the need to interact with the sea wall and saltmarsh. As a result there will be no permanent loss of large areas of saltmarsh habitat or interactions with the seawall which presents a risk of contamination from the historic landfill. This option relies upon the results of the SI works, which we encourage should be carried out as soon as possible. It should be noted that there are examples of successful HDD in landfill sites.</p>	<p>This is noted by the Applicant.</p>
Natural England	NE-70	<p>1.4.102</p> <p>In Natural England's opinion, option 2 represents the worst landfall option. Firstly, there would be a permanent loss of 1400 m2 of saltmarsh, which is a feature under the Sandwich Bay and Hacklinge Marshes SSSI and a supporting habitat of the Thanet Coast and Sandwich Bay SPA. Secondly, the extension represents a barrier on the saltmarsh, potentially causing line of sight issues for SPA birds and erosional and sediment movement issues which could have knock on effects for the wider saltmarsh habitat. Furthermore, the installation of a large cofferdam compounds the damage and disturbance to the saltmarsh.</p> <p>Once this proposed extension to the sea wall has occurred, it would permit users of the country</p>	<p>See the Applicant's response to NE-26 regarding Option 2 no longer being part of the project design envelope</p>

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		<p>park, particularly dog walkers, to encroach further into the saltmarsh, and disturb the bird interest features of the SPA.</p> <p>Additionally, it has become apparent to Natural England and other stakeholders that mitigating for this loss of saltmarsh would be particularly difficult within Pegwell Bay. This is because: 1) it is very difficult to replace saltmarsh habitat and 2) the scope or opportunity to replace it within Pegwell Bay is extremely low.</p>	
Natural England	NE-71	<p>1.4.111</p> <p>Out of the three landfall options, option 3 represents Natural England's second choice option. This option does not involve the permanent loss of saltmarsh habitat, instead many of the effects are temporary in nature and represent a similar installation method which was utilised for the original Thanet OWF cable. The saltmarsh associated with the original Thanet cable has recovered well, and with a sufficient saltmarsh monitoring and mitigation plan implemented could recover in the same vain. However, it should be noted that there is no guarantees in this recovery and the recent NEMO link which was recently installed has proven this, as recovery, if any, has been much slower and complex. Again a cofferdam will be installed with this option, this would mitigate the effects from</p>	This is noted by the Applicant.

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		potential leachate, however there will be an additional disturbance from piling and physical damage from the installation.	
Natural England	NE-72	Table 1.32 Natural England are concerned that table 1.32 shows reburial for the entire inter array cable every 5 years. This concerns Natural England and question whether any recovery will be occurring if the cable is reburied every 5 years.	The assessment assumes a worst case, which is considered to be reburial of exposed cables every 5 years. Recovery is presented within the relevant technical chapters (e.g. the benthic intertidal and subtidal ecology chapter PINS Ref APP-046/ Application Ref 6.2.5) which summarise that recovery of the habitats will occur. The rate of approval is dependent on the feature in question but is generally presented within that chapter as <2 years.
Natural England	NE-73	1.5.3 Natural England welcome the further SI works, however we would like these to be completed as soon as possible to further inform the landfall options. These options should ideally have been presented much earlier in the evidence plan process with the landfall options being determined before the Application was submitted to PINs.	See the Applicant's response to NE-26. This is noted by the Applicant.  During the Evidence Plan process, the panels were updated on project design throughout the EIA process as it evolved, including cable route options.
Natural England	NE-74	1.5.7 & 1.5.11 – 1.5.13 See previous comments above regarding section 1.4.97 for the offshore project description chapter.	See the Applicant's response to NE-69.
Natural England	NE-75	1.5.8 & 1.5.14 – 1.5.18 See previous comments above regarding section 1.4.107 for the offshore project description chapter.	See the Applicant's response to NE-69.

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Natural England	NE-76	1.5.9 & 1.5.19, 1.5.20 See previous comments above regarding section 1.4.11 for the offshore project description chapter.	See the Applicant's response to NE-69.
Natural England	NE-77	5.3.1. Summary of Natural England's Key Concerns · Due to the number of detailed comments, summarised comments are provided below. Please refer to Appendix 1 for further tabulated Ornithological comments.	This is noted by the Applicant.
Natural England	NE-78	5.3.1.1. Methodology for assessing displacement for red throated diver.	See the Applicant's response to NE-79.
Natural England	NE-79	5.3.1.2. This methodology does not follow agreed SNCB guidance, and the recommended percentage of displacement and buffer distances are not used in the ES. Natural England does not agree that displacement should be considered as 82 % and no displacement in the buffer on the basis of the Thanet Offshore Windfarm (TOWF) monitoring alone. It is more realistic to present a range of displacement values. Natural England notes the evidence presented by the Applicant on red-throated diver displacement distances and displacement rates derived from the boat based post construction monitoring at TOWF. However, we note that there are other studies that have been undertaken that have not been considered by the Applicant. These include studies from Horns Rev I and Nysted offshore wind farms in Denmark, reported by Petersen et al. (2006) and monitoring	Following meetings between Natural England and the Applicant an approach has been defined regarding the appropriate use of site specific data to define appropriate buffers for displacement at Thanet Extension. The revised version of this document (following initial review by Natural England) is submitted as Appendix 1, Annex D at Deadline 1.

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		<p>at Horns Rev I and II reported in Petersen et al. (2014). All of these studies were undertaken using visual aerial surveys, and cover large study areas. Petersen et al. (2006) reported the maximum extent of red-throated diver displacement to be 4km at Horns Rev I and 2 km at Nysted. The work undertaken by Petersen et al. (2014) uses spatially explicit modelling to predict the distribution of red-throated diver pre- and post-construction. This work suggests a maximum displacement extent of 13 km based on the cumulative frequency distribution approach. However, the authors suggest that that 5-6 km might be a realistic displacement extent and this is supported by the mapped redistribution of red-throated divers post construction.</p>	
<p>Natural England</p>	<p>NE-80</p>	<p>5.3.1.3. Webb et al. (2017) reports on the post consent monitoring at Lincs and LID offshore wind farms. This study covered a large area using visual aerial surveys and then digital video (during the construction phase). Spatially explicit modelling was used (MRSea). They reported a displacement effect out to 8km (comparing the pre-construction average with the post construction average distribution).</p>	<p>The Applicant has provided a clarification note at Appendix 1, Annex D of the Applicant's submission to Deadline 1.</p>
<p>Natural England</p>	<p>NE-81</p>	<p>5.3.1.4. With regard to the displacement rates, Natural England are aware of seven studies that report the percentage of red-throated divers</p>	<p>The Applicant has provided a clarification note at Appendix 1, Annex D of the Applicant's submission to Deadline 1.</p>

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		<p>displaced within the footprint of offshore wind farms. The displacement rates from these studies range from 73 % at Thanet (Percival, 2013) to a worse-case scenario of 125 % at Lincs (Webb et al. 2017). Of these, four studies have a survey area of 4 km or greater and are therefore considered more robust to analysis issues or non-windfarm driven changes in numbers. These report magnitudes of displacement within the windfarm site of: 83-125 % (Lincs OWF, Webb et al. 2017), 100 % (Horns Rev I, Petersen et al. 2006), 90 % (Alpha Ventus, Weckler &amp; Nehls, 2016) and 100 % (Alpha Ventus, Mendel et al. 2014).</p>	
Natural England	NE-82	<p>5.3.1.5. We acknowledge that the TOWF monitoring data is site specific, but the methodology involved surveying a limited buffer and were boat based surveys, which are not the best survey platform for surveying a species sensitive to boat disturbance. However, even considering sites in close proximity such Kentish Flats there is still evidence that displacement occurs in the buffer. The Kentish flats survey area only extended to 3km around the windfarm, but at that distance (2-3km) there was a 63 % reduction in bird numbers.</p>	<p>The Applicant has provided a clarification note at Appendix 1, Annex D of the Applicant's submission to Deadline 1.</p>
Natural England	NE-83	<p>5.3.1.6. Based on the available evidence, Natural England currently considers that there is no clear justification to change our current advice of a 4 km</p>	<p>The Applicant has provided a clarification note at Appendix 1, Annex D of this response to Deadline 1</p>

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		buffer and 100 % displacement across this (as advised in the joint SNCB displacement interim advice note, SNCBs, 2017) at this stage for the purpose of impact assessment. It would seem that while 4 km may be an underestimate of the true extent of the displacement, assuming a magnitude of 100 % for the windfarm and a 4 km buffer, may be precautionary. Therefore, using the two components of our current advice in combination are likely to result in an appropriate estimate, based on our current understanding of the evidence base. As a result, we continue to advise that assessments of operational disturbance and displacement for red-throated diver for offshore wind farm assessments are based on a constant displacement rate across the offshore wind farm site and a 4 km buffer and suggest that a range of displacement rates up to 100 % and a mortality rate of up to 10 % are considered.	
Natural England	NE-84	5.3.1.7. The methodology for assessing displacement of auks and gannet	This is noted by the Applicant.
Natural England	NE-85	5.3.1.8. This methodology does not follow the advice given in the SNCB advice note on assessing displacement (SNCBs, 2017). Whilst we acknowledge that there is some evidence from post consent monitoring that indicates the extent of displacement does not extend to 2 km, we	The Applicant has provided a clarification note at Appendix 1, Annex D of this response to Deadline 1

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		advise that data based on SNCB endorsed methodology is also presented in the ES.	
Natural England	NE-86	5.3.1.9. Collision risk modelling predictions using Option 1 should be presented alongside Option 2 outputs.	<p>The use of Band Option 1 relies on a minimum number of birds in flight to be able to provide robust data for use in estimating the percentage of birds flying at potential collision height. Two issues were evident from the data collected for Thanet Extension. The first being very low sample sizes of birds in flight within the proposed OWF area. The second being that the aerial digital survey data was not able to provide accurate flight heights for birds recorded in 19/24 months of surveys.</p> <p>As such it is not considered appropriate to use Band Option 1 for this project.</p>
Natural England	NE-87	5.3.1.10. Only generic flight height data (Option 2) of the Band model has been presented in the main body of the ES. Wherever possible site specific flight data should be used. Whilst we accept that there were issues relating to the flight height estimates collected from digital aerial surveys, we note that flight height data was collected as part of the ORJIP Bird Collision Avoidance but this has not been used in the collision risk modelling. Using site specific data could make a significant difference in the number of predicted mortalities from collision. For example, the proportion of kittiwake flying at	<p>The Applicant considered the use of data from the ORJIP project during the ES stage which was also discussed with Natural England, but due to multiple uncertainties in the most appropriate use of different elements of the data sets it was deemed not practical to use. The use of the ORJIP data, and how best to address the uncertainties with it remains a point of discussion with Natural England and is subject to clarification notes in Appendix 1 that accompany this Deadline 1 submission.</p>



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		<p>potential collision height (PCH) is 0.09 using Johnston et al. (2014) generic flight height data (Option 2), whilst the proportion of kittiwake flying at PCH using the ORJIP data is 0.744. Similarly for gannet, the ORJIP derived PCH value is 0.285 compared to 0.075 using Johnston et al. (2014).</p>	
<p>Natural England</p>	<p>NE-88</p>	<p>5.3.1.11. Figures used in cumulative displacement and cumulative CRM assessments</p>	<p>This is noted by the Applicant.</p>
<p>Natural England</p>	<p>NE-89</p>	<p>5.3.1.12. We welcome the attempt by the Applicant to include figures for Hornsea 3 and Norfolk Vanguard projects in the cumulative assessments of displacement and collision risk. We assume that the figures presented in the assessments for these two sites have been obtained from the PEIRs for these projects. We note that Hornsea 3 submitted their Application to PINS on 14 May 2018 and this has been accepted by PINS. Vanguard submitted their Application of 27 June 2018 and has also been accepted by PINS. There are a number of methodological issues and uncertainties identified with the baseline data and assessments completed by Hornsea 3 and some methodological issues identified with the assessments for Vanguard. Therefore, at this stage the figures for these projects have not been agreed and therefore this will mean that the cumulative assessments will require updating during the process once figures for these projects</p>	<p>Whilst it is noted that there is some uncertainty over the data and assessments presented within Hornsea P3 and Vanguard it is also noted that Natural England recognise that even if there were a cumulative effect that is greater than those reports currently identify, the assessment undertaken for Thanet Extension is appropriate and in any event Thanet Extension contributes little to each of the seabird species overall cumulative assessments of collision risk. As such any cumulative effect is likely to remain unchanged by the contribution of Thanet Extension.</p> <p>During meetings between the Applicant and Natural England it was proposed that the best way forward for this assessment is for NE to provide estimated cumulative totals for each species (including their assumptions and caveats). It has since been discussed with Natural England that</p>

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		have been agreed. Whilst we acknowledge that this is beyond the Applicant's control, it means that this in addition to the issues/concerns noted above with the Thanet Extension alone assessments of displacement and CRM mean that we are currently unable to agree to any conclusions on the scale of impact of any cumulative displacement and CRM impacts.	they are not in a position to provide refined numbers at this stage and that the application documents remain the best available source (noting the uncertainty on the contents of them)
Natural England	NE-90	5.3.1.13. Due to the unresolved issues around methodology used to assess displacement and collision risk we are unable to agree with the Applicant's conclusions in Table 4.2 on AEoI for red throated diver as a feature of Outer Thames Estuary SPA or kittiwake from Flamborough and Filey Coast pSPA.	This is noted by the Applicant but the Applicant would like to note that the issues are under discussion with Natural England; and clarifications notes have been submitted for their review. second drafts of these notes form Annexes C to F of this representation.
Natural England	NE-91	5.3.1.14. Post Construction Ornithological Monitoring	This comment is noted by the Applicant and initial discussions on the need for ornithological monitoring have been had with Natural England. Initial high level discussions have highlighted that if monitoring is required it should focus on validation of areas of uncertainty such as the disturbance buffers associated with red throated diver rather than generic or broadscale monitoring.
Natural England	NE-92	5.3.1.15. It has become apparent to Natural England from reviewing the DCO and DML there is no proposed monitoring for key environmental receptors, including Ornithology. Furthermore, no in principle monitoring plan has been submitted.	The Thanet Extension DCO and dML note monitoring for biogenic reefs and saltmarsh habitats which are considered to be the key environmental receptors for which monitoring is justified. Monitoring for these receptors is

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		<p>This is of concern to Natural England and requires further discussion. The likely key area of monitoring will be validating the assumptions around red throated diver displacement, particularly as the Applicants are asserting there is no evidence of displacement into the buffer area from boat based surveys at Thanet offshore windfarm. Any proposed post-construction needs to be captured within the DCO and relevant DML.</p>	<p>required to inform micro-siting or to validate the predictions made in the ES as there remains some uncertainty over the rate of recovery. The absence of proposed monitoring at Thanet Extension reflects the certainty and confidence in the assessments as a result of the existing monitoring undertaken at Thanet which also forms the basis of the ORJIP report, such that it is not considered necessary to monitor and address uncertainty (a key driver for any monitoring). As noted in response to NE-91 initial discussions regarding RTD monitoring have been undertaken and the Applicant welcomes further discussion on the monitoring noted by Natural England.</p>
Natural England	NE-93	<p>5.4.1. Summary of Natural England's Key Concerns</p> <ul style="list-style-type: none"> <li>· Natural England does not agree with ignoring Tier 2 projects within the in-combination assessment.</li> <li>· The current effectiveness of soft start for mitigation purposes and the implication this has upon the modelling.</li> </ul>	<p>This is noted by the Applicant. Individual points are addressed elsewhere.</p>
Natural England	NE-94	<p>7.7.38</p> <p>Natural England question why the JCP density estimates aren't being used within the impact assessment (as requested in Natural England's PEIR comments)? The JCP provides the most comprehensive collation of porpoise sightings data in the UK and as such should be used as one of the densities to assess impact on porpoise in the area.</p>	<p>The justification as to why the APEM and SCANS III density estimates were the focus of the assessment is presented in paragraph 7.7.37 of Volume 2, Chapter 7 (PINS Ref APP-048 / Application Ref 6.2.7): "the SCANS III data are for a single summer time point estimate and may not be representative of harbour porpoise abundance and density at other times of the year. Therefore,</p>

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		<p>Furthermore, it is unclear why both the SCANS III and site specific densities have been used when they are so similar. The JCP would have provided a bit more of a range (1.16 porpoises/km<sup>2</sup> compared to 0.607 and 0.61 porpoises/km<sup>2</sup> respectively). In terms of Table 7.27 (and the subsequent assessment), this would almost double the number of porpoises and % of the reference population affected, which has implications for the CEA.</p>	<p>the SCANS III data will be presented in the impact assessment alongside the results of the APEM Thanet Extension site specific survey to provide a range of estimates".</p> <p>In the S42 responses to the PEIR Natural England stated "the SCANS III density should be used alongside the site specific density value. Natural England also requests that the JCP data is also presented". As requested, the JCP Phase III data were presented in the baseline and it was noted in our response that the JCP Phase III density estimate fell within the range of those predicted by the site specific APEM surveys.</p> <p>At the time of writing the Thanet Extension ES, there was concern regarding the JCP Phase III densities obtained from the JNCC R code as the densities calculated from the code did not match the data provided in the corresponding JNCC density surface maps provided, this meant that the Applicant did not have confidence in basing any quantitative assessment on these values, but they were presented in the baseline for information. Since then, JNCC have confirmed that the error was with the density surface maps and that the R code should be providing the correct density estimate for the user specified area.</p>

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			<p>Therefore, at the request of Natural England, the worst case behavioural disturbance scenario (monopile 5,000 kJ at the East Location) has been modelled using the average JCP Phase III density estimate of 1.16 porpoise/km<sup>2</sup>. A note detailing the results of this assessment are presented in Appendix 1, Annex G. The conclusions of this modelling was that there was no material change to the assessment and the impact significance remains minor.</p>
<p>Natural England</p>	<p>NE-95</p>	<p>7.11.45 onwards - Piling noise assessment. Recent results concerning noise monitoring during construction have suggested that the noise levels during the ramp up / soft start are not significantly different from the noise levels at full power. This has implications for the SELcum modelling, as the ramp up is built in as mitigation and modelled with lower noise levels and therefore will have implications for the distances animals need to be away at the start of piling to avoid injury. Other results from the noise monitoring have shown that the existing models used within EIAs have underestimated the distances of SELcum for all species apart from mid frequency cetaceans, again with implications for the noise modelling within this assessment.</p>	<p>The Applicant understands that this no longer represents Natural England's position following confirmation from the other OWF in question that the initial results were not correct.</p>
<p>Natural England</p>	<p>NE-96</p>	<p>Figure 7.19 Disturbance thresholds for porpoise hit the</p>	<p>The figure refers to 'possible behavioural response' by harbour porpoise. Zero mortality would be</p>

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		<p>coastline in this figure for both monopiles and pin piles. Monitoring along this stretch of coastline may be required in case of stranding. N.B. Figure 4.4 in the noise monitoring report shows noise levels of 175 dB hitting the coastline for monopiles and figure 4.6 shows noise levels of 170 dB hitting the coastline for pin piles.</p>	<p>predicted from any noise levels from pile driving, even very close to the pile. In addition, the soft start approach to piling will increase the opportunity for animals to vacate the area as sound levels increase and therefore reduce their exposure to more intense sound. Published dose response curves have indicated that at levels around 145 SELss (which is the sound level indicated by the contours on the coast in Figure 7.19), levels of response are approximately 50% - therefore at this distance, half the animals present would be expected to show a behavioural response such as moving away from the source. In this case, this would probably result in animals moving along the coastline to adjacent quieter areas to the north and south of this area. It is therefore not considered necessary for monitoring along the coastline.</p> <p>Figures 4.4 and 4.5 in the noise modelling report indicate SPL peak levels, these are therefore different to the SELss contours presented in Figure 7.19. The correct metric on which to base the disturbance assessment is the SELss metric.</p>
<p>Natural England</p>	<p>NE-97</p>	<p>7.11.110 Have the Wadden sea seal numbers been used in the assessment calculations? Natural England does not believe that they should be used for the</p>	<p>See the Applicant's response to NE-375.</p>

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		harbour seal assessment, other than to look at any transboundary impacts.	
Natural England	NE-98	<p>7.11.113 &amp; 114</p> <p>Given the status of harbour seals in the UK (not in FCS), Natural England is concerned about the potential for disturbance or restriction to known haul out sites in the area, especially if piling is carried out during the pupping/weaning season. At such times the population may be more susceptible to disturbance. It would be good to look at options during this period, given the relatively small number of piles. For example, scheduling the piling to avoid piling foundations closest to the haul outs during sensitive months.</p>	<p>The assessment (presented at paragraph 7.11.113 &amp; 114 of the marine mammal chapter (PINS Ref APP-048 / Application Ref 6.2.7)) concluded minor adverse, which is not significant in EIA terms. A combination of the small proportion of time affected, the proportion of the total animals that may show a response, the duration of any response and the overall usage of the area by seals resulted in that conclusion. In addition, it was highlighted in the chapter that there have not been any surveys conducted in this area during the breeding season, so it is unknown if harbour seals haul-out to pup and wean in this area. Even if harbour seals did pup at this site, the numbers of animals present represent a very small proportion of the total breeding population. Furthermore, the haul out sites in the vicinity of the project are situated outside any seal protected areas. It is not considered necessary or proportional to implement a seasonal restriction on activity during that period. It is understood that this position is agreed with Natural England following calls between the Applicant and Natural England in November 2018.</p>
Natural England	NE-99	<p>7.11.133</p> <p>Again given the status of harbour seals in the UK,</p>	See the Applicant's response to NE-98

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		<p>Natural England suggests that the landfall works take place outside of sensitive times of year (pupping / moulting) to ensure pups are not abandoned during the works, or have their fitness compromised by having to swim to another haul out location during their annual moult.</p>	
<p>Natural England</p>	<p>NE-100</p>	<p>7.14.28                      This paragraph states that the sum of the numbers of porpoise disturbed by Tier One projects that overlap with Thanet Extension, and including those animals potentially disturbed by Thanet, is 7159 animals (2.1% of MU population). However, summing Thanet (1880), Triton Knoll (357), Moray East (2993) and Hornsea P2 (3809) gives a larger total of 9039 animals (2.55% of the MU population) for the single piling scenario. This does not account for any concurrent piling that might take place across the MU.</p>	<p>It is correct that the 2.1% figure refers to other Tier 1 projects, with Thanet Extension added on resulting in 2.55%, however that value does not change the conclusions of the assessment. In particular, it should be noted that such a scenario is unrealistic, for such numbers do not take into account any spatial overlap in impact areas; and concurrent piling across multiple sites at once is unlikely, given that not enough piling vessels exist to allow the multiple piling scenarios to be realised at the same time. Timing assumptions within the cumulative assessment are therefore highly precautionary. It is also important to note that the summed single piling numbers would represent the longest period of overall disturbance and may, as such, be considered an overall worst case scenario compared to a much shorter period of disturbance resulting from concurrent installation. Further, any effects resulting from piling are likely to be temporary, reversible and short term. In addition,</p>



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Natural England	NE-101	<p>Natural England think that the potential for UXO detonation has been underestimated. Other wind farms have (and could in future) detonate up to 40 UXOs in a relatively short time frame, so it is unlikely that there would only be 4 detonations during the construction time frame of Thanet Extension. In addition, the impact of UXO detonation needs to be assessed with seismic activity and will all the other wind farm piling, rather than just in isolation with the Thanet Extension piling.</p>	<p>The Applicant has (at para 7.11.19 of the chapter (PINS Ref APP-048 / Application Ref 6.2.7)) identified a maximum of 30 UXO requiring clearance for the project, on the basis of existing site specific data (Thanet 1 required no UXO to be cleared, NEMO required 20). Subject to confirmation of final numbers during pre-construction site investigations a Marine Licence will then be applied for and any revisions necessary will be made.</p> <p>The Applicant would also clarify that the cumulative impact assessment is based on a total of four UXO clearance operations, rather than only 4 detonations. The exact number of total detonations is impossible to reliably predict. The Applicant maintains that it is appropriate to base the potential for future UXO clearance for projects which have not submitted any detailed information to support Marine Licence applications for these activities, on a very small number of existing projects which may have very different numbers of UXO.</p>
Natural England	NE-102	<p>Scoping Comment A previous scoping comment (also highlighted in Natural England's PEIR comments) has not been addressed in the document: Assessment of the options to reduce piling noise at source should be provided within the ES, not left until post consent,</p>	<p>Within the marine mammal chapter (PINS Ref APP-048 / Application Ref 6.2.7) mitigation is included in the assessment process where necessary – i.e. to reduce the potential for a significant impact to acceptable levels. The mitigation proposed (presented in Table 7.15 of the chapter) such as</p>

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		<p>as noise reduction methods can help to reduce residual impacts which informs the assessment process.</p>	<p>soft start and application of a marine mammal mitigation protocol is in line with standard practice and will be agreed with SNCBs. The mitigation is deemed sufficient to address the risk of a significant effect. It is not considered that there is a trigger to require further noise mitigation in the form of noise reduction methods.</p>
<p>Natural England</p>	<p>NE-103</p>	<p>Section 5 This section and resulting table suggests that the maximum range for PTS SELcum for pin piles is 1.2 km. However, this is not the case in the marine mammal's chapter or the draft MMMP, where a maximum of 960 m is stated (in table 7.26 and table 2 respectively). Please could the direct distance be clarified as this will affect the mitigation zone required? There is a similar issue for the SPLpeak range for pin piles. The underwater noise assessment states this is 450 m, while the marine mammal chapter states this is 390 m (table 7.25).</p>	<p>The PTS ranges presented in Tables 7.25 and 7.26 of the Marine Mammals ES chapter (of the chapter (PINS Ref APP-048 / Application Ref 6.2.7)) are the mean ranges not the maximum. The mean range was presented in Table 7.24 <i>et seq</i> of the ES chapter as it is important to note that the mean ranges present an indication of the risk averaged out across all the directions and smooths out the effect of predicted local variations in noise propagation conditions. As such, the average impact ranges present a better indication of the overall risk averaged over space and time. The maximum range indicates the total maximum distance of the impact range but is only accurate for a small number of possible trajectories from the piling site. The impact areas are asymmetrical and as such, use of the maximum range significantly overestimates the overall general extent of the impact.</p> <p>However, the Applicant can confirm that the MMMP and draft EPS risk assessment will be</p>

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			updated to present both mean and maximum ranges before final sign off post-consent as per the MMMP (PINS Ref APP-146/ Application Ref 8.11).
Natural England	NE-104	Shadow EPS Licence Assessment (Doc. Ref. 8.9) 5.3.2 Cumulative impacts – Natural England do not agree that only Tier One should be included in this assessment. Tier 2 should also be included as per the overall CEA, which concludes a moderate adverse impact on porpoise, suggesting that an EPS licence for disturbance may be required.	It is the project position that the cumulative effect assessment provides consideration of the certainty of a project coming forward at the consented scale and gaining CfD. Tier 2 projects account for this uncertainty and are not therefore included in the same tier as those projects for which CfD have been granted. An updated assessment of the potential for cumulative disturbance will be carried out to inform an EPS licence application if deemed necessary at the appropriate stage.
Natural England	NE-105	Draft MMMP (Doc. Ref. 8.11) 4.5 Given the recent results from construction noise monitoring at other wind farms, the use of soft starts as mitigation will need to be reviewed, especially given the fact that this section states that 'if post ADD deployment, mammals are still present in the mitigation zone, the low levels of noise from the soft start will encourage them to move away.'	See NE-95. It should be noted that as discussed with Natural England it is understood that the OWF project referred to was anomalous in the preliminary results submitted to NE and MMO, results that have since been clarified. It is understood therefore that the MMMP remains appropriate in the context of Thanet Extension.
Natural England	NE-106	Report to Inform Appropriate Assessment (RIAA) (Doc. Ref. 5.2) 8.3.4 As per Natural England's comments on the draft RIAA, while there is no future information on oil and gas projects, it should be possible to provide a generic assessment of average oil and gas activities across the relevant area based on historic activity or on the Marine	The RIAA only takes account (and can only take account) of planned/consented works within the licensing process. At the time of assessment, no oil and gas activity was listed on the website link provided that was licensed to occur within the relevant timeframe for construction at Thanet Extension. It is not considered appropriate to

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		<p>Noise Registry. The Marine Mammals chapter has used the outputs from the Marine Noise Registry (7.14.52-57 and Figures 7.26 and 7.27), so why has this not been carried through into the RIAA?</p>	<p>undertake a speculative in-combination assessment in HRA terms based on historic activity. The position is reinforced by the recent response issued by BEIS to the request for an amendment to a MMMP at East Anglia ONE (<a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010025/EN010025-002922-East%20Anglia%20ONE%20OWF%20Letter%20of%202%20October%202018%20to%20East%20Anglia%20ONE%20Limited.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010025/EN010025-002922-East%20Anglia%20ONE%20OWF%20Letter%20of%202%20October%202018%20to%20East%20Anglia%20ONE%20Limited.pdf</a>). It is noted that in this instance under paragraph 4.2 part ii, and with respect to the potential for disturbance of harbour porpoise within the Southern North Sea cSAC, that the Applicant did not take account of a variation request by a separate project because at the time the Applicant (East Anglia ONE) had made and submitted its Application the separate project had not submitted its license Application. Therefore, the Application made by East Anglia ONE was deemed correct at the time of the decision. Further, a similar approach has been confirmed by BEIS in its AA undertaken for the non-material change application for Triton Knoll (<a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010005/EN010005-002922-Triton%20Knoll%20AA.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010005/EN010005-002922-Triton%20Knoll%20AA.pdf</a>).</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>5-000905-HRA%20TRITON%20KNOLL%20OFFSHORE%20WIND%20FARM%20%E2%80%93%20NON%20MATERIAL%20CHANGE.pdf). Here, it is clear in paragraph 5.27 that only planned/licensed activities were included in the in-combination assessment - noting that further such campaigns would be subject to a separate licensing regime and must comply with the Habitats Regulations.</p>
Natural England	NE-107	<p>11.3.8 and 11.3.97 As the project team are confident that UXO detonation will not occur on the same day as piling or geophysical exploration at Thanet Extension, Natural England suggests a condition is put on the licence to ensure this does not take place. Tables 11.1 and 11.3 (UXO and piling worst case overlap with the cSAC) adds up to a total of 23.56 %. Therefore, a condition would ensure that this percentage could not be reached if Thanet Extension could only undertake one activity on a single day (i.e. piling or UXO clearance or geophysical surveys).</p>	<p>It should be noted that the 23.56% figure includes a large measure of double counting. Table 11.1 provides worst case areas for a single UXO detonation in 24 hours plus multiple UXO detonations in 24 hours (the latter based on 4 UXO, noting that no other combination of number/location could result in greater area). Table 11.3 provides the same information for piling - the maximum spatial extent for a single foundation location in 24 hours, together with the maximum possible spatial extent from piling (regardless of the number of foundations installed within 24 hours). Effectively, the influence of overlap from multiple events in a 24 hour period means that the latter figure for piling (which is given in Table 11.3 as 11.71% of the winter extents) is the maximum feasible spatial extent of effect that could result from works at Thanet Extension - whether that is piling, UXO or a</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>combination of both (including multiple piling and multiple UXO). It is therefore considered that there is no need for such a condition to be imposed. Furthermore, the licensing of UXO is taking place outwith the DML as currently contained within the draft Order.</p>
Natural England	NE-108	<p>Table 12.1 and table 12.2 While Natural England accepts that Hornsea 3 and Norfolk Vanguard will only commence piling in 2024, after Thanet Extension has finished construction, however, there is still the possibility of either development clearing UXOs prior to piling work, and this taking place in 2023, while Thanet Extension is still piling. This should be built into the assessment. Natural England notes this is likely to be a similar impact as per Thanet Extension undertaking UXO clearance whilst EA1 or Hornsea 1 are still piling. Therefore, Natural England does not agree with EA1, Hornsea 3, or Norfolk Vanguard being grouped in Table 12.2 as having no overlap with Thanet Extension.</p>	<p>The Hornsea Project Three RIAA does include UXO for the project alone, but no timeframe is given for UXO clearance in-combination (which would be required for an in-combination assessment). Further, paragraph 6.7.2.23 of the Hornsea Project Three RIAA (<a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-000521-HOW03_5.2_Report%20to%20Inform%20Appropriate%20Assessment.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010080/EN010080-000521-HOW03_5.2_Report%20to%20Inform%20Appropriate%20Assessment.pdf</a>) found that no quantitative assessment of UXO in-combination with Hornsea Three could be undertaken. It is therefore considered that there is insufficient information available to include UXO clearance at Hornsea Three in-combination with works at Thanet Extension.</p> <p>The Vanguard Report to Support HRA (<a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-000521-HOW03_5.2_Report%20to%20Inform%20Appropriate%20Assessment.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-000521-HOW03_5.2_Report%20to%20Inform%20Appropriate%20Assessment.pdf</a>)</p>

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			<p><a href="#">9-001479-5.03%20Norfolk%20Vanguard%20Information%20to%20Support%20HRA.pdf</a>) concludes in paragraph 903 that the only potential for in-combination effect from UXO clearance at Vanguard relates to disturbance, with a hypothetical assessment considering 4 UXO clearances in different areas of the North Sea (ie not in relation to the SNS cSAC extents or specifically in relation to Vanguard) made. It goes on to find (in paragraph 911) that it is not currently possible to estimate the number of UXO clearances that could be undertaken in the SNS cSAC, with a worst case scenario of up to 2 at any one time. It is noted in paragraph 915 that if sufficient UXO clearances occurred in 24 hours, thresholds could be exceeded, and strategic mitigation would be required. However, there is insufficient information regarding UXO clearances at Vanguard to enable an in-combination assessment to be made with works at Thanet Extension at this time. Furthermore the licensing of UXO is taking place outwith the DML as currently contained within the draft Order.</p>
Natural England	NE-109	12.3.15 and 12.3.19 Natural England agrees that post CfD works are at least two years before construction. However, any projects in tier 2 which achieve CfD in 2019 could easily begin construction	The tiering structure applied in Thanet Extension has been successfully applied in previous examples.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>within Thanet Extension's piling window (2021 – 2023). In addition, Thanet Extension is in the exact same position as all of these wind farms as it does not have a CfD either.</p>	<p>Thanet Extension is not included in the Tiering structure as the assessment is made based on the parameters available to the project i.e. construction will occur in the manner and time specified within the RIAA, according to the worst case scenario approach, whereby the construction window is for piling to commence in 2021.</p> <p>As regards other projects - specifically those in Tier 2 - Dogger Bank Crekye Beck A&amp;B, DoggerDogger Bank Teesside A and Sofia - these are all located at least 26km from the winter extents of the SNS cSAC and there is no potential for an in-combination effect with Thanet Extension.</p> <p>As regards East Anglia THREE, given the timeframes inherent in the process for projects of that scale, it is considered reasonable to draw the conclusions made in the RIAA regarding time to construction for that project. Further, it is clear from previous CfD rounds, together with project design changes between consent and construction, that changes in the project design envelope and construction programme may well occur, making inclusion in an in-combination assessment (given the temporal and spatial nature of the assessment) potentially misleading. Finally, the numbers presented for East Anglia Three (and Thanet</p>



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			Extension) for the spatial extent of effect are the maximum feasible for that project. It would be more realistic to present to provide minimum and maximum figures for both projects, which would presumably be taken into consideration in the East Anglia THREE SIP process should management of effect be required.
Natural England	NE-110	12.3.19, Table 12.4 and 12.5, plus in combination conclusions. Natural England does not agree with ignoring Tier 2 projects within the in-combination assessment. In addition, all the windfarms mentioned in the comments above should form part of tables 12.4 and 12.5 for the reasons previously specified. Even without these other wind farms being assessed, tables 12.4 and 12.5 show that the combined impact of piling (or UXO clearance separately) at Thanet and East Anglia 3 alone would lead to 26.53 % disturbance of the cSAC habitat. Borssele 1-5 adds another 0.75 %, with the rest of potential wind farms still to be added into the assessment.	This comment follows on from NE-109.
Natural England	NE-111	5.5.1. Summary of Natural England's Key Concerns <ul style="list-style-type: none"> <li>· From Natural England's perspective there is insufficient assessment on potential cable repairs and the deposition of material from sandwave clearance.</li> <li>· There is insufficient information to determine the impacts upon Goodwin Sands pMCZ.</li> </ul>	The deposition of material from sandwave clearance has been considered (within the references provided below) within the construction phase impacts, specifically the impacts from increased SSC and sediment deposition as a whole.

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		<ul style="list-style-type: none"> <li>· Sufficient burial and engineering techniques need to be employed to ensure that cable burial is successful (particularly in rock outcroppings and drillstone reef) and unnecessary rock protection is not employed.</li> <li>· Natural England are happy to trial the use of the biogenic reef plan but only under the conditions highlighted below.</li> </ul>	<p>The volumes of sediment released from sandwave clearance has been included within the total volume assessed and presented in each of the technical chapters (e.g. PINS Ref APP-046/ Application Ref 6.2.5 subtidal and intertidal benthic ecology, para 5.10.26 <i>et seq</i>). The impacts from potential cable repairs are considered under the operational phase, specifically it is noted that the impacts will be substantially smaller than those during the construction phase (which were assessed to be of minor adverse significance) and therefore, the impacts from cable repairs would be no greater than those of the construction phase (e.g. PINS Ref APP-046/ Application Ref 6.2.5 subtidal and intertidal benthic ecology, para 5.11.23 <i>et seq</i>).</p> <p>All features of Goodwin Sands rMCZ that may be affected by the works were considered within the MCZ assessment (PINS Ref APP-083/ Application Ref 6.4.5.3, para 5.6.28 <i>et seq</i>, 5.6.36 for consideration temporary habitat disturbance, and us of cable protection within Goodwin sands pMCZ respectively. Secondary deposition as a result of sandwave clearance activities is also considered at paragraph 5.6.31 of the same document.</p>
Natural England	NE-112	Table 5.5 Table 5.5 incorrectly state that Goodwin Sands pMCZ has not been brought forward for	This is noted by the Applicant. However, as can be seen in the wider document, and as referenced in response to NE-111 the features of the rMCZ were

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		consultation and is therefore not addressed further.	included in the MCZ assessment and where relevant in the benthic assessment. The omission from Table 5.5 therefore represents a minor typographic omission reflecting the timing of the application and Goodwin Sands being brought forward for formal application.
Natural England	NE-113	Table 5.5 Natural England disagree that we have seen the mitigation plan for biogenic reefs or the core reef approach as part of the evidence plan process. We first had sight of it as part of this ES submission. This is repeated throughout the table.	This is noted by the Applicant. However, the use of the core reef approach has now been agreed in principle, and the 2 <sup>nd</sup> draft submitted to Natural England on [Date] for review.
Natural England	NE-114	Table 5.10 (Page 5-42) It is not clear how the impacts of deposition of sediment from pre sweeping and the impacts of this on temporary habitat loss and disturbance have been taken into account – it appears as though only removal of the sediment has been assessed. If this is the case then the assessment is incomplete.	The disposal of the sediment from sandwave clearance has been included in the total volume of sediment potentially released from all construction works at Thanet Extension and included in the impacts considered for increased SSC and sediment deposition on the benthic environment. Please refer to NE-111 for further specific references.
Natural England	NE-115	Table 5.10 Direct and indirect disturbance to seabed from maintenance. No value is provided for the number of cable repairs and the footprint from impact, therefore this is not assessed and cannot be permitted in the DML. This is not realistic as numerous licenses have been applied for cable remedial work at Thanet Offshore Windfarm.	The footprint from the impact has been identified through reference to the Offshore Project Description chapter (Application Ref 6.2.1) and relative to the footprint from construction, with the assessment based on the operational phase having a smaller impact than the construction phase. Therefore, cable repairs during the operational phase will have no greater impact than

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			during construction (minor adverse). This is detailed within the intertidal and subtidal ecology chapter (Application Ref 6.2.4)
Natural England	NE-116	Table 5.11 (Page 5-48) 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.	This is noted by the Applicant. The burial of cables will be informed by <i>inter alia</i> the cable burial risk assessment and pre-construction site investigation surveys with the most suitable method brought forward according to those data.. Surface laid cable may be considered a risk to vessel anchors and commercial fisheries, it is not therefore a preferred option and the cable will be buried or protected as appropriate.
Natural England	NE-117	5.10.33 Further consideration needs to be given to the impacts, sensitivity and recoverability of habitats to deposition of material from sandwave clearance including the habitat and size of area affected. At present there is insufficient information to permit this activity.	As noted in response to NE-114, sandwave clearance volumes of sediment deposition are considered within the total volumes for SSC and sediment deposition, the impacts of which are assessed within the relevant chapters such as the benthic ecology chapter (PINS Ref APP-046/ Application Ref 6.2.5). The assessment of these impacts is also considered within the context of the MCZ assessment, specifically at paragraph 5.4.3 of that document (PINS Ref APP-083/ Application Ref 6.4.5.3).
Natural England	NE-118	5.10.44 Natural England deem this paragraph is insufficient to determine that there will be no significant impact on the features of Goodwin Sands pMCZ.	As noted above (NE-112) all the features of the Goodwin Sands rMCZ have been assessed in the MCZ assessment, which concludes that there would be no significant impact on the features of

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			the Goodwin Sands PMCZ. Additionally, any that were identified within the cable corridor have been included in the assessment.
Natural England	NE-119	<p>5.11.16</p> <p>It is currently known that the invasive non-native species <i>Didemnum vexillum</i>, or the carpet sea squirt, occurs and is increasing in occurrence around the Kent coast and is considered a pressure upon important subtidal chalk habitat within and outside designated sites. Additionally, this species does occur in Ramsgate Harbour along with a range of other non-natives. Therefore, monitoring upon the monopole foundations and the associated scour protection for non-native and invasive species would be a good opportunity to learn more about this threat. It would inform us how these species are spread and if offshore wind farms do in fact harbour these species.</p>	<p>This is noted by the Applicant however monitoring is understood to be required where certainty is low in the predictions made, and to validate the predictions made. The spread of <i>Didemnum vexillum</i> is a national phenomenon that is independent of OWFs at this location, instead it is understood to be more likely as a result of small recreational vessels travelling along the coast. Any monitoring at Thanet Extension would therefore be disproportionate and unlikely to provide information relevant to the primary vector and spread of this non native species.</p>
Natural England	NE-120	<p>5.11.26</p> <p>There will be additional impacts if the cable is covered in protection which cannot be removed and thus a new area of seabed will be impacted. This occurred on the original Thanet Offshore Windfarm export cable and has not been fully assessed here. As per other Applications a valid assessment should give a maximum number of cable repairs per year and the associated footprint of impact to allow assessment and inclusion in the</p>	<p>As noted above (NE-111), the impacts of cable repair works have been considered in detail within section 5.11 of the assessment presented in the benthic ecology chapter of the ES (PINS Ref APP-046/ Application Ref 6.2.5). Table 5.10 of the chapter provides the parameters of relevance for assessment, specifically the worst case transferred across from the PD chapter is presented on page 5-45 (pdf page 49) which</p>

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		<p>DML. The estimated number of repairs and footprint is given in tables 1.31, 1.32 and 1.33 in chapter 6.2.1. However, the impact of this is not sufficiently translated across to the benthic chapter to enable a robust assessment.</p>	<p>identifies <i>inter alia</i> 342 jack up vessel visits and maintenance of cables.</p>
<p>Natural England</p>	<p>NE-121</p>	<p>Cable Statement Document (Doc. ref. 7.1)                      6.1                      Natural England would encourage the Applicant to gather sufficient geotechnical data upfront and to work with the relevant contractor to determine the burial techniques that have the greatest chance of success. Cable protection should only be used as a last option, where its use is entirely necessary and the method of cable protection should be selected that has the least environmental impact and works best with the natural environment at a given location. At other projects cables have been laid in a slot or groove cut into rock which has then been deemed to provide sufficient protection to the cables without the need for additional cable protection.</p>	<p>This is noted by the Applicant. The various pre-construction documents, including the cable installation plan secured within the dMLs will be provided to the MMO for approval in advance of works being carried out. These plans will be informed by pre-construction site investigation surveys which will in turn inform the cable burial risk assessment which will determine the minimum burial depth and/or areas where cable protection may be required. The project description provides for the use of mechanical trenching (a similar process to the example identified by Natural England in the reference to trenching in rock) which may be used where appropriate.</p>
<p>Natural England</p>	<p>NE-122</p>	<p>6.3                      Where rock is likely to be an issue and particularly in areas of chalk habitat which presented burial issues at Thanet offshore windfarm, use of cutting tools that could lay cables in rock should be considered and assessed as part of this Application. Natural England do not feel the</p>	<p>The Applicant can confirm that mechanical trenching has also been included within the Rochdale envelope presented in paragraph 1.4.88 of the PD (offshore) chapter (PINS Ref APP-042/ Application Ref 6.2.1). and fully assessed in the ES. Mechanical trenching is more discrete than ploughing or jetting and does not therefore</p>

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		method of laying cable in areas of rock has been adequately addressed. Ploughing and jetting were not successful for inter array cable burial at Thanet Offshore Windfarm.	represent the worst case scenario, but it is considered appropriate in areas of hard substrate.
Natural England	NE-123	6.7 As per comments above use of cable protection should be minimised and should be selected to work with the natural environment and sediments present in the area rather than changing the environment through the introduction of different substrates. Cable burial techniques should be selected to enable sufficient burial of the cables at initial installation.	See Applicant's response to NE-121.
Natural England	NE-124	Disposal Site Characterisation (Doc. Ref. 8.14) 14.3.5 Natural England would like to highlight that Dover port have been granted a license to extract aggregate from Goodwin Sands to provide material for the port extension. We therefore recommend that these two projects join up and consider use of material from seabed preparation and / or sandwave clearance at Thanet extension to be used in the port construction, rather than extraction of new material from Goodwin Sands. This would reduce the impacts from the two projects to one dredging event rather than two sets of dredging events and impacts from disposal of dredged material at Thanet extension, also	The Disposal Site Characterisation (PINS Ref APP-148/Application Ref 8.14) has considered where appropriate the option to recycle material rather than dispose within a disposal site. Given the project timescales, and current uncertainty over the Goodwin Sands dredge licence due to the judicial review being sought, it is considered too uncertain to provide sediment from one source and provide to another at this stage. Furthermore, the Dover port development is unlikely to commit to waiting for Thanet Extension to supply sediment as they have different commercial drivers.

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		<p>reducing overall numbers of boat trips and associated impacts and costs. There would be significant benefits from the reduction of impacts across this marine area and removal of impacts to Goodwin Sands pMCZ and it would be a good example of cross industry partnership working to deliver better environmental outcomes.</p>	
<p>Natural England</p>	<p>NE-125</p>	<p>14.6.17                      There is not enough information provided (and translated across to the benthic chapter) in relation to disposal of material from sandwave clearance. The text states that the dredger will operate at a given location until full and then return the material to the seabed nearby. This does not give any indication of the areas of the cable route that will be cleared or indicative disposal locations to enable sufficient assessment of impacts on benthic communities. Disposal areas should avoid protected sites.</p>	<p>Overall areas of sediment removal and disposal are provided within the relevant technical chapters. At this stage exact locations are not known and will remain unknown until the pre-construction baseline is undertaken. As such a worst case scenario has been used whereby maximum areas are subject to sandwave clearance and disposal. Natural England's preference for avoiding designated sites is noted. This commitment cannot however be made as it may be deemed appropriate to retain sediment from within Goodwin sans MCZ within the MCZ area where feasible to ensure sediment supply remains. This is considered to be standard best practice where such activities are necessary within designated sites.</p>
<p>Natural England</p>	<p>NE-126</p>	<p>14.6.22                      An indication should be given of likely deposit locations and bed level changes at those locations as well as persistence of the disposal mounds and rates of infill of cleared sandwaves.</p>	<p>This has been provided within the disposal site characterisation report (PINS Ref APP-148/ Application Ref 8.14) and various technical chapters, for example the subtidal and intertidal benthic ecology chapter (PINS Ref APP-046/</p>



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			Application Ref 6.2.5), paragraph 5.10.30 provides a range of depths from 0.5 m to 0.10 m, whilst the disposal site characterisation report provides the proposed disposal sites in Figure 14.1.
Natural England	NE-127	14.8.1 Natural England consider there is insufficient information on disposal along the cable corridor to consider the impacts.	A worst case approach has been taken assuming disposal may take place anywhere along the export cable corridor. Technical chapters each consider the worst case as appropriate, for example the subtidal and intertidal benthic ecology chapter ((PINS Ref APP-046/ Application Ref 6.2.5), paragraph 5.10.30 provides a range of depths from 0.5 m to 0.10 m and assesses against all potential habitats present. The Applicant therefore considers that this has been adequately assessed.
Natural England	NE-128	14.8.5 Any disposal of material in the array area must avoid areas agreed as Sabellaria spinulosa reef i.e. micrositied around habitats of conservation interest.	This is noted by the Applicant however it should be recognised that <i>Sabellaria spinulosa</i> is not generally considered to be sensitive to smothering as outlined by MarLIN and studies undertaken by the Marine Aggregate Levy Sustainability Fund (Last, K.S., Hendrick V. J, Beveridge C. M & Davies A. J, 2011. Measuring the effects of suspended particulate matter and smothering on the behaviour, growth and survival of key species found in areas associated with aggregate dredging. Report for the Marine Aggregate Levy Sustainability Fund).

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-129	<p>General comment</p> <p>Natural England are happy to trial the use of a modified core reef approach at Thanet extension if the changes outlined below are agreed. We feel that there would be a benefit in trialling this approach with post-construction monitoring to look at any impacts on and changes to Sabellaria spinulosa distribution. This advice is given on the basis that this project is located outside an MPA, with recognition that Sabellaria spinulosa reef in this area is protected under the NERC Act, and that it is an extension project with a lower level of infrastructure associated with it than many other windfarm projects. A more precautionary approach will be taken by Natural England in relation to any Sabellaria spinulosa reef that is a feature of an MPA. This advice is therefore to be taken as the trialling of the approach at a specific location for the reasons outlined above and is not to be taken out of context or assumed that the approach is appropriate in other locations.</p>	<p>This is noted by the Applicant. The biogenic reef plan (PINS Ref APP-149/ Application ref 8.15) has been updated accordingly making all changes requested by Natural England.</p>
Natural England	NE-130	<p>2.4.5</p> <p>Note Natural England advise taking on a limited number of single grabs in areas of Sabellaria spinulosa reef to help determine reefiness.</p>	<p>This is noted by the Applicant. The biogenic reef plan (PINS Ref APP-149/ Application Ref 8.15) has been updated accordingly making all changes requested by Natural England.</p>
Natural England	NE-131	<p>4.3.4</p> <p>Natural England do not agree that 2 different values should be used for defining core reef on the</p>	<p>This is noted by the Applicant. The biogenic reef plan (PINS Ref APP-149/ Application Ref 8.15) has</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		basis of differing impacts from installation. Additionally, it should be noted that a value of >1 is now being used in the Wash for the definition of byelaw areas.	been updated accordingly making all changes requested by Natural England.
Natural England	NE-132	4.3.4 Although it is correct in stating that cabling does not necessarily preclude the ability of reef to form, it definitely would result in quite significant damage to areas of reef. Particularly during cable preparation works and any maintenance works which require access to the cable. The need to microsite should be determined by the quality of the reef and not the potential impacts caused by infrastructure as all will inevitably have a negative effect.	This is noted by the Applicant. The biogenic reef plan (PINS Ref APP-149/ Application Ref 8.15) has been updated accordingly making all changes requested by Natural England.
Natural England	NE-133	4.3.5 Agree for the impacts from cables, hence comment above.	This is noted by the Applicant. The biogenic reef plan (PINS Ref APP-149/ Application Ref 8.15) has been updated accordingly making all changes requested by Natural England.
Natural England	NE-134	4.3.6 Natural England do not agree with these reef values. Due to the limited number of overlapping surveys – minimum 1, maximum 3 we advise that a value of > 0.5 should be used to define core reef. This is on the basis that if there is only one survey and Sabellaria reef has been found then it should be assumed as core reef (reef index 1). If there are 2 surveys and Sabellaria reef has been found once	This is noted by the Applicant. The biogenic reef plan (PINS Ref APP-149/ Application Ref 8.15) has been updated accordingly making all changes requested by Natural England..

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		then it should be assumed as core reef (reef index 0.5). If there are 3 surveys and Sabellaria reef has been found 2 or more times it should be assumed as core reef (reef index 1.3).	
Natural England	NE-135	Figure 4.1 It would be more useful to Natural England if a map was produced which showed the number of surveys for each part of their areas as different colours.	This is noted by the Applicant. A map showing the overlapping areas of the survey has been included in Appendix 43 of the Applicant's Deadline 1 submission.
Natural England	NE-136	4.5.7 Why is the original Thanet OWF data available for use in the core reef approach but not to characterise the benthic surveys?	The data were included within the biogenic reef plan (PINS Ref APP-149/ Application Ref 8.15) Biogenic Reef Plan to demonstrate the overall coverage of data over time. With regards the broader characterisation the data are considered to be superseded by the site specific data undertaken to characterise Thanet Extension project area.
Natural England	NE-137	5.6.1. Summary of Natural England's Key Concerns: · Impacts and locations of deposition material from sandwave clearance have not been fully assessed. · Sandwave clearance has not been defined well enough to be currently permitted. · If the sea wall is advanced onto the saltmarsh there could be further impacts from erosion at the toe of the wall resulting in a further permanent loss of saltmarsh.	This is noted by the Applicant and addressed individually below in response to NE-138, 139 and 140.

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Natural England	NE-138	<p>General Comment</p> <p>As mentioned previously, Natural England's preferred option is option 1 (HDD) with option 2 and 3 involving permanent and temporary loss of saltmarsh habitat respectively. "Realignment" of the sea wall is mentioned, however in reality this is an 'advancing the line' and even extension (in terms of length) of the existing sea wall. The word realignment – in terms of coastal management realignment is; Movement of the shoreline toward a more natural state or position, e.g. following the removal of coastal defences which would have previously maintained the shoreline in an artificial state. It would be more clear and correct if this was changed to advance the line or similar.</p>	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-139	<p>General Comment</p> <p>The accreting sand dune feature (spit) to the south of the landfall site, is unlikely to be affected by the works. However, advancing the line (option 2) of the sea wall could have an effect on the possible meandering at the mouth of the River Stour in the future (20-50 years' time).</p>	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-140	<p>General Comment</p> <p>The advancement of the sea wall onto the saltmarsh will likely to cause an increase scour to the remaining saltmarsh and therefore would create an additional loss of habitat which has not been fully assessed. A wall would be inherently</p>	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		reflective and therefore you expect scour at the toe of the wall and potential changes in hydrodynamics also. With increasing sea levels and occurrences of destructive winter storms this erosion could be amplified further.	
Natural England	NE-141	2.7.15 This information on seabed sediments and geology should be used to provide a robust assessment of likelihood of cable burial in the different areas and refine the locations needed for sandwave clearance and cable protection.	A cable burial risk assessment is required under the dML and will be provided for review pre-construction., (Condition 12(g)(ii) of Schedule 11 and Condition 10(h)(ii) of Schedule 12 of the DCO (PINS Ref APP-022/ Application Ref 3.1).
Natural England	NE-142	2.10.34 As per previous comments impacts of deposition of material from sandwave clearance and locations is not adequately assessed.	See the Applicant's response to NE-143.
Natural England	NE-143	2.10.43 Natural England question whether only a jetting tool would be used for sandwave clearance? It is usual to dredge the material and recover to the sea surface before release. In the benthic chapter a dredger is mentioned with the release of material. Overall, sandwave clearance has not been well enough defined to be permitted.	The assessment includes for the effects of both dredging (for sandwave clearance) and jetting (for cable installation). It was concluded in the physical processes Chapter (PINS REF APP-043/ Application Ref 6.2.2) of the ES for example that neither should result in significant adverse impacts to identified physical process (or ecological) receptors; however, based on recent project experience from elsewhere the Applicant is aware that NE typically have concerns about the 'removal' of material from the local sedimentary system. The assessment assumes local side casting of material.

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Natural England	NE-144	5.7.1. Summary of Natural England's Key Concerns: <ul style="list-style-type: none"> <li>· Further consideration is needed for the worst case scenario from construction disturbance and what should be included in the assessment.</li> <li>· The amount of sediment transferred to the water column during jetting needs to be clarified.</li> </ul>	The assessment includes for the effects of both dredging (for sandwave clearance) and jetting (for cable installation). The Applicant is of the opinion that neither should result in significant adverse impacts to identified ecological receptors
Natural England	NE-145	1.4.34 It is stated piles may be installed via vibro-piling – it is noted that any noise emissions will be kept within the limits of the envelope consented for hammering. We highlight that such alternative methods need to be fully assessed throughout the ES, particularly under the marine mammal and fish sections to ensure that all impacts are considered.	A worst case approach has been taken on all assessment parameters, including underwater noise. As such the worst case is assessed rather than all options.
Natural England	NE-146	Table 6.7 (Page 6-34) Worst case scenario (WCS) for disturbance from construction does not include the area of disturbed seabed from site preparation for the installation of the turbines, just the footprint of the jack up vessel. The seabed area disturbed by seabed preparation should be included in the assessment.	Seabed preparation for foundations is not considered a temporary construction phase impact as the area is entirely covered by the foundations themselves and scour protection as a permanent impact during the O&M phase. Therefore, the only temporary construction phase impacts associated with seabed disturbance are from jack-up vessel footprints and anchors. Temporary increases in SSC and deposition during construction however do include impacts from seabed preparation.
Natural England	NE-147	Table 6.7 (Page 6-34) WCS for temporary localised increases in suspended sediment concentrations and smothering assumes for jetting that 50% of	This is noted by the Applicant. The assessment was based on 100% of the sediment being liquidised and therefore this inconsistency has no bearing on the outcome of the assessment.

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		<p>sediment is being liquidised while on the justification column it is stated that “jetting results in the greatest volume of sediment dispersed as it is assumed that 100% of the sediment is liquidised”. The amount of sediment transferred to the water column from jetting should be clarified and if indeed it is 100% of the sediment that is liquidised the assessment needs to be updated accordingly.</p>	
Natural England	NE-148	<p>9.20.17 Quite often the cumulative impact assessment is dismissed based on the fact that “Thanet Extension is small compared to other developments in a regional, national and international context. In addition, the proposed construction period is short in comparison with other larger developments. Therefore, the contribution of Thanet Extension to the overall cumulative impact assessment is assessed as Minor adverse”. Although Thanet extension might be comparatively smaller than other bigger developments being constructed and planned for the area, it does not mean that its impact is not properly assessed and the share of impact of Thanet extension is disregarded when assessing the cumulative impacts of such projects.</p>	<p>This observation is noted. There is a complete cumulative effect assessment presented for all receptors that draws on a 'long list' and 'short list' of projects that was subject to consultation with Natural England. As such a robust assessment of cumulative effects has been presented alongside the narrative regarding the scale of Thanet Extension, and therefore the contribution towards any incombination/cumulative effects.</p>
Natural England	NE-149	<p>5.8.1. Summary of Natural England's Key Concerns: · Deterioration of water quality during and post</p>	<p>This is noted by the Applicant and addressed individually.</p>



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		<p>construction as a result of interactions with the landfill site.</p> <ul style="list-style-type: none"> <li>Continued uncertainties around the total volume of material that is to be disposed and what this means for water quality.</li> </ul>	
Natural England	NE-150	<p>Table 3.10 – Row 1</p> <p>Following Natural England's previous comments on the discrepancies between the total disposal volumes presented in the DML and the worst case scenario in the disposal site characterisation reports and other sections of the DCO, it would be interesting to understand what proportion the maximum spoil volume per foundation of 9,600 m<sup>3</sup> contributes to the total disposal volumes.</p>	<p>A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A of the response to deadline 1 for ease of review.</p>
Natural England	NE-151	<p>Table 3.10 – Row 2</p> <p>It would be useful to provide what percentage contribution the maximum adverse scenario of 22,531 m<sup>3</sup> for drill arising contributes to the overall predicted amount of material removal across the project.</p>	<p>A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A of the response to deadline 1 for ease of review.</p>
Natural England	NE-152	<p>Table 3.10 – Row 3</p> <p>Natural England would like to confirm that the pre-sweeping volume of 1,440,400 m<sup>3</sup> is for sandwave clearance alone or other seabed preparation works also?</p>	<p>A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A of the response to deadline 1 for ease of review.</p>
Natural England	NE-153	<p>Table 3.10 – O&amp;M</p> <p>Considering most of the landfall options interact with the landfill, the deterioration of the water</p>	<p>The project description (PINS Ref APP-042/ Application Ref 6.2.1), CoCP (PINS Ref APP-133/ Application Ref 8.1), and onshore ground</p>

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		quality due to insufficient reinstatement of the seawall could occur. As a result during the O&M it would be sensible to consider and assess the potential effects of the release of contaminants from the landfill. Particularly as leachate has already been detected in certain locations without any sufficient disturbance. This could be emphasised by storm events and large tidal inundations.	conditions chapter (PINS Ref APP-062/ Application Ref 6.3.6) provide detail regarding the design of the landfall will be such that it will ensure leachate doesn't escape during construction and/or operation. The detailed design is not currently available but the contaminated land management plan secured in the DCO provides for this information to be submitted for approval to the relevant authority at the relevant time.
Natural England	NE-154	3.10.20 Although the installation of a cofferdam would hopefully prevent any release of leachate during construction, as stated above if reinstatement of any seawall is not adequate there is the potential for the release of contaminants during O&M. Natural England believe that there should be some kind of monitoring, potentially linked to the saltmarsh mitigation plan to determine that there is no contamination occurring.	The Contaminated Land and Groundwater Plan secured by Requirement 19 of the DCO will provide for this where appropriate.
Natural England	NE-155	3.11.17 Has the potential impact from suspended sediment wakes upon phytoplankton productivity and thus the knock on impacts up the food chain been considered?	This was discussed under the auspices of the EIA Evidence Plan (PINS Ref APP-137/ Application Ref 8.5) and concluded as not likely to result in a significant effect.
Natural England	NE-156	3.13.13 Considering Natural England's comments regarding uncertainties in the total volume disposals it is hard to determine and agree with	A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A of the response to deadline 1 for ease of review.

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		<p>the conclusions presented regarding the cumulative effects assessment for increased SSC and contaminants. It is essential that the correct figures for disposal are quoted and what type of material is being disposed and where.</p>	
<p>Natural England</p>	<p>NE-157</p>	<p>Table 3.14 Overall Natural England would like many of these conclusions to be revisited in relation to the uncertainties we have highlighted in relation to the total volumes of disposed material. Additionally, regarding the potential contamination from the leachate from the historic landfill we would like to see any potential impacts being monitored in association with the saltmarsh mitigation plan post construction.</p>	<p>A tabulated clarification note identifying all assessed parameters, clearly identifying the volumes of disposal material is provided at Appendix 1, Annex A of the response to deadline 1 for ease of review. With regards the historic landfill area monitoring will be provided for within the Contaminated Land Plan as required in the DCO.</p>
<p>Natural England</p>	<p>NE-158</p>	<p>5.9.1. Summary of Natural England's Key Concerns: · RIAA - With regards to onshore impacts on European designated sites Natural England concur with a number of the conclusions reached. However, we still have particular concerns around the implications of the permanent loss of saltmarsh under landfall option 2 and on the level of reliance on documents not yet produced in order to conclude no adverse effect on site integrity for several features. · Onshore Biodiversity – Natural England have reviewed the onshore biodiversity chapter with a particular focus on impacts to nationally and</p>	<p>RIAA - see the Applicant's responses to comments NE-159 to NE-162.  Onshore Biodiversity - with respect to pre-construction surveys, as set out in Table 5.11 of the Onshore Biodiversity ES chapter and Table 5-1 of the OLEMP (Application Ref 8.7) a commitment has been made to carry out a range of pre-construction surveys. With respect to concerns regarding impacts to some birds and invertebrates see the Applicant's response to comments NE-160 to 165 and NE-165 to 167. With respect to the comment about terminology, it is noted that due</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>internationally designated nature conservation sites and legally protected species for which Natural England might be required to issue a licence. We can confirm we are satisfied that the proposed development is highly unlikely to impact on any legally protected species which would require a licence from us and that therefore there is no requirement for us to provide any Letters of No Impediment (LONI's) as part of the examination process. However, we encourage further pre – construction surveys to again determine the likelihood of needing any licences. While we accept a number of the conclusions drawn with regards to terrestrial designated site interest features we remain concerned about the potential impacts to some birds and invertebrates. For European site interest features there are significant amounts of text duplicated between this chapter and the RIAA. We also found it potentially misleading that the assessment of impacts on such interest features in this chapter did not use the correct HRA terminology, but instead stated that particular impact pathways would or would not have 'significant effects.'</p>	<p>to differences in the requirements of the EIA Regulations and the Habitats Regulations (and the need to be consistent with the rest of the ES) the terminology used in the ES will be slightly different to that used in the RIAA.</p>
Natural England	NE-159	<p>7.5.9 Natural England are concerned with the conclusion of no LSE at this current stage in the assessment for accidental pollution either from interactions</p>	<p>The Code of Construction Practice (CoCP) (PINS Ref APP-133/ Application Ref 8.1) sets out the in-principle management measures which will be implemented to manage potential environmental</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>with the historic landfill or through poor construction practices. Further information, such as the proposed site investigation works, need to be provided to further inform us of the risk of pollution. We understand a cofferdam will be used but there is evidence of leakage of contaminants even without significant disturbance from construction activities. A construction environmental management plan provided as soon as possible would allow us to further consider the LSE and actions taken to avoid unnecessary pollution.</p> <p>In addition to the above, we encourage monitoring of potential leakage from the landfill. This should involve taking regular samples throughout the construction and post construction period.</p>	<p>impacts during construction. These include the in-principle measures that will be secured in the Construction Environmental Management Plan (CEMP) and associated subject-specific management plans (SSMPs) for each stage of works in the post-consent phase, each of which will be submitted to the relevant planning authorities for approval prior to works commencing.</p> <p>The Applicant considers that this information is sufficient to identify the appropriate mitigation measures which can be secured, but if there are specific concerns which Natural England would like the Applicant to address these can be discussed and secured as necessary through the draft DCO.</p> <p>The Applicant would like to reassure Natural England that under the draft DCO no construction works will take place until detailed plans have been agreed with relevant stakeholders.</p> <p>With regard to monitoring we note that the CoCP includes numerous commitments to monitoring, including references within Section 7 'Contaminated Land and Groundwater Plan'.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			Detailed monitoring methods will be set out within the detailed CEMP and SSMPs to be agreed prior to construction commencing.
Natural England	NE-160	<p>7.5.21 – 7.5.25</p> <p>Impacts on golden plover and turnstone through the permanent loss of upper saltmarsh habitat has been screened out as no LSE, with justification as to why this area is not suitable for them for foraging or roosting. Given that landfall option 2 would result in direct, permanent loss of land designated as SPA / Ramsar, Natural England's advice is that this pathway of impact should be taken through to Appropriate Assessment. We have particular concern with regards to golden plover given that the Applicant's own wintering bird survey indicates that birds may use this area for roosting. Our view is that this is one more reason why the Applicant should fully pursue all other route options and design alternatives before accepting the permanent loss of designated saltmarsh.</p>	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-161	<p>7.5.27 – 7.5.28</p> <p>Based on the findings of the Terrestrial Invertebrate Assessment Report (document ref: 6.5.5.6) this section of the RIAA concludes that only 3 of the 14 species making up the Ramsar invertebrate assemblage have the potential to be impacted as there is no suitable habitat for the</p>	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.

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		<p>others within the RLB. Having reviewed Table 3-1 of the above named report, Natural England would encourage the Applicant to give further consideration to one more species, the bug <i>Orthotylus rubidus</i>. This is found on glassworts (<i>Salicornia</i> sp.) and occurs in areas which though saline, are not regularly inundated. Table 3-1 states that glassworts are not a prominent component within the study area but from Drawing 2 it is not clear that the whole area of saltmarsh to be lost was considered by the Terrestrial Invertebrate Assessment (Area A appearing to stop at the sea wall). Given that landfall Option 2 would result in permanent loss of upper saltmarsh (not regularly inundated) and that we have concerns (raised elsewhere in this response) about the data on which the Applicant's assertion that only low-value saltmarsh would be lost under Option 2 we would advise that it is not yet possible to robustly conclude no likely significant effect on the Ramsar invertebrate assemblage through the pathway of permanent habitat loss.</p>	
Natural England	NE-162	<p>11.5.4-11.5.8 Given the relatively limited invertebrate survey work to date and the potential reliance on embedded mitigation we would advise that a conclusion of no AEOI on the Ramsar invertebrate</p>	<p>We note that Natural England has previously stated they were 'content that the current [terrestrial invertebrate] assessment has provided sufficient data to characterise and evaluate the value of the site for terrestrial invertebrates'</p>

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		<p>assemblage through temporary habitat loss / disturbance is premature.</p>	<p>(letter dated 8/3/18 and confirmed at a meeting on 5th October). We also note that Natural England has not previously raised any concerns regarding the proposed mitigation for terrestrial invertebrates. As discussed at the meeting on 5th October we would therefore welcome clarification from Natural England on any specific concerns relating to Ramsar Assemblage species to which we can respond as appropriate.</p>
<p>Natural England</p>	<p>NE-163</p>	<p>Table 5.12                      Natural England would query why the final section of this table clearly states that water vole and otter are scoped out as not likely to be affected based on current survey data but does not include other faunal species which appear to have been scoped out such as badger and great crested newt.</p>	<p>Table 5.12 in the Onshore Biodiversity ES Chapter includes all receptors subject to detailed assessment. As set out in paragraph 5.7.123 of the Onshore Biodiversity ES Chapter receptors subject to detailed assessment include all legally protected species which could potentially be affected by the proposed development. The decision on which receptors should be subject to detailed assessment was made independently of any consideration of potential impacts and therefore all protected species recorded within the wider survey area used to inform the EIA were subject to detailed assessment and included in Table 5.12. Water vole and otter were both recorded within the wider survey whereas badger and great crested newt were not, which explains why otter and water vole are included in Table 5.12 and badger and great crested newt are not. As set out in Table 5.12 otter and water vole are then</p>



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			excluded from any further consideration at the impact assessment stage because they are not likely to be affected based on current survey data and the details of the proposed development.
Natural England	NE-164	<p>5.10.35 – 5.10.39</p> <p>Natural England note that ringed plover (a SSSI feature) on spring and autumn passage tend to use two main areas of mudflat for feeding – one entirely and one partly within the offshore RLB and that as the offshore cable route is not fully finalised it is not yet possible to determine whether either of these areas will be affected. While the birds may only be present in significant numbers for a few days in spring and a few weeks in autumn it is extremely important that they are able to feed with maximum efficiency / minimum disturbance during this short time. As a result, once the offshore cable route has been confirmed and if it interacts with these areas favoured by ring plover than additional mitigation may need to be put in place.</p>	See the Applicant's response to comment NE-167.
Natural England	NE-165	<p>5.10.46 – 5.10.59</p> <p>Natural England are concerned with the temporary loss / disturbance of up to 1.05 ha within the SSSI and its potential effects upon the breeding bird assemblage, particularly as 12 species forming part of the assemblage were recorded breeding in the 2017 survey and there would be suitable habit</p>	Although 12 assemblage species were recorded during the 2017 surveys, the surveys covered a much wider area than that which will be subject to temporary loss/ disturbance within the SSSI and most of these species are not likely to be affected by the works within Stonelees Nature Reserve. Embedded mitigation measures are set out in

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		<p>(scrub) for birds to nest. Additionally, there seems to be no direct mitigation measures mentioned to lessen the effects from construction works apart from a brief sentence on reinstatement post-construction. The methodology for reinstatement and any potential storage of material should be discussed with the relevant authorities well before construction has started.</p> <p>Subsequently only one years' worth of data has been collected which may not be sufficient to fully describe the assemblage of bird species breeding in this area.</p>	<p>Table 5.11 of the Onshore Biodiversity ES Chapter. Of relevance to breeding birds these include commitments to carry out pre-construction surveys for Schedule 1 species, to carry out vegetation clearance outside the bird breeding season (or only once it is confirmed no active nests are present by an ecologist) and to reinstate disturbed habitats as soon as possible. As discussed at the meeting on 5th October we would welcome clarification from Natural England as to what additional mitigation they consider necessary in this regard. Once we have this we can respond as appropriate.</p> <p>With regard to one years' worth of data not being sufficient we note that Natural England has previously agreed the scope of ornithological survey work through the evidence plan process and no concerns were raised regarding the coverage of the ornithological surveys within Natural England's S42 consultation response. Furthermore, it is considered very unlikely that a second year of survey within Stonelees Nature Reserve would affect the conclusions of the assessment or the mitigation measures proposed.</p>
Natural England	NE-166	<p>5.10.54 – 5.10.56</p> <p>With regards to the potential permanent loss of saltmarsh which could act as supporting habitat for the SSSI invertebrate assemblage we are</p>	<p>Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.</p>

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		<p>unclear why the terrestrial invertebrate management strategy is referenced in this section, as a mitigation strategy it is not going to be able to address permanent habitat loss which would require compensation. Please refer to our overarching comments regarding potential saltmarsh loss in section 4.</p>	
<p>Natural England</p>	<p>NE-167</p>	<p>Table 5.16                      Natural England believe it is not yet possible to be clear on the potential impacts on ringed plover. The proposed mitigation is a Ringed Plover Mitigation Plan which has yet to be written, therefore we would advise that the conclusion of no significant effects on this SSSI interest feature is premature.</p>	<p>Whilst there are several options for mitigation measures relating to passage ringed plover (see ES paragraph 5.15.3) it is impossible to provide detailed mitigation plans at this stage in the absence of detailed information regarding the cable routing, the timing of the works in the relevant areas and detailed construction methods. As stated in paragraph 5.15.2 of the Onshore Biodiversity ES chapter if; a) the final cable route passes within 250 m of the favoured areas for passage ringed plover; and b) works in these areas take place during the peak passage periods (mid-April to late May and August to September inclusive); appropriate management for passage ringed plover would be developed and agreed with Natural England. This should provide comfort that works will only take place in the affected areas once a detailed mitigation plan has been agreed with Natural England.</p>
<p>Natural England</p>	<p>NE-168</p>	<p>2.2.4                      Natural England is wary of the Construction</p>	<p>This comment is noted. The contents of the CEMP are prescribed by the CoCP and will include</p>

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		<p>Environmental Management Plan (CEMP) being produced solely by the contractors. In an area with multiple designated sites and species of importance it is essential that the CEMP has independent ecological advice fed into it. This will ensure the contractors are aware of the importance of any environmental practices that will be enforced.</p>	<p>environmental mitigation measures for each topic area from the ES, including systems related to the implementation and management of those measures and be assessed accordingly. It would not be appropriate to stipulate the nature of the advice that will be provided as part of its preparation, but the Applicant acknowledges the likelihood that ecological advice would be provided in advance of its submission for approval.</p>
<p>Natural England</p>	<p>NE-169</p>	<p>5.3 - Specific to Earthworks                      This section states 'within Stonelees Nature Reserve topsoil will be reinstated as soon as practicable, further information is provided in section 5.10.6' However, the section referred to simply makes generic points about soil being stored for the minimum possible time and broadly what measures will be taken if any soil is to be stored for more than 6 months. Given the multiple environmental designations at Stonelees Natural England would expect to see a more specific commitment to re-instatement.                      Furthermore, has there been consideration and assessment of the working width within Stonelees Nature Reserve and the potential impacts upon the SSSI?</p>	<p>The CoCP provides the principles that will be included within the various documents and plans for later submission. The storage of soil draws on standard best practice. The working width through Stonelees was reduced following Section 42 consultation and it is considered that this strikes the right balance between minimising the potential impacts and ensuring that works can be undertaken in an efficient, safe manner.</p>
<p>Natural England</p>	<p>NE-170</p>	<p>7.1.17                      "For groundwater dewatered from cofferdam excavations and excavations in the landfill the</p>	<p>This is noted, and water discharge consents applied for at the appropriate time where necessary.</p>

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		<p>following procedures would be undertaken:</p> <ul style="list-style-type: none"> <li>· Water quality would be tested to identify any potential contamination from the landfill;</li> <li>· The dewatering would be performed by pumps brought to site;</li> <li>· If the water quality is found to be acceptable and subject to further consent, then dewatering would be directed onto the saltmarsh on the seaward side of the cofferdam wall.”</li> </ul> <p>As stated this would probably require further consent and advice from the Environment Agency. The water quality would have to be proven to be acceptable to discharge as any deterioration in the quality could have significant effects upon the saltmarsh and intertidal habitats which are features of national and internationally designated sites.</p>	
<p>Natural England</p>	<p>NE-171</p>	<p>5.10.1. Summary Of Natural England's Concerns:</p> <ul style="list-style-type: none"> <li>· Natural England disagree with the conclusions that the permanent loss of saltmarsh (a supporting habitat of the SPA) should be screened out of the assessment.</li> <li>· The commitment by the Applicant to microsite around identified designated chalk reef should also apply to chalk habitat in general.</li> <li>· The lack of information regarding pre-construction surveys, and what data will be collected to inform any potential impacts from</li> </ul>	<p>The specific points are addressed on a point by point basis.</p>

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		<p>works within the pMCZ.</p> <ul style="list-style-type: none"> <li>· Rock protection within Goodwin Sands pMCZ.</li> </ul>	
<p>Natural England</p>	<p>NE-172</p>	<p>7.5.20 – 7.5.25                      Natural England disagree with the conclusions that the permanent loss of saltmarsh (a supporting habitat of the SPA) should be screened out. Therefore, Natural England advise the competent authority to assess this loss of habitat in further detail at the appropriate assessment stage to fully determine the impacts upon the Thanet Coast and Sandwich Bay SPA and Ramsar. This should be included in table 7.3 also.                      Experience from other cable installations within saltmarsh has shown the cable corridor has remained distinct from the surrounding saltmarsh with lower growing plants that are not reaching maturity. This is believed to be due to increased tidal inundation, and as a result the plants are no longer tussocky in formation so do not provide any supporting habitat to birds. This then impacts on the SPA and Ramsar features. Although recovery has been good at the original Thanet cable it cannot be assumed that recovery will be good in this location. The installation of the NEMO cable and resulting slow recovery has proven that recovery cannot be assumed.</p>	<p>Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope. The Applicant looks forward to further liaison with Natural England to ensure both the successes of the existing Thanet cable installation and the challenges faced by other projects are appropriately accounted for.</p>
<p>Natural England</p>	<p>NE-173</p>	<p>Table 6.1                      Natural England note the commitment made by</p>	<p>The Applicant proposed initially to microsite around all chalk reef features within designated</p>

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		<p>the Applicant, that if any chalk reefs are identified during these pre-construction surveys then micro-siting will be utilised to avoid these areas. However, Natural England also notes that the development could result in the damage or loss of subtidal chalk priority (BAP) habitat outside of designated sites. We advise that the Applicant provides further detail on how this loss could be avoided, mitigated or compensated prior to the granting of any permission. Subtidal chalk along the Thanet coast represents the longest continuous coastal stretch of coastal chalk in the UK.</p>	<p>sites, this commitment has now been taken further and the RLB amended to ensure long term effects are avoided either through the use of the cable exclusion zone or through the amendment of the RLB. It should also be noted that no chalk reef features (as defined within the benthic chapter (PINS Ref APP-046 / Application Ref 6.2.5) have been identified within the RLB and as such no further commitment to microsite is considered necessary as the features are not ephemeral and as such this characterisation baseline will not change.</p>
Natural England	NE-174	<p>11.2.12 If the narrow width of the overlap places limits on the feasibility of installing cables within this area, plus the commitment to microsite around chalk reef, shouldn't the commitment be made by the Applicant to completely avoid the Thanet Coast SAC? Natural England encourage that the SAC is completely avoided.</p>	<p>This is noted. The Applicant has committed to a cable exclusion area to ensure cables are not installed in the Thanet Coast SAC. This is secured by condition in the dML and identified on the offshore works plans.</p>
Natural England	NE-175	<p>11.2.13 To avoid any reasonable doubt and for best practice the SAC should be avoided.</p>	<p>See Applicant's response to NE-174.</p>
Natural England	NE-176	<p>11.2.17 Although recovery has been good within the landfall site of the original Thanet Offshore Windfarm cable, it should not be assumed that</p>	<p>The Applicant has based the difference on advice provided by Natural England under the auspices of the EIA evidence plan process and in discussion</p>

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		<p>recovery will be the same in this area. Firstly, there is likely to be greater amounts of disturbance within this area following the use of a cofferdam and up to four export cables being installed. Secondly, as has been learnt from the Nemo interconnector cable, recovery relies on many aspects including the topography of the ground. Recovery after the installation of the NEMO cables is expected to be a lot slower and may even need intervention.</p> <p>Natural England would like further evidence (i.e. survey data) of this difference in diversity between the saltmarsh in the north and south of Pegwell Bay. In recent years Spartina has invaded many areas of the saltmarsh and we question whether it has affected areas further north towards the original Thanet cable and towards the hoverport.</p>	<p>with the Environment Agency at the same meetings.</p> <p>The Applicant looks forward to further liaison on the saltmarsh management plan to ensure that appropriate lessons are learnt from both the successes of the existing Thanet cable installation and the challenges faced by other projects such as the Nemo Interconnector.</p>
Natural England	NE-177	<p>11.2.55</p> <p>Natural England advise that sufficient burial is achieved within the SAC (if the OECC goes through this area) to avoid the installation of further cable protection. Cable protection within the SAC will need to be fully assessed to determine any potential affects upon the interest features of the site.</p>	See the Applicant's response to NE-174.
Natural England	NE-178	<p>11.2.60</p> <p>See comments for section 11.2.17.</p>	See the Applicant's response to NE-176.



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Natural England	NE-179	<p>11.5.10 Considering two of the landfall options include the use of a cofferdam, which will probably require to be piled into place, is that 250 m buffer still fit for purpose? Also as acknowledged the area within 250 m of the landfall can support large numbers of European golden plover.</p>	<p>The 250m buffer does not apply to piling, including piling of any cofferdams. As stated in Table 5.11 of the Onshore Biodiversity ES chapter any driven/ percussive piling within Pegwell Bay Country Park (if required) would be subject to a timing restriction and would not take place during the period October to March inclusive. HDD works within Pegwell Bay Country Park (landfall option 1) would also be subject to the same timing restriction, whether or not they are located within 250m of intertidal habitats. The 250m buffer will apply to all other works. As stated in paragraph 5.7.13 of the ES a 250 m buffer has been used because significant disturbance beyond 250 m is unlikely (based on Cutts et al. 2009 and Collop et al. 2016). No objection was raised to the use of a 250m buffer in the Section 42 consultation responses.</p>
Natural England	NE-180	<p>11.5.12 Will works on any potential cofferdams be taking place during the overwintering bird period? If so, Natural England advise that these works are also restricted during this time.</p>	<p>See the Applicant's response to NE-179 with regard the installation of coffer dams. With respect to working within coffer dams Table 5.11 in the Onshore Biodiversity ES chapter states that restrictions would apply to all construction works within intertidal habitats and at the shoreline, including works within any coffer dam at the proposed landfall location. This would prevent any works taking place in these areas during the period October to March inclusive.</p>

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Natural England	NE-181	<p>Table 14.1</p> <p>As highlighted in Natural England's comments for section 7.5.20, Natural England disagree with the conclusions that the permanent loss of saltmarsh (a supporting habitat of the SPA and a notified feature of the SSSI) should be screened out. Therefore, Natural England cannot agree with conclusions presented in table 14.1 that there would no adverse effect on integrity to the Thanet Coast and Sandwich Bay SPA and Ramsar. Therefore, we advise the competent authority to assess this loss of habitat in further detail at the appropriate assessment stage to fully determine the impacts upon the Thanet Coast and Sandwich Bay SPA and Ramsar.</p>	See the Applicant's response to comment NE-160.
Natural England	NE-182	<p>General Comment</p> <p>Please note, that Goodwin Sands is now considered a proposed MCZ (pMCZ) after it was included in Tranche Three of MCZ consultation, which was announced on 8 July 2018.</p>	This was a typographical error within the document; the comment is noted and updates to the relevant assessments have been made accordingly.
Natural England	NE-183	<p>General Comment</p> <p>Natural England assume pre-construction surveys will be carried out to determine the location of the features that could be affected by cable laying operations within Goodwin Sands pMCZ with a commitment to microsite around Sabellaria and mussel beds which are ephemeral features of Goodwin Sands pMCZ. Post-construction surveys</p>	This commitment to undertake surveys for the purposes of micrositing around biogenic reefs is made within the dML and within the Biogenic Reef Mitigation Plan (PINS Ref APP-083/ Application Ref 8.15).

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		<p>should also be carried out within Goodwin Sands pMCZ. These plans should be detailed / referred to within the MCZ assessment and benthic chapters and should be conditioned within the DCO and relevant DML.</p>	
Natural England	NE-184	<p>General Comment            In relation to the above comment, the specific pre-construction benthic surveys within Goodwin Sands pMCZ, should include bathymetric and geotechnical surveys to begin with, with additional ground truthing surveys (grabs and drop down video) to confirm the relevant habitats at risk from cabling. If cabling does occur in this area it would be expected that post-construction monitoring should occur here to monitor any recovery taking place. This should be conditioned within the DCO and relevant DML.            Currently Natural England does not have sufficient data to be able to make an informed decision on the likely effects upon the conservation objectives of Goodwin Sand pMCZ.</p>	<p>The potential effects on the Goodwin sands MCZ are provided within the MCZ assessment (PINS Ref APP-083/ Application Ref 6.4.5.3). Monitoring of the relevant sensitive features (biogenic reefs) has also been committed to within the dMLs and the surveys will be based on the prevailing advice from the SNCB at the time to ensure the most appropriate survey method is employed. The Applicant suggests that this is more appropriate than committing to a given survey methodology now, that may no longer be preferred at the point of construction.</p>
Natural England	NE-185	<p>General comment            In combination impacts have not been looked at, such as the aggregate sand extraction in relation to Dover Port.</p>	<p>Cumulative effects have been considered within the wider EIA in relation to the features within the Goodwin Sands rMCZ, inclusive of the relevant aggregate extraction sites as identified within the cumulative project list submitted to the EIA Evidence Plan technical groups for review.</p>

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			As presented in the Applicant's response on ExA Written Question 1.1.46 (Appendix 25 of the Applicant's Deadline 1 submission) the Applicant considered the Dover Harbour Marine Licence application and concluded there would be no temporal overlap between the two projects.
Natural England	NE-186	<p>General comment</p> <p>Overall Natural England need a more in depth assessment of the effects upon the MCZ particularly from sandwave clearance and cabling works. See also comments for the benthic chapter, which highlights similar concerns:</p> <ul style="list-style-type: none"> <li>- Total volumes are needed for the amount cable protection, currently a cable protection loss of 0.25 % of the MCZ seems quite high plus the in-combination impact from NEMO cable protection also.</li> <li>- Need total volumes to be dredged in the MCZ and an assessment for the deposition of sediments from pre sweeping.</li> <li>- Sand wave clearance needs to be better defined in general, but also in terms of impacts to the MCZ specifically.</li> <li>- More specific timescales for recovery need to be given, which can be linked to the biotopes.</li> <li>- A cumulative effects assessment to take into account previous works from the NEMO interconnector cable.</li> </ul>	Please see individual item responses below (NE-187 – 189).

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Natural England	NE-187	<p>Table 5.2</p> <p>The assessment states – “It should be noted that the Goodwin Sands pMCZ Consultation Factsheet (Defra, 2018) identified that cable installation and renewable energy activities are not likely to be damaging to the features of the site.”</p> <p>Natural England's advice to DEFRA is that existing activity is not likely to be damaging.</p>	<p>This is noted by the Applicant. The Applicant considers the advice on operations to be for the purposes of assessment and as such it is reasonable to conclude that the information referenced with regards the MCZ not being sensitive to renewable and cable operations to be relevant.</p>
Natural England	NE-188	<p>5.5.6 &amp; 5.5.7</p> <p>As highlighted in previous comments, the documents continue to only refer to chalk reef and not subtidal chalk habitat. There is concern from Natural England that the Applicant's definition of chalk reef is wrongly being used to scope in / out subtidal chalk habitat which is still of conservation value and is a section 42 (BAP) habitat. This is particular true for Thanet MCZ (also Thanet SAC) where the impacts may not have been adequately addressed and identified as a result of this definition.</p>	<p>Please see the Applicant's response to NE-173 with regards chalk reef features. The commitment has been made to avoid designated site features, and chalk reefs have not been identified within the RLB.</p>
Natural England	NE-189	<p>5.6.36 – 5.6.37</p> <p>The assessment assumes the whole route within the site will need protection and concludes that this is not significant. This is of great concern to Natural England, as this is based on that footprint alone, and does not consider the cumulative impact from other rock dumping that may have occurred in the area or could occur in the future.</p>	<p>The assumption is a worst case in order to provide for a Rochdale/worst case scenario. Despite this worst case assessment the conclusions provided detail that cable protection would be anticipated to impact a small proportion of the overall area of sediment within the MCZ, microsited around sensitive features, and unlikely to have a negative effect on the site. It is also of note that through</p>

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		<p>Furthermore, there is no indication of how the need for protection will be minimised. Natural England reiterate that the Applicant should do everything possible to reach optimum burial depth and avoid the need for cable protection. For example, how extensively are the ground conditions understood and will there be further pre-construction surveys to inform installation methodology and the estimated burial depth? Equipment used for burial needs to avoid technical issues and failures so rock protection is not unnecessarily used.</p>	<p>reference to the physical processes chapter (PINS Ref APP-043/ Application Ref 6.2.2) it is likely that any cable protection would, overtime, be inundated during the sediment transport processes present on site. It is therefore considered likely that surface sediments within the MCZ would not be significantly different as a result of the project.</p>
<p>Natural England</p>	<p>NE-190</p>	<p>5.11.1. Summary of Natural England's Key Concerns:</p> <ul style="list-style-type: none"> <li>· Sufficient commitments to monitoring.</li> <li>· Incorporating the lessons learnt from the NEMO interconnector cable into any future monitoring plans.</li> <li>· Further mitigation and management methodologies are needed.</li> </ul>	<p>These are noted and addressed in individual responses below (NE-191 -206).</p>
<p>Natural England</p>	<p>NE-191</p>	<p>1.2.4 The OLEMP should also link to any data that has been gathered pre-construction. It should also not be assumed that the OLEMP relates to measures immediately after construction, and could still be implemented much further down the line if any measures have been deemed unsuccessful.</p>	<p>This comment will be incorporated within an updated version of the OLEMP (Appendix 42), which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and is submitted as part of the Applicant's Deadline 1 Submission.</p>

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Natural England	NE-192	<p>1.2.5</p> <p>If necessary, any unplanned mitigation should be fed into the OLEMP and subsequently updated to reflect the latest potential impacts.</p>	<p>This comment will be incorporated within an updated version of the OLEMP (Appendix 42), which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and is submitted as part of the Applicant's Deadline 1 Submission.</p>
Natural England	NE-193	<p>1.2.8</p> <p>Natural England are content with the measures covered by this OLEMP, however under the fourth bullet point shouldn't protected faunal species be included in the list?</p>	<p>This comment will be incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and as part of the Applicant's Deadline 1 Submission.</p>
Natural England	NE-194	<p>1.2.10</p> <p>While Natural England recognise that there may be little difference in the practical works required to achieve mitigation, compensation or enhancement measures on the ground we would take issue with the more general statement that 'there is often considerable overlap' between them. With regards to designated sites mitigation and compensation measures have a clear definition and place in any assessment hierarchy. We are pleased to note that the differences between mitigation, compensation and enhancement are set out in Volume 3, Chapter 5: Onshore Biodiversity but would encourage the Applicant to consider whether the OLEMP would benefit from greater differentiation between them as the requirements for genuine</p>	<p>This comment will be incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and has been submitted as part of the Applicant's Deadline 1 Submission.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		mitigation or compensation measures for designated sites in terms of certainty of success, monitoring etc. may be more stringent than for enhancements.	
Natural England	NE-195	1.4.1 Natural England are glad to note that under the DCO the project will be required to implement the measures set out in the agreed LEMP.	Noted - no response required.
Natural England	NE-196	2.1.10 and 2.1.11 Initial aftercare would have to be successful. If after the initial 12 months reinstatement has not been successful, it should be reasonable that more management should be required in addition to the existing management plan and staff time.	This comment will be incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and has been submitted as part of the Applicant's Deadline 1 Submission.
Natural England	NE-197	2.1.12 If recovery is not as expected, and access is detrimental to recovery, than continued management of footpaths may have to be required after construction.	This comment will be incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and has been submitted as part of the Applicant's Deadline 1 Submission.
Natural England	NE-198	2.1.15 If option 2 is brought forward it will primarily be the landowners' decision on how the restoration of the berm is carried out rather than Natural England's.	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-199	2.2 Stonelees Nature reserve is under the ownership of Kent Wildlife Trust so any mitigation,	This is noted by the Applicant.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		monitoring or reinstatement needs to be discussed with them, as they will have a greater understanding of the best options for this area.	
Natural England	NE-200	2.2.1 Further details on the storage method will obviously need to be provided as more information becomes available.	This is noted by the Applicant.
Natural England	NE-201	2.2.6 Considering the lack of Natterjack toad records currently, and alongside the replacement of Ephemeral pools, could another reintroduction be considered possible?	A re-introduction of natterjack toad is beyond the scope of this project and without further information regarding the reasons for the apparent failure of the previous re-introduction it may not be appropriate anyway. As discussed at the meeting on 5 <sup>th</sup> October 2018, the Applicant, would welcome further information from Natural England regarding any existing proposals for another re-introduction, to which VWLP could potentially contribute to as a biodiversity enhancement.
Natural England	NE-202	3.0 Have viewpoints from the coastal path been considered? It would be good to have an understanding if any of this proposed screening planting will lessen the visual impact of the substation upon users of the coastal path.	This comment will be incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and has been submitted as part of the Applicant's Deadline 1 Submission.
Natural England	NE-203	5.2.1 Pre-construction surveys should target areas that are likely to be damaged or potentially lost during construction. These surveys will then provide a	This comment will be incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		baseline from which monitoring and reinstatement can be based and measured upon.	Trust and has been submitted as part of the Applicant's Deadline 1 Submission.
Natural England	NE-204	<p>5.3.1 – 5.3.4</p> <p>References in these paragraphs to the terrestrial invertebrate mitigation strategy, as it will apply to the Ramsar and SSSI invertebrate assemblages, are so brief and generic as to be of little use in forming a judgement at this stage on the likely success of mitigating any impacts.</p>	<p>See the Applicant's response to comments NE-162 and NE-166. We note that Natural England has previously stated they were content that the terrestrial invertebrate assessment has provided sufficient data to characterise and evaluate the value of the site for terrestrial invertebrates (letter dated 8/3/18 and confirmed at the meeting on 5th October). With regard to mitigation measures it is impossible to provide detailed mitigation plans at this stage in the absence of detailed species-specific survey information and detailed construction methods. We would reiterate that detailed mitigation proposals will be subject to agreement with Natural England, as part of the detailed LEMP, prior to works commencing (see paragraph 1.1.3 of the OLEMP (PINS Ref APP-142/ Application Ref 8.7)). As discussed at the meeting on 5th October we would welcome further comments from Natural England regarding additional measures that could be included at this stage to which we can respond as appropriate.</p>
Natural England	NE-205	<p>5.3.20</p> <p>What is the 250 metre distance based on? The most effective screening should be discussed with the relevant stakeholders. Regarding figure 4, is it</p>	<p>See the Applicant's response to comment NE-179 regarding the basis for the 250 m buffer. As stated in Table 5.11 of the Onshore Biodiversity ES chapter the details of proposed screening will be provided in the detailed LEMP and will be subject</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		correct that screening will be used as required to the right of the black dotted line?	to agreement with Natural England. Regarding Figure 4 we can confirm that screening would be employed, as required, within the area to the right of the black dotted line.
Natural England	NE-206	<p>5.3.22</p> <p>There appears to be a discrepancy between this document and the RIAA in the level of certainty around the precautionary measures proposed to minimise disturbance to non-breeding water birds from recreational users who may be displaced from Pegwell Bay Country Park into other, more sensitive areas during construction works. This section states 'These measures could include...' while Table 6.1 of the RIAA states 'Mitigation...would include.' We would advise that further iterations of the LEMP make clear exactly what the mitigation measures will be.</p>	<p>Inconsistencies in terminology will be incorporated within an updated version of the OLEMP (Appendix 42), which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and has been submitted as part of the Applicant's Deadline 1 Submission. As discussed at the meeting on 5th October details of proposed mitigation measures in respect of from recreational users who may be displaced from Pegwell Bay Country Park into other, more sensitive areas during construction works will be provided in the detailed LEMP, post consent, and would be subject to agreement with Natural England. It is not possible to propose detailed measures at this stage given the absence of detailed information regarding construction methods and timings.</p>
Natural England	NE-207	<p>6.1.2</p> <p>See detailed comments regarding Natural England's enhancement objectives.</p>	<p>As discussed at the meeting on 5<sup>th</sup> October detailed comments were not included in Natural England's relevant rep. We therefore await more detailed comments on enhancement objectives to which we will respond as appropriate.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-208	Section 7 Monitoring regimes should be flexible, and should depend on the recovery of any affected habitats.	This has been incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and has been submitted as part of the Applicant's Deadline 1 Submission.
Natural England	NE-209	7.1.2 – 7.1.4 With regards to the proposed monitoring of reinstated / restored grassland at Stonelees Nature Reserve (SSSI/SPA/Ramsar) there appears to be a disconnect between what is proposed here (3 years of monitoring) and what is proposed in section 2.2 with regards to aftercare (12 months after which responsibility would return to the landowner). It may be necessary to bring the aftercare in line with the proposed 3 years of monitoring if recovery has not been sufficient.	This has been incorporated within an updated version of the OLEMP, which has been subject to further consultation with Natural England, Kent County Council and Kent Wildlife Trust and has been submitted as part of the Applicant's Deadline 1 Submission.
Natural England	NE-210	Table 10.1 All activities have been marked as green, needing no additional marine licence. However, many of these works are licensable activities that would require a marine licence if they exceed the values assessed in the ES. Therefore, there should be a significant number of amber activities within this table. Key examples, cable repair and replacement, additional cable laying, cable reburial.	If the values are likely to be exceeded further marine licences will be applied for as appropriate. It is however the position of the Applicant that the values assessed are adequate and therefore licenced under the proposed dML(s).
Natural England	NE-211	Table 10.1 Natural England notes that neither the table 10.1	The maximum total number of activities, e.g. vessel trips and/or spud can deployment is

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>within the operations and maintenance plan, nor the ES Project description are the numbers of various O&amp;M activities listed. Things such as anode replacement are included in lists but the number of these activities per year is not given. For J-tube, ladder cleaning, bird waste removal the number of instances a year or volumes of waste to be deposited in the marine environment are not estimated. Natural England would note that within any standard marine licence for operations and maintenance on offshore wind farms these limits are stated to ensure the works remain within the assessment. It is questionable how these works can be considered assessed if their maximum extents are not defined.</p>	<p>quantified. The constituent activities of the total, whilst necessary to calculate the total, are not the material concern for the licence itself. The licence provides for the submission and approval of an offshore operations and maintenance plan in accordance with the outline plan submitted with the application (PINS Ref APP-145/ Application Ref 8.10) but it is not necessary to detail the maximum parameters for all constituent components.</p>
<p>Natural England</p>	<p>NE-212</p>	<p>General Comment                      There needs to be further consideration within the monitoring plan towards cable repairs and replacement over the lifetime of the project. Experience from other projects that cabling activity is not a one off activity in many cases. This is proven by the original Thanet cable. Therefore, there needs to be an inclusion that requires further monitoring if cables are replaced.</p>	<p>The Thanet Extension project assumes repair and replacement of cables within the export and array areas. The assumptions are provided within Table 1.31 et seq within the Offshore Project Description chapter (Application Ref 6.2.1).</p>
<p>Natural England</p>	<p>NE-213</p>	<p>2.1.1                      All options would likely result in permanent depression where the cofferdam, working area, trenches and tracks are. After reinstatement these</p>	<p>The proposed Saltmarsh Reinstatement and Management Plan (PINS Ref APP-147/Application Ref 8.13) can be updated to provide for</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		areas would be potentially wetter after tidal inundation and rain, with areas of pooled water and in winter killing plants and might cause salt pans in summer months. Serious consideration needs to be given to the effects of topography change and how it will be avoided.	topographical surveys as part of the proposed monitoring requirements.
Natural England	NE-214	Table 1 The saltmarsh material should not be stored on the saltmarsh as it will compact the surrounding ground. The movement of machinery has not fully been considered either i.e. the number of trips. Speed of traffic is also an issue too in relation to compaction. What is the track width? Natural England suggest 3 meters with passing points (and that would be per cable).	This is noted by the Applicant. This can be provided as an update to the CoCP. With regards total vehicle numbers the likely need for vehicles with close proximity to the saltmarsh has been provided for within the Offshore and Onshore Project Description chapters, and within Figure 1.16 of the Offshore Project Description chapter (Application Ref 6.2.1). The maximum access area illustrated is 5m.
Natural England	NE-215	2.2.1 Natural England understands that in terms of area of disturbance option 3 is the worst case scenario, however in terms of habitat loss, and thus there being no chance of recovery option 2 is the worst. However, we understand / expect that if option 2 is chosen, which we hope will not be the case, a bespoke compensation plan will need to be produced. This should be conditioned within the DCO.	Noted, and agreed. Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-216	2.2.5 The overall RLB as stated in Figure 2.5 is 30 – 35	Yes, the tracks are included within the overall footprint.

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		metres in width. Does this include tracking for works vehicles?	
Natural England	NE-217	2.2.6 Are these temporary access tracks being laid over the saltmarsh and are they included in the area of the RLB? What are these temporary tracks made of?	The tracks will be laid over the saltmarsh with the assumption being bogmatting, however it is noted that Natural England would prefer an aluminium trackway.
Natural England	NE-218	Figure 2.6 How will the sheet piles be installed and removed from the saltmarsh?	The sheetpiles will be installed using piling (in a worst case scenario) with the base assumption being removal via the same method which has been presented within the assessment.
Natural England	NE-219	2.3.1 Natural England deem Bog Mats and boards are not appropriate. An aluminium trackway with a geotextile layer underneath is more appropriate. The trackway should be only down for 21 days (per cable) this will restrict the area of impact and compaction. The vehicles should be restricted to 5 miles per hour otherwise there would be greater impacts from compaction.	The tracks are described as being geotextile within the Offshore Project Description, however it is noted that Natural England would prefer an aluminium trackway and the Saltmarsh Mitigation Reinstatement and Monitoring Plan can be updated accordingly (where confirmed pre-construction that this remains the preferred option).
Natural England	NE-220	2.3.2 The original Thanet cable installation, as far as Natural England understand, did not include a cofferdam. Any lessons learnt from the potential recovery from the use of cofferdams in saltmarsh should be sought.	The Applicant confirms that the existing Thanet cables did not utilise a cofferdam of the type proposed for Thanet Extension.
Natural England	NE-221	2.3.3 The methodology for storage and preservation	The Applicant welcomes further discussion on appropriate lesson to be learnt/applied.

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		needs to be determined and reviewed to allow Natural England to determine if any reinstatement will be successful. Further to the above saltmarsh material should not be stored on the saltmarsh.	
Natural England	NE-222	2.3.3 Natural England would recommend the use of aerial photos, pre and post construction to determine and aid our understanding of any changes in the saltmarsh area.	This is noted by the Applicant and can included in the revised Saltmarsh Mitigation Reinstatement and Monitoring Plan.
Natural England	NE-223	2.3.3 Bog mats are not appropriate, they are extremely slippy, crush vegetation and push into the sediment and rip out any vegetation when they are removed.	Bogmats are referred to in line with standard best practice but it is recognised that lessons learnt from other projects, such as those within the Wash, may be pertinent.
Natural England	NE-224	2.3.3 What are the Applicants proposing if they come across creeks within the saltmarsh?	Depending on the final design it is proposed that the cable routing will take the most direct/shortest route through the saltmarsh. As such creeks will not be avoided.
Natural England	NE-225	2.3.3 Natural England believe a spider plough was successfully used for the original Thanet cable and probably aided in the relative fast recovery of the saltmarsh in this area. The use of a spider plough should therefore be seriously considered.	The Applicant will consider all appropriate options within the intertidal mudflats and saltmarsh areas.
Natural England	NE-226	2.3.3 During trench excavation and any works on the saltmarsh it is important that the topography is maintained. Following the NEMO cable installation	This is noted by the Applicant. If Natural England consider that any refinements need to be made to - the mitigation plan, which provides for efforts to maintain the substrate profile in the saltmarsh,



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		it became apparent that the land had subsided slightly and had started to infill with water, thus probably slowing recovery of the saltmarsh. This should be avoided.	these can be discussed accordingly. Saltmarsh Mitigation, Reinstatement and Monitoring Plan
Natural England	NE-227	<p>2.3.3</p> <p>Lessons learnt from previous offshore wind projects have highlighted the potential instability of these rollers in the intertidal area due to scouring and as a result they have had to be pin piled to secure them. Thus causing more disturbance in these sensitive intertidal areas. Sensitive and sensible placement of these rollers is essential.</p>	This is noted by the Applicant – this will require consideration within the Construction Method Statement documents that are secured within the dML(s) (Conditions 12 and 10 of the Transmission and Export Cable System dMLs respectively) for provision pre-construction.
Natural England	NE-228	<p>4.1.3</p> <p>Lessons learnt from the NEMO cable should also be included, which is looking to be less successful than for the original Thanet cable. The Applicant should be prepared for natural variability to differ at this landfall site compared to the first Thanet cable. Furthermore, commitments made on the installation methodology that ensure the integrity of the saltmarsh need to be followed through during construction, with an independent (independent of the contractor) ECOW implementing any methods successfully. Furthermore, NEMO's pre-construction data for the saltmarsh was of a low quality and old so were unable to utilise a BACI approach for monitoring.</p>	This is noted and the Applicant welcomes further discussion on any appropriate lessons Natural England wish to be learnt/applied. The proposed saltmarsh reinstatement and management plan provides details of the proposed surveys which are anticipated to allow for appropriate BACI comparison and analysis.

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		<p>As a result, they are now using control stations outside of the cable corridor for comparison to judge saltmarsh recovery. Natural England would like to avoid this situation again, and ensure that BACI approach can be utilised. Therefore, the collection of up to date and pre-construction data is essential.</p>	
<p>Natural England</p>	<p>NE-229</p>	<p>5.1.1 Where will compensation with regards to permanent loss be addressed?</p>	<p>Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.</p>
<p>Natural England</p>	<p>NE-230</p>	<p>Table 4 See below for further mitigation and management measures that Natural England would like to see implemented. This may be updated and amended as further detail regarding any installation methodologies is presented: a) Works should be carried out in the driest months of the year i.e. May until Mid-August when the rainfall is predicted to be lowest and the Spring tides are low. b) Any access routes should be chosen that include higher ground areas, which experience fewer tidal inundations. c) Bog mats are not suitable, as these often pull up vegetation upon removal. Therefore, aluminium tracks should be used with a geotextile under layer under the trackway to protect the vegetation.</p>	<p>With the exception of the request from Natural England for a commitment to undertake works during driest months of the year it is agreed that the other commitments can be provided for within the Saltmarsh Mitigation, Reinstatement and Monitoring Plan. With regards the driest months of the year it is likely that this will be the case, as the project has accepted a seasonal restriction which precludes working during the winter months (when rainfall is at its highest) therefore it is proposed that this seasonal restriction would also serve the purpose of addressing natural England's concern.</p>

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		<p>Stone and gravel should not be used under any circumstance.</p> <p>d) A speed limit of 5 mph needs to be adhered to for all vehicle movements.</p> <p>e) Vehicles on the track must use low ground pressure tyres/ tracks. The contractors will also need to specify the weight of the machinery to cross the track.</p> <p>f) The contractors will need to specify and assess the number of vehicle movements across the saltmarsh per day.</p> <p>g) Bends in the track way should be minimised as much as possible. Kinks/ bends in the track will likely result in an unstable track which will require additional stabilisation at the sides.</p> <p>h) Where the track crosses creeks, pipes should be used to fill up the gap and allow water to continue to flow. The track and vehicles can then to cross over without damaging the sides of the creeks. As flume pipes are light, sandbags may have to be used at the end to stabilise. The sandbags should be closed to avoid spills and contain locally sourced sand.</p> <p>Maximum width of the track should be 3 metres and the width of the low ground pressure excavator will need to be narrower than this so the vegetation along the sides do not get churned up.</p>	

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Natural England	NE-231	<p>6.1.2 Natural England want to ensure that the quadrats successfully cover the zonation's often displayed in saltmarsh communities.</p>	<p>The proposed saltmarsh reinstatement and management plan provides details of the proposed surveys which are anticipated to allow for appropriate comparison and analysis. The Applicant is happy to discuss with Natural England any further refinements to the plan which are considered necessary.</p>
Natural England	NE-232	<p>6.1.2 In colder years June may be too early for pre-construction surveys. Prefer the surveys to be in September at the end of the growing season.</p>	<p>The proposed saltmarsh reinstatement and management plan provides details of the proposed surveys which are anticipated to allow for appropriate comparison and analysis. The final survey plan will be agreed by the MMO in consultation Natural England to ensure survey timings and methodologies are appropriate.</p>
Natural England	NE-233	<p>7.1.1 Natural England welcome the committed duration of an initial 5 years of monitoring and every 1 month in the first year. However, it should be noted that monitoring over subsequent years is the priority and should be committed to, even if that means longer than 5 years. Monitoring during summer growing season and after large winter storms would also be beneficial. It should be noted that within schedule 12, for the deemed marine licences in the draft DCO it states that this monitoring is only up to three years, which contradicts the mitigation plan. This needs</p>	<p>The need for extended monitoring should be decided upon during the reviews of the reports to be submitted following the surveys. Should monitoring be required over an extended period it should be based on an interpretation of the data.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		to be altered to at least 5 years to allow for the successful monitoring of the saltmarsh.	
Natural England	NE-234	7.2.3 Other indicators, such as species composition, sward height, rate of flowering should also be used alongside percentage cover to determine recovery. It would also be worth noting anything that could be a food source for red data book invertebrates associated with the Ramsar. The Applicant needs to be clear about what recovery looks like.	The proposed saltmarsh reinstatement and management plan provides details of the proposed surveys which are anticipated to allow for appropriate comparison and analysis. However the Applicant is happy to discuss with Natural England and further refinements to the plan that are considered necessary.
Natural England	NE-235	Natural England feels that the following issues discussed throughout our response and the Application for development consent should be secured through the inclusion of conditions with the projects final DCO. This list should not be considered to be exhaustive and Natural England may raise further issues at a later stage. See also sections 5.1 and A.1 for further information.	The Applicant notes the representation and has responded to each of the issues raised by Natural England in below.
Natural England	NE-236	6.1. Draft DCO - Schedule 1 – Part 1 – Further Works: The total disposal volumes should be clarified for the export and array cables as highlighted earlier in section 5.1.1. The disposal areas also need to be captured with the DCO. Additionally, the disposal volumes should be split according to type of material, for example drill arisings, boulders, sand and mud.	The Applicant notes the representation and has produced a table clearly referencing the disposal volumes with the documents submitted for Deadline 1.  The Applicant is content to provide the maximum disposal volumes on the face of the DCO in the revised draft DCO submitted for Deadline 1. The maximum disposal volumes are included within the parameters assessed in the Environmental

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			Statement, which the development when constructed and operational must comply with, and as such it is not necessary to include a breakdown of disposal volumes by type of material on the face of the DCO beyond that which has been presented in the Disposal Site Characterisation Report. The Applicant refers Natural England to the Disposal Site Characterisation report (Application Ref 8.14) for further information.
Natural England	NE-237	6.2. Draft DCO - Schedule 1 – Part 3 – Requirement 4: The DCO and DMLs should record both maximum volume and area footprint of scour protection to ensure the impacts remain within the scope of the ES.	See the Applicant's response to NE-40.
Natural England	NE-238	6.3. Draft DCO - Schedule 11 – Generation Assets DML: Natural England requests the inclusion of a condition to ensure the production of a site integrity plan, similar to conditions used on East Anglia 3. This condition will ensure the impacts of this project do not compromise the integrity of the Southern North Sea Special Area of Conservation.	The Applicant would welcome further discussion on the merits of the proposed condition requiring the later preparation of a SIP. There is no dispute relating to the need to properly secure any appropriate mitigation relating to potential impacts on harbour porpoise arising from the project. However it is unclear why this could not be achieved directly through a condition in the dML which requires necessary and specific mitigation measures to be implemented through the submission of a mitigation plan to the MMO prior to construction (as was the case in the Hornsea 1 and 2 consents). Mitigation would

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			thereby be provided for specifically through the dML, based on identified project parameters, and provide confidence that appropriate mitigation would be secured prior to construction. This approach is consistent with the suggestions elsewhere in the MMO representation that the parameters of the proposed development activity are defined in the dML.
Natural England	NE-239	6.4. Draft DCO - Schedule 11 – Part 4 – Condition 12 (1) (b) (iii) and (aa): These conditions cover the requirement for pre-construction monitoring to be agreed 4 months prior to the first survey. The standard approach of submitting monitoring plans 4 months prior to the first survey may not be the best approach. Natural England would like to discuss the possibility of the pre-construction monitoring plans and methodology being required 8 months prior to construction.	Whilst this may be appropriate for other projects of a larger scale or proposed in new/novel areas this is disproportionate for a comparatively small extension project. The Thanet Extension project has put forward detailed monitoring proposals that are based on the uncertainties present. By virtue of the project being an extension project the uncertainties are very limited. the monitoring proposals put forward are therefore very focussed, advanced, and based on addressing the very limited areas of uncertainty.
Natural England	NE-240	6.5. Draft DCO - Schedule 11 – Part 4 – Condition 16: Natural England propose changing the wording of this condition in light of recent reports received on constructing round 3 offshore wind farm developments that have cast doubt over the efficacy of the soft start mitigation measures. See section 5.1.1 for more details.	See the Applicant's response to NE-95, which addresses Natural England's concerns regarding the efficiency of soft start mitigation measures. For the reasons set out in this response, the Applicant does not consider that it is necessary to amend the wording of this condition.
Natural England	NE-241	6.6. Draft DCO - Schedule 11 – Part 4 Condition 17: Natural England are concerned there is no IPMP	The Applicant notes Natural England's concerns regarding post-construction monitoring. As

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		included within the Application, but also very little post construction monitoring conditioned within the draft DCO and DML. Further post-construction monitoring, alongside that currently described, needs to be secured and discussed with the relevant statutory nature conservation bodies (SNCBs).	detailed previously in this response the Applicant has submitted detailed proposals for those receptors for which there is uncertainty or a recognised need to inform mitigation. It is not therefore considered necessary to submit In-Principle Plans.
Natural England	NE-242	6.7. As the Applicants are confident that UXO detonation will not occur on the same day as piling or geophysical exploration at Thanet Extension, Natural England suggests a condition is put on the licence to ensure this does not take place.	The Applicant is not applying for a licence to UXO disposal or detonation within the DCO. A licence would be applied separately if required. It is therefore not appropriate to include reference to UXO detonation within the DCO.
Natural England	NE-243	6.8. Natural England notes that the Applicant has determined there is little risk of disturbance or injury to European Protected Species (EPS) following surveys to inform the terrestrial aspects of the project's ES. The Applicant has therefore determined that no terrestrial EPS licence is currently required. Should pre-construction surveys identify the presence of EPS the Applicant may consider that a licence Application may be required at a later date.	The Applicant notes the representation and confirms that should the pre-construction surveys indicate that the presence of EPS, the Applicant will apply for an EPS license.
Natural England	NE-244	6.9. Within the RIAA (Table 6.1) the commitment is made by the Applicants that if chalk reefs are identified during pre-construction surveys then micro-siting will be utilised to avoid placing assets within these areas. This should also apply to any anchoring as alluded to in Kent Wildlife Trust's	The Applicant refers Natural England to the response to NE-173. For the reasons set out in this response, it is not necessary for any further commitment to micrositing outside designated sites, and so no amendments to the DCO are required.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>response to the RIAA. Yet, this commitment seems to only apply to designated chalk reef features within protected sites. This commitment should also apply to chalk habitat outside designated sites and should be secured within the relevant section of the DCO.</p>	
<p>Natural England</p>	<p>NE-245</p>	<p>6.10. Natural England encourage that avoiding the Thanet SAC completely is secured within the DCO.</p>	<p>The Applicant has noted Natural England's concerns regarding the Thanet Coast SAC and has updated the red line boundary accordingly, as per the response to NE-174, to avoid any possible interaction with the Thanet Coast SAC. This has been secured in Revised offshore works plans included with the Deadline 1 submission at Appendix 38.</p>
<p>Natural England</p>	<p>NE-246</p>	<p>6.11. If not already secured within the DCO, pre-construction surveys within the Goodwin Sands pMCZ where the cable corridor is proposed to go should be carried out. This should include bathymetric and geotechnical surveys to begin with, with additional ground truthing surveys (grabs and drop down video) to confirm the relevant habitats at risk from cabling. If cabling does occur in this area it would be expected that post-construction monitoring should also occur here to monitor any recovery taking place.</p>	<p>The Applicant can confirm that the draft DCO/dML(s) (Conditions 15 and 13 of the Transmission and Export Cable System dMLS respectively) secures pre-construction surveys to be carried out within the red line boundary to inform the biogenic reef mitigation plan. These surveys will include Goodwin Sands pMCZ. Pre-construction surveys include bathymetric and geotechnical surveys.</p>
<p>Natural England</p>	<p>NE-247</p>	<p>6.12. The total volumes of cable protection, and material to be dredged within Goodwin Sands</p>	<p>The Applicant is content to provide the volumes for maximum cable protection volumes and disposal volumes on the face of the draft DCO,</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		pMCZ needs to be defined and secured within the DCO.	<p>which will be updated and included for Deadline 1.</p> <p>The total volumes for both cable protection and dredged material are required by the DML to be within the volumes assessed in the Environmental Statement. For further information regarding Goodwin Sands pMCZ specifically, the Applicant refers Natural England to the Benthic Subtidal and Intertidal Ecology chapter of the Environmental Statement (PINS Ref APP-046/ Application Ref 6.2.5). In the interest of keeping the consenting documents concise and given the fact that the Environmental Statement is a certified document, it is not necessary to include detail of all specific sites on the face of the draft DCO.</p>
Natural England	NE-248	6.13. Natural England has provided further management measures in section 5.11.1 in relation to table 4 within the saltmarsh mitigation plan. These measures should be highlighted within the SMP and then secured within the DCO.	See the Applicant's response to NE-230 which addresses the further management measures suggested by Natural England in Section 5.11.1 of their relevant representation and confirms that the measures requested have where practicable been committed to.
Natural England	NE-249	General Comment UXO detonation is detailed within the environmental statement (ES), however at no point mentioned within the DCO/DMLs. Natural England, therefore, considers that it is not licenced and that a separate Marine Licence will need to be sought prior to construction. It is also highly likely that a European Protected Species	<p>The Applicant is not applying for a licence to UXO disposal or detonation within the DCO. A license will be applied separately if required.</p> <p>The Applicant notes Natural England's comment regarding the potential need for an EPS license at a</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		(EPS) licence will need to be applied for prior to any UXO detonation works.	later date and can confirm that if the license is required, it will be applied for in due course.
Natural England	NE-250	Schedule 1 – Part 1 – Works Number 1 (d) and Works 3 Part 1 Works number 1 (d) and Works 3 note the inclusion of over one cable crossing. However, the ES project description table 1.10 and table 1.17 states 9 cable crossings for the inter array cables and 20 for export cables. The number of cable crossings should be limited to the maximum extent assessed in the ES (12). Any further crossings should be requested via variation. The maximum number of crossings is not mentioned in Schedule 1 Part 3 requirements.	The maximum volumes of cable protection are provided within the Project Description (Offshore) and will be provided within Appendix 1, Annex A of the Applicant's Deadline 1 submission.
Natural England	NE-251	Schedule 1 – Part 3 – Requirement 2 (1) (b) Part 3 Requirement 2 (1) (b) max hub height states 140 m, the ES project description does not detail the maximum hub height. Additionally, the ES project description table 1.14 maximum design envelope for the met mast states the maximum height is: Maximum hub height of WTG, a figure not provided on the ES project description. Natural England notes the DCO requirement 3 (3) lists the met mast maximum height as 140 m. The Applicant should provide some confirmation that this is the maximum heights assessed in the ES.	A tabulated clarification note identifying all assessed parameters is provided in Appendix 1, Annex A of the Applicant's Deadline 1 submission
Natural England	NE-252	Schedule 11 – Part 3 – Condition 2 (3) This condition implies the offshore substation is consented under this DML, however, schedule 12	The Applicant notes the representation and is content to include the Offshore Substation only in the dML for the Export Cable System. The wording

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		also has the Offshore substation. It should be noted only 1 offshore substation can be built in total.	in the generation licence DML has been amended appropriately to remove all reference to the construction of the Offshore Substation in the revised draft Order submitted for Deadline 1.
Natural England	NE-253	Schedule 11 – Part 3 – Condition 2 It is noted that cable crossings are not included here, as they are a licensed activity they should be included and limited to the number assessed in the ES (12 for array 20 for export cables).	See the Applicant's response to NE-250.
Natural England	NE-254	Schedule 11 – Part 4 – Condition 10 (7) While Natural England acknowledges that this is standard wording we would like to request a change to add in the additional wording: 'where reasonably practicable any rock material used will be similar to material naturally present in the location'. Natural England acknowledges that it is not always possible to use material that would naturally occur in the location of any deposited hard substrate. However, the use of similar materials minimises the impact on the environment and should be undertaken where reasonably practicable.	The Applicant notes the representation and is content to add the suggested wording regarding rock material to the condition in the revised draft Order submitted for Deadline 1.
Natural England	NE-255	Schedule 11 – Part 4 – Condition 12 (1) (a) Natural England would also like to be named as a consultee on this design plan. This is especially important noting that this plan outlines the exclusion zone for biogenic reef.	The Applicant notes the representation and is content to name Natural England as a consultee to the design plan in this condition in the revised draft Order submitted for Deadline 1.
Natural England	NE-256	Schedule 11 – Part 4 – Condition 13 (2) This condition requires all archaeological reports to be	All ecological reports are to be submitted to the MMO, the MMO as regulatory authority can and

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		agreed with the statutory historic body. Could a similar condition be added under condition 12 (1) (b) requiring all ecological reports to be agreed with the statutory nature conservation body?	does then consult with relevant additional bodies. This is a practical reality that should not require to be made explicit on the face of the DCO/dML(s).
Natural England	NE-257	Schedule 12 – Condition 10 (1) (b) (v) Condition 10 (1) (b) (v) cross references to 1 (j) (iv) however there is no 1 (j) (iv). Natural England assumes this should have been 1 (i) (iv).	The Applicant notes the representation and the amended cross reference will be included in the revised draft Order submitted for Deadline 1.
Natural England	NE-258	65 Natural England would question this conclusion. Natural England are currently finding it difficult to determine mitigation and compensation options for the Pegwell Bay landfall options, particularly for Option 2. Revisiting the Sandwich Bay option following the submission of the Application we question whether it was prematurely removed. Although there are interactions with protected sites, the use of technology such as HDD could be utilised to avoid any permanent damage.	Noted. Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope. Further to this please see previous responses (NE-19) regarding the impracticality and risks associated with HDD on the southern (Sandwich Bay) option.
Natural England	NE-259	72 NE welcomed the removal of the larger seawall extension. However, as mentioned in our previous responses there is still a substantial loss of SSSI and SPA supporting saltmarsh habitat as a result of now landfall option 2.	This is noted by the Applicant. Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-260	89 There are inconsistencies and contradictions within the Application regarding the operational life of the proposed windfarm. This chapter states 25 years while others state 30 years.	This is noted. For clarity the assessed lifespan of the offshore project is 30 years which is used as an approximation in the assessments within the technical chapters for a long-term worst case, and

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			specifically the Offshore Project Description chapter for offshore at paragraph 1.6.1.
Natural England	NE-261	91 It should be made clearer here that option 2 involves the loss of saltmarsh habitat and includes the extension of the seawall. This is probably one of the most read documents and should be reiterated. As mentioned option 1, followed by option 3 are Natural England's preferred options and should be pursued. This requires the site investigation works to be acquired as soon as possible to be able to effectively determine any potential significant effects upon the surrounding habitats.	This is noted by the Applicant. Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-262	115 There does not seem to be a Project Environmental Management Plan (PEMP) submitted as part of the Application. This point needs to be clarified.	It is standard practice to submit a PEMP pre-construction, as it is at this time that the detail, with regards the requirements of the PEMP as secured in the dML(s), are available. Namely the name and details of the Environmental Liaison Officer, Fisheries Liaison Officer, the detailed marine pollution contingency Plan, and chemical risk assessments are all only available at the detailed design stage and they are therefore ordinarily provided in line with the requirements of the dML at this stage.
Natural England	NE-263	4.8.2 and 4.8.3 As acknowledged in 4.8.2 the three primary landfall areas of search: Joss Bay, Pegwell Bay and Sandwich Flats North/ Sandwich Bay "were brought forward for further internal	The Applicant notes and agrees with Natural England's conclusions.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>qualitative appraisal." Referring back to the scoping opinion which was published in December 2016, it is clear to see that the Joss Bay option had already been discounted without seemingly much external consultation. However, Natural England do recognise the environmental constraints associated with the Joss Bay cable route, particularly offshore within the SAC and MCZ.</p>	
<p>Natural England</p>	<p>NE-264</p>	<p>4.9.18 Natural England recognise the financial incentives and positives from the golf open on the local area, however a golf tournament that is on for 4 days of the year could be easily worked around. Particularly, when option 2 "was considered as potentially affecting fewer individual high sensitivity sites than option 1..." This is combined with the likelihood that there would be no permanent loss of habitat.</p>	<p>Whilst the tournament itself lasts 4 days it is recognised that the event has a regional importance for a number of months in the lead up to the tournament. The disturbance associated with the works on tourism and recreation receptors was therefore considered as part of the overall site selection and alternatives process, though not in and of itself a determining factor it was recognised in feedback provided by KCC and DDC that the recreation interests to the south were of importance, with a greater number of features than the northern route. These features, such as golf courses, Sustrans national routes and national footpaths are all detailed within the Site Selection and Alternatives Chapter (Application Ref 6.1.4). As noted previously the removal of Option 2 from the design envelope is considered material when answering this representation.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-265	4.9.29 As mentioned above, the recovery from the original Thanet offshore windfarm (TOWF) cable has been a relative success, however the effects caused by the permanent loss of saltmarsh and the extension of the seawall are less known and represents a lower degree of certainty associated with mitigation and compensation measures.	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-266	4.10.12 As stated previously throughout the evidence plan process, a permanent loss of SSSI saltmarsh habitat is considered by Natural England to be the worst option.	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-267	4.10.18 Following the notice that the Thanet Cable replacement project was dropped does this reduce the number of constraints with this option?	The removal of the Thanet Cable Replacement project alters but does not reduce the overall number of constraints identified. This is explained in paragraphs 4.12.12-13 of the Site Selection and Alternatives ES chapter.
Natural England	NE-268	4.12.17 Natural England welcome the reduction in the proposed seawall extension following our section 42 response. However, an alternative option still involves the permanent loss of saltmarsh and still represents Natural England's most unfavourable option.	Please see the response to NE-59 regarding the removal of Option 2 from the proposed project design envelope.
Natural England	NE-269	4.12.18 Natural England are assuming these undergrounding options are only viable following positive SI results?	Site investigations have been sought to provide the further clarity on the likely costs and approach to handling waste which introduces project risk, however the Applicant has also sought comfort from desk-based assessment as it looks to reduce optionality where feasible to do so. In light of



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			these reviews the decision has been made to remove landfall Option 2 from the design envelope.
Natural England	NE-270	1.4.54 If frond mattressing is utilised, Natural England would like to note that our preference would be for non-plastic frond mattressing to be used to ensure the trapping of sediment.	This is noted, but the most suitable form of mattressing will need to be defined during the detailed design process.
Natural England	NE-271	1.6.1 The non-technical summary states that the anticipated lifetime is 25 years, this needs to be clarified.	See the Applicant's response to NE-260.
Natural England	NE-272	Table 1.31 Inter array replacements shows 7 cable repairs over the lifetime, 2,000 m long and 10 m wide to give an area of impact of 140,000 m <sup>2</sup> and a total impact of 980,000 m <sup>2</sup> . However, based on the figures given the impact is actually 20,000 per event (2000 x 10) and 140,000 total for the 7 events (20,000 x 7). Confirmation of these figures is requested.	A tabulated clarification note identifying all assessed parameters is provided at Appendix 1, Annex A in this response to deadline 1.
Natural England	NE-273	1.4.90 A crossing of 100 m seems to be extremely large and Natural England assume it would require large amounts of rock protection. Natural England question why the crossing length is so big and does this account for the 4 cables?	The crossing assumptions are based on a worst case requiring a long length of rock protection to allow a gentle transition over the existing infrastructure.
Natural England	NE-274	1.5.24 Considering there will be a maximum of four TJBs, Natural England assume they will be installed side by side with very little distinction between each bay?	Subject to detailed design this is likely to be the case.

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Natural England	NE-275	Table 1.2 and 1.3 There seems to be a mistake for the temporary works area for Option 1. Table 1.2 states 60 x 50, whereas table 1.3 states 50 x 60.	A tabulated clarification note identifying all assessed parameters has been produced for the Applicant's Deadline 1 submission (Appendix 1, Annex A).
Natural England	NE-276	1.5.56 Will the joint pits be buried or surface laid, and does it depend on further SI works which option is chosen?	The final design is dependent on SI works, but both options are assessed.
Natural England	NE-277	1.5.63 Sufficient pollution plans should be in place to minimise the release of contaminants from septic tanks.	This is noted by the Applicant and provided for within the CoCP (PINS Ref APP-133/ Application Ref 8.1).
Natural England	NE-278	Table 1.2 and 1.3 There seems to be a mistake for the temporary works area for Option 1. Table 1.2 states 60 x 50, whereas table 1.3 states 50 x 60.	A tabulated clarification note identifying all assessed parameters has been produced for the Applicant's Deadline 1 submission (Appendix 1, Annex A).
Natural England	NE-279	1.5.56 Will the joint pits be buried or surface laid, and does it depend on further SI works which option is chosen?	See the Applicant's response to NE-276.
Natural England	NE-280	1.5.63 Sufficient pollution plans should be in place to minimise the release of contaminants from septic tanks.	See the Applicant's response to NE-277.
Natural England	NE-281	Table 4.2, Page 4-9 Natural England disagrees with the Applicant's assumption that no red-throated divers are displaced from the 4 km buffer to the proposed extension. We note that the Applicant's preferred displacement levels continues through the final ES, without presenting the SNCBs advised displacement figures within the ES.	See the Applicant's response to NE-79. Also, SNCB guidance does state that site-specific data should be used where possible, so that has taken preference in this project.

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Natural England	NE-282	Table 4.2, Page 4-11 It is stated that due to uncertainties in the ORJIP data, no assessments are included using the ORJIP data. We are not clear what these are, and would advise that these site specific flight heights are used in Option 1 of the Band model, and these outputs considered alongside Option 2 outputs.	See the Applicant's response to NE-87.
Natural England	NE-283	4.1.34 The technical difficulties in not being able to use the site specific flight height data are not adequately explained. We advise that the site specific flight height data from TOWF generated by the ORJIP project should be used to produce Option 1 Collision Risk Model (CRM) outputs.	The Applicant has provided Natural England with a paper that provides them with an explanation as to why flight height data are not suitable for use in PCH calculations.  With respect to ORJIP data use please see the Applicant's response to NE-87.
Natural England	NE-284	4.1.74 SNCB advice is to consider displacement for red throated diver out to 4km.	See the Applicant's response to NE-79.
Natural England	NE-285	4.1.76 By applying only an 82 % displacement rate to the winter population of red-throated divers within the Thanet Extension site and assuming no displacement	See the Applicant's response to NE-79.
Natural England	NE-286	Page 6 of 22 in the buffer, then 159 individuals is likely to be a significant underestimate of the number of displaced birds.	See the Applicant's response to NE-79.
Natural England	NE-287	4.1.77 The total number of red throated diver potentially displaced using the SNCB joint guidance of 100% out to 4km would result in $44+217+194+241=696$ .	See the Applicant's response to NE-79.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-288	4.1.79 Agree for assessing impacts on cable laying assuming 100% displacement out to 2km is reasonable.	The Applicant acknowledges Natural England's agreement on this.
Natural England	NE-289	4.1.84 Whilst Natural England accept that there is some evidence from the windfarm TOWF during-construction monitoring surveys we recommend that the displacement is considered up to 2 km away from the OWF when considering displacement effects on razorbill, alongside any values.	See the Applicant's response to NE-85.
Natural England	NE-290	4.1.85 As above Natural England advise that a range including displacement out to 2 km is considered.	See the Applicant's response to NE-85.
Natural England	NE-291	4.1.86 As above Natural England advise that a range including displacement out to 2 km is considered.	See the Applicant's response to NE-85.
Natural England	NE-292	4.1.87 As above Natural England advise that a range including displacement out to 2 km is considered.	See the Applicant's response to NE-85.
Natural England	NE-293	4.1.88 Natural England would agree that the displacement in the construction period is unlikely to be significant effect for the project alone. However, we still advise that the rates advised for considering displacement by the SNCBs are still presented in the ES for razorbill, so a cumulative assessment using common currency can be undertaken.	Only very minimal numbers of auks were recorded within the Thanet Extension site, so therefore very few are estimated to be subject to displacement (or associated levels of resultant mortality). It is worth noting that despite there being potential for construction to overlap temporally with Norfolk Vanguard or Hornsea Project Three they are not in close proximity to this site and any cumulative approach would be reliant upon those projects

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			providing data on this topic, which is not currently available.
Natural England	NE-294	4.1.91 Guillemot – Natural England note that there is some evidence from the TOWF during-construction monitoring surveys that displacement of guillemots within a 1 km buffer occurred. However, we advise that alongside these data, potential effects to a limit of 2 km are also presented.	See the Applicant's response to NE-85.
Natural England	NE-295	4.1.95 Natural England agree with the negligible conclusion for indirect impacts through effects on habitats and prey species.	The Applicant acknowledges Natural England's agreement on this.
Natural England	NE-296	4.1.102 Whilst it states that SNCB interim displacement advice note have shaped the assessment, it appears to have been disregarded.	The Applicant does not agree that he assessments in the ES disregard the SNCB guidance. It is used it for the purpose of guiding our assessments with use of other data sources also, as suggested as an approach in the referenced guidance note.
Natural England	NE-297	4.1.104 Whilst Natural England welcome the use of site specific evidence to provide evidence of bird behaviour in response to the project, we advise that levels of displacement using the advice in the SNCB advice note should be presented alongside.	Displacement matrices (Annex D and E of this representation) are provided for consultees to consider different levels of displacement and mortality. See the Applicant's response to NE-85.
Natural England	NE-298	4.1.111 Red throated diver - SNCB guidance (SNCBs, 2017) is to sum the seasons, and not to place into individual displacement matrices according to season. The assessment does not present a site-specific worst-case displacement. There is strong evidence that more than 82 % of	This is noted by the Applicant that there is an error in Table 4.14 (Displacement of RTD in site during spring migration). The Applicant has presented seasonal displacement matrices as per guidance and also summed those seasons together to provide an

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		divers are likely to be displaced from the windfarm area. In particular, to assume no displacement from the 4 km buffer is unrealistic and likely to underestimate the number of red throated divers displaced. Therefore Natural England's advice is that the assessment is based on the impact of 100 % of birds being displaced out to 4 km.	estimate of the total annual potential impact. There were no divers recorded in other seasons, so that is why winter and spring migration are only two seasons considered and combined.  Also see the Applicant's response to NE-79.
Natural England	NE-299	4.1.112 It is recommended that the presentation of 0-100 % mortality of displaced birds for all species taken forward to the matrix stage. However, Natural England acknowledge that the level of both adult mortality resulting from displacement are likely to be in the lower range (i.e. 1-10 %) it is appropriate to have a finer gradation of percentage mortality impacts at the lower range of the scale. Any assessment will be made on mortality levels up to 10 %.	A decision was made to present some species with 1, 5, 10, 20 etc and others with finer scale rates with 1-10 separate and then increments of 10s after that. The Applicant considers that this is an appropriate compromise to ensure the most relevant data is presented for each species.. Please see previous comments on displacement for all species (NE-297).
Natural England	NE-300	4.1.113 Assuming that zero divers are displaced from the 4 km is not realistic. The assessment should include 100 % displacement out to 4 km.	See the Applicant's response to NE-79.
Natural England	NE-301	4.1.114 Using the average baseline mortality rate for red-throated diver is 0.228 (Horswill and Robinson, 2015) and the winter Biologically Defined Minimum Population Scales (BDMPS) for red-throated divers is 10,177 (Furness, 2015) then the total number of individuals lost from this BDMPS population per year is 2,320. If 435 divers are displaced and assuming 10 % mortality, a	See the Applicant's response to NE-79.  It is considered that there is no evidence to suggest 10% mortality should be applied to red-throated diver, particularly when the density of birds in Thanet Extension is not significant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		maximum of 44 individuals would be predicted to be lost from this BDMPS population due to the proposed development, which would equate to 1.87 % above baseline mortality. Therefore, we disagree that the impacts can be described as negligible.	
Natural England	NE-302	4.1.116 Again the conclusion of negligible is based on a likely under estimate of the level of displacement.	See the Applicant's response to NE-79.
Natural England	NE-303	Table 4.14 There appears to be an error in the table where the highlighted line has been cut and pasted from Table 4.13.	This is noted by the Applicant that there is an error in Table 4.14 (Displacement of RTD in site during spring migration).
Natural England	NE-304	4.1.117 As highlighted in other sections, the number of divers displaced does not include any displaced from the 4 km buffer. Further consideration is required on how significant an effect the displacement of up to 693 divers from within the windfarm and a 4 km buffer would be. This represents 2.99 % above baseline mortality and therefore would be more than a minor significant effect. The matrices in 6.4.4.3 do not present the summed totals for the site plus 4 km buffer.	See the Applicant's response to NE-79.
Natural England	NE-305	4.1.119 Gannet – The statement 'there is no evidence that gannets are displaced beyond wind farm boundaries' is quite surprising given what is said in 4.1.118 regarding macro avoidance.	The evidence presented in 4.1.119 suggests avoidance of the wind farm, with 64% displacement avoiding the array presented through reference to Krigsweld <i>et al</i> 2011. Paragraph 4.119 then identifies that there is no

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			evidence that gannets are displaced beyond the array, i.e. they are displaced from within the array only and not displaced further.
Natural England	NE-306	4.1.121 As stated in the SNCB advice note on displacement, Natural England advise that displacement assessment is considered out to 2 km for gannet. However, we acknowledge that with the inclusion of birds displaced from a 2 km buffer, it is unlikely to change the overall conclusion of effect.	See the Applicant's response to NE-85.
Natural England	NE-307	Table 4.15 and 4.16 These tables only present displacement values for the project site only. SNCB advice is to include displacement from a 2 km buffer.	All displacement matrices for site and buffer areas are presented clearly in the Displacement Appendix (PINS Ref APP-079/ Application Ref 6.4.4.3). Also, see the Applicant's response to NE-85.
Natural England	NE-308	4.1.123 Whilst Natural England disagree with the methodology, i.e. not considering gannets are displaced from a 2 km buffer, we acknowledge that even if the recommended methodology was used it is unlikely to change the conclusions.	This is noted and welcomed by the Applicant.
Natural England	NE-309	4.1.125 The displacement estimates for auks are not in line with SNCB guidance. SNCB guidance for auks is to consider displacement out to a 2 km buffer.	See the Applicant's response to NE-85.
Natural England	NE-310	4.1.126 By only focussing on a single displacement value not the range advocated by the SNCBs and not including the summed seasonal displacement	See the Applicant's response to NE-85.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		totals out to 2 km, this does not adequately deal with Natural England's response to the consultation.	
Natural England	NE-311	4.1.127 The razorbill displacement totals for the spring migration season do not include a 2 km buffer.	See the Applicant's response to NE-85.
Natural England	NE-312	Table 4.17 and 4.18 There is no table which includes the project site and a 2 km buffer.	All displacement matrices for site and buffer areas are presented clearly in the Displacement Appendix (PINS Ref APP-079/ Application Ref 6.4.4.3). Also, see the Applicant's response to NE-085
Natural England	NE-313	4.1.130 Natural England disagrees with the methodology used (using a buffer less than that recommended by the SNCBs), however we acknowledge that magnitude of impact is unlikely to change.	This is noted by the Applicant.
Natural England	NE-314	4.1.131 The number of guillemots potentially displaced may be under estimated. SNCB advice is to consider displacement potentially occurring out to 2 km.	See the Applicant's response to NE-85.
Natural England	NE-315	4.1.133 Natural England disagrees with the methodology used (using buffer less than that recommended by the SNCBs), however we acknowledge that magnitude of impact is unlikely to change.	This is noted by the Applicant.
Natural England	NE-316	4.1.141 Collision risk - It is stated that the Band CRM Option 2 has been used, however it is not	See the Applicant's response to NE-87.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		clear why site specific flight heights generated from the ORJIP BCA study at TOWF were not used.	
Natural England	NE-317	4.1.142 Natural England note that bird behaviour data has been released from the ORJIP project but has not been included in the CRM to inform the assessment. These data have been used in collision risk modelling by the BTO for work commissioned by JNCC to determine what avoidance rates are appropriate to be used in CRM (Bowgen & Cook, 2018 in prep).	See the Applicant's response to NE-87.
Natural England	NE-318	4.1.145 Natural England note the comments on use of modelling the worst case scenario for the WTG Design.	This is noted by the Applicant.
Natural England	NE-319	4.1.149 Natural England note that the collision mortalities have been summed and presented in table 4.27. We would like to see the results of the CRM using Option 1 and the site specific data from the ORJIP study before commenting on the scale of the potential impact.	See the Applicant's response to NE-87.
Natural England	NE-320	4.1.150 Before Natural England are able to agree with the conclusion that the level of mortalities fall below 1 % of baseline mortality we would want to examine the results of the CRM in more detail, and consider what the predicted levels of mortality are when using option 1 outputs using flight height data from the ORJIP study.	See the Applicant's response to NE-87.
Natural England	NE-321	4.2.22 As stated previously, assessments of displacement should be based on the SNCB	See the Applicant's response to NE-85.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		guidance using buffers of 2 km or 4 km for the most sensitive species, such as red throated diver.	
Natural England	NE-322	4.2.31 The Thanet Extension alone assessment does not follow the advice given by the SNCBs on assessing displacement. The figures using the methodology advocated by Natural England (and other SNCBs) should be presented alongside those presented by the Applicant.	All displacement matrices for site and buffer areas are presented clearly in the Displacement Appendix (PINS Ref APP-079/ Application Ref 6.4.4.3).
Natural England	NE-323	4.2.32 Whilst we acknowledge that the relative contribution from Thanet is relatively small, and is likely to remain so if the recommended methodology is used, we think it is important to include figures using SNCB agreed methodology to include in cumulative totals.	See the Applicant's response to NE-305.
Natural England	NE-324	4.2.35 As stated above Table 4.30 should include figures using methodology agreed by the SNCBs.	See the Applicant's responses to NE-87 and NE-305.
Natural England	NE-325	4.2.36 Natural England agree that the numbers of gannet displaced from Thanet Extension, even using the recommended methodology, are likely to be negligible. However, these figures should be combined with any predicted mortality from collision and considered in the cumulative assessment.	All displacement matrices for site and buffer areas are presented clearly in the Displacement Appendix (PINS Ref APP-079/ Application Ref 6.4.4.3). Also, see the Applicant's response to NE-305.
Natural England	NE-326	4.2.38 The methodology for a cumulative assessment for red throated diver was discussed late in 2017, but disappointingly no detail on exactly how this would be carried out has been provided since a brief paper in December 2017.	It is the Applicant's understanding that the methods used to determine cumulative diver displacement were broadly agreed and the assessment accords with discussions with NE and RSPB as part of the Evidence Plan Process (PINS

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			Ref APP-137/ Application Ref 8.5). The Applicant has agreed to provide a. it is acknowledged with Natural England method statement explaining the detailed methods employed.
Natural England	NE-327	4.2.41 As stated in 4.2.40 the principle and general approach was agreed with Natural England. However, despite requests before submission we have yet to see the detail, and therefore have no confidence in the accuracy of the results presented. We suggest that the maps showing the extent of the overlay boundaries and the red throated diver density data area are presented so there is clarity and transparency around how the figures in Table 4.32 to Table 4.35 have been derived.	See the Applicant's response to NE-326.
Natural England	NE-328	4.2.42 If the Scottish projects have been excluded, does this mean that diver densities in Scotland have also been excluded?	Data were not available from the same source from Scottish offshore wind farms. However, the issue and assessments on RTD are provided with a focus on the known population of the southern North Sea, not the northern areas / OWFs / populations.
Natural England	NE-329	4.2.43 It states that the 4 km overlapped with buffers from other sites, and that 'double-counting' was avoided using GIS. However, it is not clear what criteria was used to decide which project to assign the displaced birds to. This method needs much more detailed explanation of how this was carried out.	The Applicant notes that a standard approach has been taken for the project- i.e. the first project built accounts for the displacement, with the second project only accounting for the additional displacement.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			See also response to NE-326, i.e. if final methods are provided this issue should be removed.
Natural England	NE-330	4.2.44 Again it is not clear how the analysis has been carried out. A full report is required, which should include a full explanation of the methodology used, and what red throated diver density data used were used in order to derive the proportions.	See the Applicant's response to NE-326.
Natural England	NE-331	4.2.45 Without understanding how the analysis was carried out it is not possible to have confidence in the relative contributions in Table 4.32 and 4.33.	See the Applicant's response to NE-326.
Natural England	NE-332	4.2.46 Without understanding how the analysis was carried out it not possible to have confidence in the relative contributions in Table 4.34 and 4.35.	See the Applicant's response to NE-326.
Natural England	NE-333	4.2.47- 4.2.53 To be able to comment on Thanet Extension's relative contribution and whether or not the proposed project makes a material contribution to the cumulative total Natural England need to have a better understanding of how the cumulative analysis for red throated diver has been undertaken.	See the Applicant's response to NE-326.
Natural England	NE-334	4.2.58 The assessment for the Thanet Extension alone is based on generic flight height data. To assess the extent of predicted mortality from collision Natural England would like to see assessments using site specific flight height data alongside the Option 2 CRM outputs.	See the Applicant's response to NE-86 and NE-87.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-335	4.2.59 Natural England agree with the proposal to take the cumulative assessment figures agreed at East Anglia Three.	This is noted by the Applicant.
Natural England	NE-336	Table 4.38 Natural England welcome the attempt to include figures for Hornsea 3 and Norfolk Vanguard. However, we assume these figures are from the Preliminary Environmental Information Reports (PEIR) for these projects and note that there are issues with these. So, whilst we understand this is beyond the Applicant's control, as the three projects are in the system at the same time, they must all include one another in their assessments, and therefore we need the agreed//best figures based on the data to be included for each project. Therefore, at present given the issues with the Thanet Extension figures alone and those around the Hornsea 3 and Norfolk Vanguard figures, we cannot currently make any conclusions regarding cumulative CRM (will also apply to cumulative displacement).The table does not state whether the figures are based on Option 1 2 or 3.	See the Applicant's response to NE-89.
Natural England	NE-337	4.2.66 Natural England note the comparisons of the cumulative collision predictions and Thanet Extension's contribution, however before commenting we would like to review the CRM results, including considering outputs from Option 1.	This is noted by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-338	4.2.74 To enable Natural England to consider the summary of effects in Table 4.40 we will need to consider displacement effects using methodology advocated by the SNCBs. In respect of red throated diver, we need further detail around how the figures for the cumulative assessment were derived. In relation to effects from mortality from collision we need to consider what the predicted mortality would be using Option 1 outputs from the CRM.	This is noted by the Applicant.
Natural England	NE-339	Table 4.1 The summary of consultation relating to the HRA process proposed confirms that the Applicant has not applied the recommended SNCB methodology or used the recommended buffers advocated by the SNCBs. By disregarding our advice, it is not possible to have any confidence in the conclusions.	See the Applicant's response to NE-296.
Natural England	NE-340	8.5.13 The figures are also based on displacement based on a 1 km buffer and not 2 km buffer.	See the Applicant's response to NE-296.
Natural England	NE-341	11.4.8 Natural England do not think it is sufficiently precautionary to assume no displacement occurs beyond the windfarm boundary based on the post construction monitoring at Thanet OWF. As stated in the evidence plan meetings NE advise that 100 % displacement should be assumed out to 4 km.	See the Applicant's response to NE-296.
Natural England	NE-342	11.4.9 Natural England advise that 100 % out to 4 km is used to assess displacement.	See the Applicant's response to NE-296.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-343	11.4.12 Natural England note the assertion that none of the red-throated diver that were recorded within Thanet Extension can be directly attributed to the Outer Thames Estuary SPA population. We agree that due to the expected mixing we would expect that red-throated diver are mobile across the general area and that birds that occur at any one time outside the SPA might occur within it at another time. Whilst on balance we would agree that there is unlikely to be an adverse effect on integrity resulting from the construction phase, we are concerned that suitability precautionary assumptions on the numbers of birds displaced are not being used.	See the Applicant's response to NE-296.
Natural England	NE-344	11.4.14 Natural England disagree that there is no potential for AEoI to the red-throated diver feature of the Outer Thames Estuary SPA in relation to disturbance and displacement effects from Thanet Extension alone. However, due to the temporary nature of any displacement effects from Thanet Extension alone during the construction period we would agree that adverse effects from displacement are unlikely.	See the Applicant's response to NE-296.
Natural England	NE-345	11.4.16 As advised in the Evidence Plan process, and on the draft RIAA, displacement figures for guillemots follow the SNCB guidance, and 2 km buffers are presented alongside the displacement based on a 1 km distance. This will allow a range of	See the Applicant's response to NE-296.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		potential displacement to be considered, as well as presenting a common currency to enable an in-combination assessment.	
Natural England	NE-346	Tables 11.7 and 11.8 only include a 1km buffer, as previously advised displacement out to 2 km should also be presented.	See the Applicant's response to NE-296.
Natural England	NE-347	11.4.19 - 20 As stated guillemot displacement assessment should follow SNCB guidance, and 2 km buffer should be used to calculate potential displacement, and these figures should be presented alongside figures based on a 1 km buffer.	See the Applicant's response to NE-296.
Natural England	NE-348	11.4.24 Natural England acknowledge it is unlikely for AEoI to the guillemot feature of the Flamborough and Filey Coast pSPA in relation to disturbance and displacement effects from Thanet Extension alone, even if the recommended methodology for assessing displacement was followed.	See the Applicant's response to NE-296.
Natural England	NE-349	11.4.26 As stated previously, razorbill displacement assessment should follow SNCB guidance, and 2 km buffer should be used to calculate potential displacement, and these figures should be presented alongside figures based on a 1 km buffer.	See the Applicant's response to NE-296.
Natural England	NE-350	11.4.27 – 11.4.2 Tables 11.9 and 11.10 do not include figures based on a 2 km displacement.	See the Applicant's response to NE-296.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-351	11.4.35 Although there is disagreement over the methodology for calculating displacement it is unlikely to change the conclusion that there is no AEoI to the razorbill feature of the Flamborough and Filey Coast pSPA in relation to disturbance and displacement effects from Thanet Extension alone.	This is noted and agreed by the Applicant.
Natural England	NE-352	11.4.67 As stated previously, and on the draft RIAA before submission, Natural England do not consider that it is realistic assumption that no displacement occurs beyond the boundary of the windfarm. As stated in our comments on the PEIR, we advise that the assessment is revised based on the assumption that 100 % of divers are displaced out to 4 km.	See the Applicant's response to NE-296.
Natural England	NE-353	Table 11.11 and 11.2 Table 11.11 and 11.12 are flawed due to not taking account of any displacement in the 4km buffer, and therefore it is not possible to fully assess the potential extent of the likely displacement.	See the Applicant's response to NE-296.
Natural England	NE-354	11.4.73 – 11.4.81 Comments relating to assessing guillemot displacement during construction phase also apply to the Operations phase.	See the Applicant's response to NE-296.
Natural England	NE-355	11.4.82- 11.4.90 Comments relating to assessing razorbill displacement according to SNCB advice during construction also apply to operations phase.	See the Applicant's response to NE-296.
Natural England	NE-356	11.4.119. Given the site specific data such as flight height and flight speed available from the ORJIP	See the Applicant's response to NE-87.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		Bird Collision Avoidance. Natural England would advise that wherever possible site specific data is used.	
Natural England	NE-357	11.4.120 It is likely that due to the use of Option 2 of the Band CRM that this will result in a underestimate of collision risk, if compared to CRM using Option 1. For example the proportion of kittiwake flying at potential collision height (PCH) is 0.09 using Johnston et al. (2014) generic light height data (Option 2), whilst the proportion of kittiwake flying at PCH using the ORJIP data is 0.744. Similarly for gannet, the ORJIP derived PCH value is 0.285 compared to 0.075 using Johnston et al. (2014).	See the Applicant's response to NE-87.
Natural England	NE-358	12.4.13 As stated Natural England considered that the PEIR Offshore Ornithology chapter contained an inadequate cumulative assessment of the potential effects of disturbance and displacement on red-throated diver in the UK waters of the North Sea. During Evidence Plan meetings, an approach to the cumulative assessment based on a single source of relative density, e.g. SeaMaST was discussed. Natural England were provided with a very brief outline on 12th December 2017 on how the Applicants broadly planned to carry out the cumulative assessment. However, we note that even at this stage the detail of this assessment has still not yet been provided to Natural England,	At a meeting with Natural England (5/10/18) it was agreed that the approach taken will be elaborated within a clarification note. The note has been provided to Natural England for consultation and a revised version has been submitted (Appendix C of this Representation) as part of the Applicant's Deadline 1 submission.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		which is disappointing as we have requested this from the Applicant before submission.	
Natural England	NE-359	12.4.15 Natural England notes that we have not seen any detail of how this assessment has been undertaken and therefore cannot make any comment on its appropriateness at this stage. We suggest that a report is submitted as an annex.	At a meeting with Natural England (5/10/18) it was agreed that the approach taken will be elaborated within a clarification note. The note has been provided to Natural England for consultation and a revised version has been submitted (Appendix C of this Representation) as part of the Applicant's Deadline 1 submission.
Natural England	NE-360	12.4.17 Natural England note that account will need to be taken of the fact that when considering adjacent, nearby or extended offshore windfarms (OWFs) there was a possibility that they were being developed within the 4 km buffer of a preceding OWF. We note that 'double-counting' is accounted for in the analysis using GIS by only accounting for the additional contribution made by the subsequent OWF, but we would like to understand how much overlap there is.	At a meeting with Natural England (5/10/18) it was agreed that the approach taken will be elaborated within a clarification note.
Natural England	NE-361	12.4.19 Natural England notes that Thanet Extension's contribution is reported to be 1.5 % under the scenario of 100 % displacement within each OWF and within a 4 km buffer around each OWF. However, without seeing the detail of how this assessment was carried out it is difficult to verify this number.	At a meeting with Natural England (5/10/18) it was agreed that the approach taken will be elaborated within a clarification note.
Natural England	NE-362	12.4.21 Natural England note that mortality rates of 1 - 5 % with displacement rate of 100 % have	See the Applicant's response to NE-79.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		been used. We would consider a range of mortality from 1 % to 10 %	
Natural England	NE-363	12.4.24 There are already concerns that existing projects within the Outer Thames Estuary SPA are such that Natural England cannot rule out an adverse effect on integrity in-combination, and there is no transparency or clarity over how the in-combination assessment has been undertaken. As a result, at this stage we cannot agree with the assertion that there is no potential for AEoI to the red-throated diver feature of the Outer Thames Estuary SPA in relation to in-combination disturbance and displacement.	At a meeting with Natural England (5/10/18) it was agreed that the approach taken will be elaborated within a clarification note.
Natural England	NE-364	12.4.28 Based on the CRM figures presented, Thanet Extension does not appear to make a material contribution to in-combination collision risk for any of the sites that have been assessed. However, given the issues raised around the use of site specific flight heights from the ORJIP Bird Collision Avoidance study, we are unable to rule out that the proposed Thanet Extension gives rise to an in-combination adverse effect on integrity.	See the Applicant's response to NE-87.
Natural England	NE-365	12.4.32 Whilst it appears the proposed Thanet Extension does not make a material contribution to in-combination collision risk to the kittiwake interest feature of the Flamborough and Filey Coast pSPA, the issue remains that the in-	At a meeting with Natural England (5/10/18) it was agreed that the approach taken will be elaborated within a clarification note.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		combination level of mortality means that an adverse effect on integrity cannot be ruled out.	
Natural England	NE-366	14.1.1 Due to the unresolved issues around methodology used to assess displacement and collision risk we are unable to agree with the Applicant's conclusions in Table 4.2 on AEoI for red throated diver as a feature of Outer Thames Estuary SPA or kittiwake from Flamborough and Filey Coast pSPA.	At a meeting with Natural England (5/10/18) it was agreed that the approach taken will be elaborated within a clarification note.
Natural England	NE-367	1.4.42 Section 1.4.31 states there will not be any simultaneous piling for monopiles, but a similar statement is not made for pin-piled jacket foundations. Could the Applicant clarify whether simultaneous piling could take place for pin piles?	Simultaneous piling has not been considered for any foundations.
Natural England	NE-368	Table 1.5 The maximum number of blows per foundation are not provided in this table, as for Table 1.4.	This is provided within the underwater noise annex (Application Ref 6.4.6.3).
Natural England	NE-369	1.4.41 The average number of blows for jacket foundations are not provided as for monopile foundations.	This is provided within the underwater noise annex (Application Ref 6.4.6.3).
Natural England	NE-370	Table 1.21 The table states that the calculations on number of days to clear UXOs is based on 4 detonations per day, however the next line states that there could be 8 detonations in a 24 hour period. It is not normal to detonate outside of daylight hours, therefore could the Applicant clarify the total	Four detonations can occur per day (if a day is defined as midnight to midnight) - however, if these detonations fall late in the day, and the detonations the following day fall early in the day, there is potential for 8 detonations within 24 hours.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		number of detonations expected per day (which should also be within 24 hours).	
Natural England	NE-371	7.2.11 Misspelling – harbour seal is spelt wrong in the heading of this section.	This is noted by the Applicant.
Natural England	NE-372	7.7.25 This paragraph states that density estimates are provided in Table 7.7, however, this table only provided the porpoise counts over time. This should refer to Table 7.8.	This is noted by the Applicant.
Natural England	NE-373	7.7.66 This paragraph states that the harbour seal population in the Thames Estuary	This is noted by the Applicant.
Natural England	NE-374	7.7.66 This paragraph states that the harbour seal population in the Thames Estuary is stable. Given the data provided in Table 7.9, the population appears to be increasing.	This is noted by the Applicant.
Natural England	NE-375	Table 7.13 Could the Applicant confirm that the Wadden Sea harbour seal management unit (MU) abundance is not being used within this impact assessment other than in terms of transboundary effects?	The Applicant can confirm that the harbour seal MU used for all Project alone assessments was the South-east England MU population and that these values are presented in both the tables (e.g. Table 7.35) and the text (e.g. 7.11.110). In addition to what is provided in the tables, the text also outlines the equivalent proportion of the population impacted when considering the South-East England + Wadden Sea populations combined (e.g. 7.11.110). Therefore, while the tables present only proportions of the MU using the South-East England MU, the text additionally also provides additional context with the Wadden Sea. We can confirm that the impact assessment was based

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			only on consideration of the South-East England management unit.
Natural England	NE-376	Table 7.14 Please could clarification be provided as to how the average blow rate will be 30 blows per minute, when the maximum is 30, and the hour long soft start will have only 15 blows per minute.	This is provided within the underwater noise annex (Application Ref 6.4.6.3).
Natural England	NE-377	Table 7.14 UXOs - Eight detonations per day seems quite high. Please can the Applicant clarify if they think this number of detonations is achievable in daylight hours?	See the Applicant's response to NE-370.
Natural England	NE-378	7.11.20 Please could clarification be provided as to how if detonation is only going to take place in daylight hours, with 7.5 days of up to 4 detonations, that 8 detonations could take place in a 24 hour period.	See the Applicant's response to NE-370.
Natural England	NE-379	7.14.3 As the east coast Scotland MU for grey seals was not part of the impact assessment of the project alone, Natural England do not believe it should form part of the cumulative impact assessment.	As stated in paragraph 7.14.32 and 7.14.41 of the Marine Mammals ES Chapter (PINS Ref APP-048/ Application Ref 6.2.7) the management unit used to assess impacts of Tier 1 and Tier 1+Tier2 projects on grey seals was the North-east + South-east England MUs combined (and so does not include the East Scotland MU). The Scottish east coast management unit was considered only in relation to screening for potential cumulative effects given the connectivity between different parts of the grey seal range. Only projects in the English seal management areas were considered in the seal cumulative impact assessment.



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Natural England	NE-380	Table 7.38 There is no red border to highlight the piling window at Thanet Extension.	This is noted, however this does not alter the outcome of the assessment.
Natural England	NE-381	7.14.36 This paragraph states that a total of 31,455 animals may potentially be disturbed by piling. However, in terms of the single piling scenario this number is 19,427. In terms of the concurrent scenario for both Tiers 1 and 2, this value rises to 30,864, which while not as high as stated, is still a significant percentage of the MU population.	The Applicant acknowledges that this is correct; this is a summing error. The correct summed values for T1+T2+ThanetExtension are 19,427 for single piling and 30,864 for concurrent piling which equates to 5.6% and 9% of the MU respectively. As detailed in the following paragraph (7.14.37) recent iPCoD modelling work found that an impact to 15% of the MU did not result in a significant risk of a long-term decline in the North Sea harbour porpoise population, therefore a total of a maximum 9% effect magnitude would similarly not pose a risk to the long-term health of the North Sea harbour porpoise population. In addition, concurrent piling across multiple sites at once is considered unrealistic as there are not enough piling vessels in existence for multiple overlapping concurrent piling scenarios to be realised. However, it is important to note that the summed single piling numbers represent the longest period of overall disturbance and may, as such, be considered an overall worst case scenario compared to a much shorter period of disturbance resulting from concurrent installation.
Natural England	NE-382	CEA – Seismic and OWFs Natural England believe that the potential disturbance from ALL OWFs that overlap with Thanet should be assessed with the	It is unclear which section of the chapter is referred to here. However, as no change to the

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>potential seismic activity. However, given the low amount of seismic activity in the MU, Natural England don't think that the addition of seismic activities will change the overall CEA conclusion of moderate adverse.</p>	<p>conclusion is anticipated, then it is considered that no change is required.</p>
<p>Natural England</p>	<p>NE-383</p>	<p>4.3.1 The noise modelling used a maximum piling time of 8 hours for the monopile, rather than 6 as stated in the marine mammal and project description chapters. What effect will this have on the results?</p>	<p>The noise modelling report states that the modelling for monopiles included 7 hours at full energy plus a 20 minute soft start and a 40 minute ramp up. In terms of the SELcum value, the assessment used the information in the noise modelling report and is therefore the assessment is consistent with that information. In in terms of behaviour, the assessment was based on the information in the PD, however an hour per pile will not make a material difference - this would increase total maximum piling time to 240 hours for monopile installation instead of 170 hours as assessed. However, this would not change the conclusions of the assessment, the magnitude of animals affected and the overall duration would still result in an assessment of minor significance. It should also be noted that an 8 hour piling period for the installation of a monopile based on recent industry experience is wholly unrealistic and highly-precautionary.</p>
<p>Natural England</p>	<p>NE-384</p>	<p>EPS - Table 3 This table has the same differences in terms of maximum range of impact as noted in Section 5 of the underwater noise report above.</p>	<p>NE is correct, the PTS ranges presented in Tables 7.25 and 7.26 of the ES are the mean ranges not the maximum. The mean range was presented in</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		Differences should be clarified and amended throughout the ES.	<p>the ES as it is important to note that the mean ranges present an indication of the risk averaged out across all the directions and smooths out the effect of predicted local variations in noise propagation conditions. As such, the average impact ranges present a better indication of the overall risk averaged over space and time. The maximum range indicates the total maximum distance of the impact range but is only accurate for a small number of possible trajectories from the piling site. The impact areas are asymmetrical and as such, use of the maximum range significantly overestimates the overall general extent of the impact.</p> <p>However, the MMMP and EPS risk assessment will be updated to present both mean and maximum ranges before final sign off.</p>
Natural England	NE-385	EPS - Previous comments picked up in the marine mammal report should be checked within this report (e.g. cumulative total number of animals predicted to be affected by disturbance). No further mention of previous comments will be made in this document. All chapters should be checked for consistency.	This is noted by the Applicant.
Natural England	NE-386	MMMP - 4.3 Natural England suggest that flexibility be built into the Acoustic Deterrent Device (ADD) operation times. For example, 15-20	This is noted by the Applicant. The MMMP will be submitted for review by the relevant SNCB prior to construction as secured within the dMLs.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		minutes for monopiles and 22-30 minutes for pin piles (rather than 15 and 22 minutes respectively). It is often hard for a contractor to operate equipment to the minute. Therefore, in terms of licence conditions, the specified times should be a minimum and have a small amount of leeway in total time.	
Natural England	NE-387	MMMP - Figure 1 A separate marine mammal observer (MMO) and ADD operator will likely be required to ensure full MMO coverage while the ADD is being deployed and switched on (unless there is a remote activation).	This is noted by the Applicant. The MMMP will be submitted for review by the relevant SNCB prior to construction as secured within the dMLs.
Natural England	NE-388	11.3.60 This paragraph seems to start half way through the sentence. Please could it be updated with the full paragraph?	The new paragraph occurred during formatting, as Table numbers were checked throughout for cross references. Effectively the table heading was added automatically together with a line break automatically - paragraphs 11.3.59 and 11.3.60 should be a single paragraph. However, no information has been lost and the information as presented is correct.
Natural England	NE-389	11.3.68 A reference is made in this paragraph to a 'fixed seal behavioural threshold' of 1.7 – 2.8km. How does this relate to the Russell et al. findings of displacement up to 25km?	The text regarding the fixed seal behavioural threshold was sourced from earlier documents and should have been updated, apologies. However, the text within paragraph 11.3.68 of the RIAA draws on both the Marine mammal chapter of the ES (PINS Ref APP-048/ Application Ref 6.2.7) and the Marine Mammal Technical Report (PINS Ref

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			APP-087/ Application Ref 6.4.7.1) and the conclusions remain valid.
Natural England	NE-390	Figure 5.4 A detailed scale should be provided on the pseudo bathymetry plot to make it more informative.	This is noted by the Applicant.
Natural England	NE-391	5.10.10 The directly comparable monitoring data mentioned as evidence at the end of this section should be referenced. The timescales associated with 'rapid' recovery are not clear.	This is noted by the Applicant.
Natural England	NE-392	5.10.41 Please note that only one post-construction survey has been undertaken for the original Thanet Offshore windfarm and therefore longer term trends may vary.	This is noted by the Applicant.
Natural England	NE-393	5.11.15 It would be helpful to Natural England to provide examples of where rock outcropping occurs. These are clearly shown in the physical processes chapter but do not seem to be sufficiently translated across to the benthic chapter, in terms of the impacts on the different habitats that may occur in these areas. There does not seem to be any benthic samples in the area of rock outcropping in the array area or export cable route. Therefore, there has not been an assessment on impacts on the biotopes associated with these outcrops. In the assessments of the potential impacts of SSC	This is noted by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		and associated deposition they should take into account impacts on potentially differing biotopes associated with rock outcropping and avoid direct deposition of sediment on rock outcropping.	
Natural England	NE-394	5.11.24 What is this total maximum area of temporary subtidal habitat loss and does it include cable repair? This does not seem to have been assessed.	As noted above (NE-111), the impacts of cable repair works have been considered in relation to the construction phase impacts and due to much smaller scale works the impacts will be no greater than those for the construction phase (minor adverse)
Natural England	NE-395	Table 5.17 (Page 5-65) When looking at habitat loss from projects although potentially not significant for each project due to localised footprints it should be acknowledged that cumulatively there is an increasing area of hard substrate in the north sea due to scour and cable protection from developments.	This is noted by the Applicant and provided for within the relevant chapters through consideration of cumulative effects.
Natural England	NE-396	General comment Foster (2017) is referenced in the text in relation to sediment plumes but is not in the reference list. Natural England wish to see a copy of this reference which we have been asking for some time.	This is noted by the Applicant and the document has been provided to Natural England via email (November 2018).
Natural England	NE-397	General comment This comment from our PEIR response stands and has not been sufficiently addressed: "Habitats of Conservation importance: Natural	This is noted by the Applicant and has been signposted in the relevant chapters rather than duplicating the information.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		England notes that there is a large amount of detail regarding Sabellaria and Drillstone reefs which is missing from the benthic chapter. This would be better captured within the benthic chapter or with improved signposting to ensure it is captured adequately."	
Natural England	NE-398	General comment This comments also stands – there is no discussion of smothering from chalk particles: “There is insufficient discussion of the impacts of visible chalk plumes from export and inter-array cable installation that have been known to occur at this and other projects installing in chalk habitats. Potential for smothering from chalk particles that are not usually encountered in the water column should be assessed.”	This is noted by the Applicant and increases in the relevant suspended sediments has been considered both in the physical processes chapter (Application Ref 6.2.2) and other chapters that rely on the information presented within it; namely the subtidal and intertidal ecology chapter (Application ref 6.2.5) and the fish and shellfish ecology chapter (Application Ref 6.2.6).
Natural England	NE-399	2.7.28 The benthic chapter states that there is currently no Sabellaria spinulosa reef in the study area and yet this chapter states that drillstone reef is probably made of Sabellaria spinulosa. Why is there no further information on this structure? More information should be provided on the nature of this structure and consideration given to micro-siting around it.	The reference is made to text within a geophysical survey report which considered drillstone reefs may have been characterised by <i>Sabellaria spinulosa</i> . Subsequent surveys and reports confirmed no reef to be present within the study area. This is an error in transcription between survey reports but does not materially change the findings of the assessment.
Natural England	NE-400	Figure 2.14 There seem to be colours on the scale that are not on the key. The area of rock on the cable route is likely to present an issue for cable burial and specific discussion should be had about	This is noted and design solutions provided within the Offshore Project Description chapter.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		the potential need for and use of cable protection in this area to ensure the solution that works best with the environment is employed.	
Natural England	NE-401	2.7.47 This section talks about extensive chalk found at, or close to, the surface on the export cable route and yet this does not seem to be reflected in the benthic chapter where impacts on biotopes associated with chalk bedrock are not discussed.	The reference is made to text within a geophysical survey report which considered the area may be characterised by chalk. Subsequent surveys and reports confirmed no chalk to be present within the study area. This is an error in transcription between survey reports but does not materially change the findings of the assessment.
Natural England	NE-402	2.7.55 As stated above.	please see previous response to NE-401
Natural England	NE-403	Table 2.17 The selection of cable protection material should also take into account what will have the least environmental impact at a given location.	The cable protection material will be subject to the cable installation plan secured within the dML. A number of options are included within the Rochdale Envelope which can be applied according to the most suitable for given ground conditions.
Natural England	NE-404	2.10.45 Estimates of timescale of recovery based on local conditions should be given.	This is noted by the Applicant.
Natural England	NE-405	2.11.35 TOWF were meant to monitor cable protection and any impacts on sediment transport. What did results from this show?	Thanet Extension have not been provided with those reports to date.
Natural England	NE-406	2.11.36 Has secondary scour been considered, which has frequently been observed around cable protection?	Secondary scour has been considered and the suite of cable and/or scour protection options assessed reflect this. Solutions such as frond matting or suitably designed concrete matting with graded rock can mitigate this risk



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			and will be included within the cable installation plan secured under the dML.
Natural England	NE-407	2.11.52 As stated here coarsening of sediments in scour pits has been seen in benthic monitoring from Thanet Offshore Windfarm and should be acknowledged and discussed here and in benthic chapter.	The presence of scour protection and change in sediment type is considered within the intertidal and subtidal chapter (Application Ref 6.2.5).
Natural England	NE-408	Tables 1.12 & 1.13 Tables 1.12 & 1.13 display the maximum design envelope for the installation of the OSS using driven piles or suction caisson jacket respectively. In Table 1.12 the scour protection area is calculated excluding the structure footprint while in Table 1.13 it is calculated including the structure footprint. If there is a reason to apply the methodology to assess the scour protection area for the different scenarios this could be clarified in the text or in a footnote.	The total scour footprint excludes the structure where it is considered this could result in an unrealistic double counting of areas - i.e. where suction caisson is proposed with a (e.g.) 25m diameter base plus scour material the 25m diameter area would be double counted in the loss of habitat if it was added to a total 50m diameter area of scour protection. Where the difference is considered to be less pertinent (e.g. jacket foundations) the area is not excluded.
Natural England	NE-409	Fish and Shellfish Ecology (Doc. Ref. 6.2.6) General Comment It was difficult to cross reference worst case scenarios (WCS) presented in the different chapters, namely the scenarios considered within Volume 2 - Chapter 6 (Fish and Shellfish Ecology) and Volume 2 - Chapter 9 (Commercial Fisheries) and those described in Volume 2 - Chapter 1 (Project Description - Offshore). Generally it was difficult to locate specific values in the project description as well as some inconsistencies being present across chapters.	This is noted by the Applicant. The project description chapter presented the overall design envelope of the project, whilst individual ES chapters assessed their own worst-case scenario based on that design envelope on a receptor-specific basis.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-410	Table 6.7 Page 6-36 The WCS for the introduction of hard substrate is assumed to have the same area as the amount of habitat lost on the seabed, however this is not considering the surface area of the turbines themselves remaining underwater which is newly introduced hard substrate available to be colonised by other organisms.	This is noted by the Applicant. However, this has no material impact to the outcome of the assessment. For demersal fish and shellfish species, the increase in hard substrate is in effect equal to the amount of soft substrate lost. For pelagic species, the volume of water column lost is <i>de minimis</i> compared to the volume of water column available.
Natural England	NE-411	6.10.3 – 6.10.11 Herring and sandeel spawning / nursery areas: Natural England query whether mitigation options could be considered out of best practice to avoid impacts to these vulnerable species and their habitats of importance. Natural England notes that overall there is only a minor significant impact in terms of EIA, however we query whether there would be scope under best practice to avoid cable installation between 15 Aug and 15 Oct. This would be in line with the current ICES advice which details a precautionary approach in relation to disturbance of herring noting that the project boundaries fall within the herring spawning area (albeit the lower intensity parts).	The Applicant considers that the assessment undertaken is robust and that no significant effects were identified. It is therefore not considered appropriate to enforce seasonal restrictions to mitigate against impacts on fish. Any seasonal restrictions taken will be in relation to the winter extent of the southern North Sea cSAC for harbour porpoise.
Natural England	NE-412	Sandeels are anticipated to be present in large numbers within the project area. Due to their high site fidelity and limited ability to recolonise they are at risk of being adversely affected. As a result, the potential to microsite / avoid these prime	Noted. As no significant effects were predicted, it is not considered that further mitigation is appropriate.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		areas could be a potential method of mitigation under best practice. 6.10.6	
Natural England	NE-413	6.10.43 The guidelines published by the Acoustical Society of America (ASA) to provide directions and recommendations for setting criteria (including injury and behavioural criteria) for fish (Sound Exposure Guidelines for Fishes and Sea Turtles, Popper et al., 2014) have been revised in 2017 so more up to date guidelines are currently available (revisions to the sound exposure guidelines for fish and sea turtles report, Halvorsen et al., 2017).	This is noted by the Applicant. However, this has no material bearing on the outcomes of the assessment.
Natural England	NE-414	6.11 As recently advised for other OWFs in relation to operation and maintenance works we advise that a regulatory review (such as the 5 yearly reviews within the Aggregates industry) should be implemented in order to ensure that the monitoring evidence will be used to inform further works.	This is noted by the Applicant and is considered to be a commonplace requirement within the relevant dML conditions, set out in condition 12(i) in Schedule 11 and condition 10(j) in Schedule 12 of the DCO.
Natural England	NE-415	6.11.3 – 6.11.10 The assessment of long term habitat loss: it would be advisable to maintain consistency in using the terms “long-term habitat loss” and “permanent habitat loss”, e.g. title: “long term loss of habitat”; 6.11.4 “permanent loss”; 6.11.5 “long term habitat loss”. These should not be used interchangeably since they have different meanings. This should be clarified. Commercial Fisheries. (Doc. Ref. 6.2.9.)	This is noted by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Natural England	NE-416	<p>General comment There are a few inconsistencies between what is reported in the technical report and the ES chapter, as well as within the technical report itself (e.g. the data presented in table 3.2 in the technical report is not consistent with what is in the text and again different from what is reported in the ES chapter paragraph 9.8.1. It is best to ensure there is consistency between data presented in tables / figures with what is in the text, both in the technical report and ES chapter.</p>	<p>These are noted but not considered to result in a material change to the assessment findings.</p>
Natural England	NE-417	<p>9.19.1 Contrary to other chapters in the ES, it is stated that upon decommissioning, "scour is expected to be left in situ", assuming it is referring to scour protection. Please clarify if it is anticipated that scour and cable protection will be left in situ.</p>	<p>The Application assumes the worst case for decommissioning which across most chapters assumes a reversal of construction.</p>
Natural England	NE-418	<p>9.20.14 In the cumulative assessment it is stated that "it is confirmed that Tier 3 projects have not been taken forward for assessment as there is unlikely to be any overlap between Thanet Extension and their construction period". However, even if construction of tier 3 projects do not overlap with the construction of Thanet extension, it is likely that there will be some overlap between the operations and maintenance (O&amp;M) period of Thanet extension and construction and/or O&amp;M of tier 3 projects. Since O&amp;M of Thanet extension has been assessed to have some minor impacts on fisheries as well as</p>	<p>Tier 3 also represents projects for which there is low certainty on the project parameters and for which an assessment is considered to have very low confidence. It is generally for this reason that Tier 3 projects are not considered further in detail.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>moderate impact on the usage of drift nets, the cumulative assessment with other Tier 3 projects should also be assessed.</p>	
<p>Natural England</p>	<p>NE-419</p>	<p>Table 9.12 Table 9.12 lists the projects to include in the cumulative assessment. This table lists project Hornsea One as Round 3 consented project (Tier 2), while this is already in construction and therefore should be a Tier 1 project. Similarly Hornsea Two is listed as Round 3 consented project, however it has been categorised as a Tier 3 project, unlike every other consented OWF which has been categorised as a Tier 1 or Tier 2. The cumulative assessment should take into consideration these two projects as well in their respective tiers. Site Characterisation Fish Survey Report – spring 2017. (Doc. Ref. 6.4.6.1) / Site Characterisation Fish Survey Report – autumn 2016. (Application Ref 6.4.6.2)</p>	<p>The cumulative assessment has considered what is considered to be all relevant projects. The overall assessment would not materially change with regards commercial fisheries if the Hornsea projects changed tiers as the focus is primarily on the small scale local fleets that exploit the region.</p>
<p>Natural England</p>	<p>NE-420</p>	<p>Appendices Appendices are referred to throughout the text but these were not provided.</p>	<p>These were provided at PEIR and not duplicated at final Application.</p>
<p>Natural England</p>	<p>NE-421</p>	<p>General Comment Species distribution patterns are constantly attributed to the sediment characteristics of the site. However, results from geophysical survey obtained for the baseline are not presented (Side Scan Sonar (SSS) and Multi-Beam Echosounder (MBES) data). Although that is to be expected, it would be helpful to have at least a map showing sediment characteristics in the</p>	<p>This is noted. Charts of sediment distribution are presented within the subtidal characterisation documents PINS Refs APP-071-073 and APP-082/ Application Refs 6.4.2.2 - 6.4.2.4 and 6.4.5.2.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		study area as to ascertain the degree of this association between sediment characteristics and species distribution. Commercial Fisheries Technical Report (Doc. Ref. 6.4.9.1) General comment There are a few inconsistencies between what is presented in tables / figures and what is described in the text (e.g. table 3.2 and paragraph above; Figure 3.44 and first paragraph of section 3.6.2 above).	
Natural England	NE-422	7.5.23 Birds often move to different locations due to the effects of disturbance, often seeking areas that provide refuge. This occurrence of 300 birds in this area could have been as a result of the birds seeking refuge from disturbance from other parts of the bay. Pegwell Bay, and the birds that visit this area, are often disturbed from recreational pressures, such as dog walkers. Therefore, it should not be assumed that the birds immediately favour one area, and in fact may utilise traditionally unsuitable habitats when they are being disturbed. 11.2.16	This is noted by the Applicant.
Natural England	NE-423	11.2.16 Natural England note the restriction on works between the October to March period for the interest features of the SPA. 11.2.20	This is noted by the Applicant.
Natural England	NE-424	11.2.20 Natural England note the production of the Saltmarsh Mitigation Plan and have made details comments in relation to this. However, to reiterate this document should be considered a	This is noted by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		working document and should be updated as decisions are made on the landfall options. Additionally, further discussion need to be had regarding potential compensation in the event of the permanent loss of SSSI and SPA supporting habitat saltmarsh.	
Natural England	NE-425	11.2.25 Have the designated invert and plant species been assessed for the Ramsar site?	Ramsar invertebrate assemblage species have been addressed in the RIAA (see, for example, Sections 7.5 and 11.5). The Ramsar site does not include any habitat-related or botanical qualifying features.
Natural England	NE-426	General Comment It would be helpful to have a map clearly showing what activity will occur in which sites and over which features. Another map clearly showing what evidence there is of feature presence and extent, especially of ground truthed data (grabs, videos). It is difficult to understand the exact footprint of each feature that is subjected to the different pressures exerted by the project and at present it is not clear that there is sufficient data to undertake a robust assessment. For Goodwin Sands in particular the biotope data has not been clearly laid out in terms of where the biotopes are found, how they will interact with different pressures and what the sensitivities of those biotopes are (and their recoverability etc).	The MCZs and associated habitats, in the context of the proposed RLB has been provided within the MCZ assessment (e.g. figures 5.2 and 5.7 of PINS Ref APP-083/ Application Ref 6.4.5.3). Indicative WTG and cable routes are provided elsewhere but should be considered indicative rather than definitive.
Natural England	NE-427	General Comment Natural England understood there is a commitment to avoid anchoring on chalk	A commitment has been provided that all chalk habitats within the designated sites are to be

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		habitat? This commitment should be noted in the Thanet MCZ assessment, but as previously stated should apply to all subtidal chalk and not what has only been defined within the ES as 'chalk reef.'	avoided as is captured by the introduction of the cable exclusion area. There are no apparent subtidal chalk reef features that have been identified within the wider cable corridor.
Natural England	NE-428	General comment Post construction monitoring to assess the validity of ES predictions is not mentioned within the MCZ assessment.	Monitoring is secured within the dML for relevant habitats (i.e. biogenic reef habitats). All other interactions are assessed and considered to have sufficient confidence in them that validation is not required.



### 1.54 RR-054 - Winckworth Sherwood LLP on behalf of Port of London Authority

57 The Applicant's responses to the Relevant Representation RR-054 is presented in Table 55.

**Table 55: Applicants responses to RR-054**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Port of London Authority	PLA-1	<p>"The Port of London Authority ("PLA") is the statutory port and harbour authority for the tidal River Thames. The PLA is concerned about the proposals to extend the existing Thanet Offshore Wind Farm, which is located in the Thames Estuary in the approaches to the Port, due to their potential impact on the safety of maritime operations in one of the busiest parts of UK coastal waters. Whilst the proposals are outside the PLA's statutory limits, they are in close proximity to the PLA's pilot boarding locations, with that at the North East Spit most affected, and, moreover, the proposals have the potential to impact on the operation of the Port. The proposals would encroach into the existing shipping lanes, lengthening journey times into the Port for commercial services that would have to re-route around an extended wind farm.</p>	<p>The Applicant notes the concerns of the PLA, and that the proposals are outside of the PLA's statutory limits.</p> <p>The Applicant also notes that the concerns primarily relate to pilotage and can confirm that the project has undertaken a detailed Navigational Risk Assessment (Application Ref 6.4.10.1) that is agreed (with MCA/THLS) as compliant with all relevant guidance, and based on an agreed method of defining tolerability of risk. The conclusions of the assessment are that whilst there is an increase in risk likelihood the increase is deemed tolerable.</p> <p>The Applicant further notes that the studies undertaken as part of the overall NRA (notably the pilotage simulation exercise) were undertaken in collaboration with PLA, using the PLA simulator and with the participation of qualified Pilots provided by the PLA. The study concluded that all pilot operations continued without hindrance. The Applicant has seen no</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			detailed evidence to substantiate the concerns raised in this representations.
Port of London Authority	PLA-2	<p>The existing wind farm already presents challenges to pilot operations, especially during busy times and strong winds, causing delays to vessel arrivals within the Port; these challenges would be exacerbated by the proposed extension. The PLA considers that any extension to the west of the existing wind farm will increase significantly the risks to navigation for all types of vessels, especially those using the North East Spit Pilot Boarding and Landing Area to enter or depart the Thames Estuary. The proposals would force more vessels to use the outer Tongue Pilot boarding station, which would itself be pushed further from the shore, adding significant costs to the service by lengthening the pilotage act, necessitating additional vessels, fuel and crews. This would also make the Port less resilient in bad weather, as pilots would be less able to board in heavy seas.</p>	<p>See the Applicant's response to PLA-1. The Applicant considers, following the studies, that there is adequate sea room in the area of NE Spit for pilot transfer operations. As such it is not anticipated that more vessels would necessary use the outer Tongue.</p>
Port of London Authority	PLA-3	<p>The Applicant has recently modified its proposals by decreasing the western extent of the Order limits. However, this does not address the PLA's concerns regarding the reduction in sea room to the west of the wind farm which will affect the shipping corridor running north west/south east between it and the shore. Even with the</p>	<p>With regards to the shipping 'corridor' of through traffic running north west/south east it is noted that vessels on this 'route' currently transit in the western portion of this area (closer to the shallower waters as stated) and do not use all the width sea room currently available to them. With the extension in place it is not considered</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>modifications, the proposals would push vessels further west towards shallower waters and reduce the width of the sea room in this area by 50%.</p>	<p>that this would unduly restrict sea room and this route would remain fully open. The Applicant notes that the reduction in sea room is not 50% and is acceptable as referenced in Section 7.3 of the NRA (PINS Ref APP 089/ Application Ref 6.4.10.1).</p>
<p>Port of London Authority</p>	<p>PLA-4</p>	<p>The PLA has some concerns about Navigational Risk Assessment including the data used, the validity of specific studies, identification of relevant hazards and impacts, and the validity of the NRA methodology. Other impacts of the proposals in respect of navigational risk include loss of the line of sight where inbound vessels may no longer be visible to outbound vessels, backscatter of lights and possible loss of radar targets.</p>	<p>See the Applicant's response to PLA-1. The Applicant has considered impacts with respect to impacts on visual navigation and communications, radar and positioning systems within Sections 7.8 and 7.9 of the NRA (PINS Ref APP 089/ Application Ref 6.4.10.1). The applicant has not been provided with any substantiated evidence that either existing wind farm or the extension causes issues in this regard.</p>
<p>Port of London Authority</p>	<p>PLA-5</p>	<p>In addition, the PLA remains concerned about the potential migration of sandwaves into navigable waters between the North East Spit and the shore. The proposals would result in an adverse impact on coastal processes, reducing further the amount of sea room within the navigational channel into the Port</p>	<p>The ES has undertaken a detailed numerical modelling of the potential impacts associated with increased sedimentation within the region. The Physical Processes ES chapter (PINS Ref APP-043/ Application Ref 6.2.2), which has been subject to rigorous review during the statutory consultation period is considered a robust assessment and the conclusions equally robust. There is not therefore a significant risk of sedimentation of the channels in the approach to Port as is concluded within the chapter with regards potential sedimentation of the Margate</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			Sands (and wider SAC within which the Margate sands sits) sandbanks.
Port of London Authority	PLA-6	The PLA seeks protection within the Order against sedimentation of the channels in the approach to the Port and for measures to minimise navigational risk.	In accordance with the outcomes of the Physical Processes ES chapter (see the Applicant's response to PLA-5), the Applicant does not consider that any further measures are required.

## 1.55 RR-055 - Public Health England

58 The Applicant's responses to the Relevant Representation RR-055 is presented in Table 56.

**Table 56: Applicants responses to RR-055**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Public Health England	PHE-1	<p>The submitted assessments have considered the potential impacts of the proposed development on air quality in the vicinity of the development, including the adjacent air quality management area. We are satisfied with the approach and methodology used to assess both baseline air quality and the potential impacts arising from both the construction and operational phases of the development.</p> <p>We note that the immediate and cumulative impacts are assessed as negligible and, subject to the local authority being in agreement with your conclusions, do not believe that the proposed development poses a significant risk to public health in terms of air quality.</p>	This is noted by the Applicant.
Public Health England	PHE-2	<p>The proposed development requires the running cables thorough a closed landfill site at Pegwell Bay following landfall. We are satisfied that the assessment followed standard UK process and good practice and</p>	This is noted by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		notes the conclusion that the potential impacts on both the environment and on public health can be adequately managed by industry good practice measures and the integral design of the installation.	
Public Health England	PHE-3	The Local Authority (LA) and Environment Agency (EA) are the lead agencies for contaminated land and potential impacts on controlled waters. Subject to both the LA and EA being satisfied with the proposed design and mitigation measures We are satisfied that the contaminated land issues can be adequately managed and that the development should not pose a significant risk to public health.	This is noted by the Applicant. A Contaminated Land and Groundwater plan (Requirement 19 of the DCO) is required to be approved by the relevant local authority in consultation with the Environment Agency before works may commence.
Public Health England	PHE-4	We note that the submitted documentation includes an assessment of the potential impact of electric and magnetic fields. We are satisfied with the assessment methodology used by the applicant and that the development should not pose a significant risk to public health.	This is noted by the Applicant.

## 1.56 RR-056 - Charles Russell Speechlys LLP on behalf of Ramac Holdings (Trading) Limited

59 The Applicant's responses to the Relevant Representation RR-056 is presented in Table 57.

**Table 57: Applicants responses to RR-056**

Representation Number	Consultee	Issues raised in the Relevant Representation	Applicant's Response
RAMAC	R-1	These representations are made on behalf of RAMAC Holdings (Trading) Limited ('RAMAC'), in response to the application for a Development Consent Order ("DCO submission") submitted by Vattenfall to the National Infrastructure Directorate on 27 June 2018. The Development Consent Order Pre-Application Consultation Response submitted by Glenny LLP on 12 January 2018 is referred to as PCR. Concerns raised in the PCR by RAMAC have not been addressed by the DCO submission, and RAMAC formally objects to the DCO application both for the reasons set out in the PCR and those summarised below (and as expanded in the more detailed submission provided to the Planning Inspectorate in hard copy).	See the Applicant's responses to R-2 to R-7.
RAMAC	R-2	The content of RAMAC's PCR is quoted verbatim in the DCO submission appendices document, Ref. 5.1.1 and, in particular, Appendix G2.2 and against each detailed concern raised by RAMAC, Vattenfall's response is simply that "Land ownerships are still under a consultation with all	The Applicant responded to the concerns raised by RAMAC in a briefing note sent on 6 March 2018 and answered further technical queries on 2 May 2018. It is considered that this was part of the ongoing consultation

Representation Number	Consultee	Issues raised in the Relevant Representation	Applicant's Response
		relevant parties and will be taken forward in the Post-Consent phase”.	<p>with RAMAC as referenced in Appendix G2.2.</p> <p>The Applicant is engaged in an ongoing process of consultation and negotiation with RAMAC and other landowners with a view to securing early land agreements at the latest before the end of the DCO examination. A full update on the status of these negotiations can be found in Appendix 26 of the Deadline 1 submission. Discussions commenced with RAMAC on 6 June 2017 through their then agents Finns Chartered Surveyors and have continued with their new agents Glenny. As set out in the Statement of Reasons (Application Ref 4.2) the Applicant is seeking compulsory acquisition powers whilst in parallel negotiating to acquire interests.</p>
RAMAC	R-3	<p>Vattenfall has failed to address any of the issues raised by RAMAC in its PCR and in particular but not restricted to the following:-</p> <ol style="list-style-type: none"> <li>1) The proposed project has an anticipated lifespan of 50 years and it is not therefore necessary for Vattenfall to acquire a freehold interest.</li> <li>2) None of the alternative locations proposed in the PCR have been given any consideration</li> </ol>	<p>The Applicant seeks freehold title where permanent control of the land is required by the Applicant or the interference with the interests of the existing owners is such that acquisition of a lesser interest in land would not be appropriate. This applies in the location of the existing sea wall and plots to the east and west of the same where works to support the cable transition from the sea</p>



Representation Number	Consultee	Issues raised in the Relevant Representation	Applicant's Response
		<p>whatsoever.</p> <p>3) Technical questions raised by the PCR involving the extent of the land required for the substation and the alternative design solutions which may result in no/a reduced permanent land requirement have not been considered.</p>	<p>may be required (Plots 02/05, 01/06, 01/10 and 01/11) and in the location of the onshore substation and its associated compound and permanent landscaping (Plots 02/55, 02/60, 02/61, 02/65, 02/70, 02/75 and 02/85).</p> <p>The approach to site selection is set out in the Environmental Statement and a specific summary and briefing note on this was prepared for RAMAC and sent to them on 6 March 2018</p> <p>Vattenfall responded to a number of technical queries from RAMAC on 2 May 2018.</p>
RAMAC	R-4	<p>RAMAC is concerned that if terms cannot be agreed, the DCO in its present form would enable the Acquiring Authority to take their freehold interest in the majority of Richborough Port and the case for this is not properly addressed.</p>	<p>The nature of the Applicants proposals would necessitate a fundamental change to the land use and the pattern of land occupation at Richborough Port such that acquisition part of the freehold of the former port is reasonably required. The presence of Special Category Land interests as tenants within the area of land proposed for the substation necessitated the inclusion of replacement land within the red line boundary and this replacement land forms part of RAMACs ownership at Richborough</p>

Representation Number	Consultee	Issues raised in the Relevant Representation	Applicant's Response
			Port. The Applicant has been in discussions with the landowner with a view to agreeing terms for a transaction for the necessary rights in land including the replacement land and is hopeful of concluding contracts prior to the close of examination.
RAMAC	R-5	In accordance with Sections 42, 47, 48 and 49 of the Planning Act 2008, Vattenfall has a "duty to take account of responses to consultation and publicity" (Section 49). For the reasons set out above and in the more detailed submission, RAMAC considers that inadequate consultation has taken place Referring to the 'Advice Note 9: Rochdale Envelope' published by Infrastructure Planning Commission February 2011, the question of flexibility is addressed. On page 10 it states:- "Under the 2008 Act it is important to consult comprehensively on the project and to report fully on that consultation. The process should be clear and thorough." RAMAC considers that Advice Note 9 has not been followed in the DCO process and the application now made.	The Applicant has been engaged in an ongoing process of formal and informal consultation and dialogue with the landowner which commenced on 6 June 2017 and is still ongoing. The discussions have been positive, and we have been able to progress detailed discussions around the proposed structure of a property transaction in order to facilitate an early land agreement.
RAMAC	R-6	The Rochdale Envelope makes clear that "flexibility" is not to be abused, and "does not give developers an excuse to provide inadequate descriptions of their projects". RAMAC is not concerned with wind turbines but rather the	The Applicant confirms that they responded on 2 May 2018 to a number of technical engineering queries which RAMAC had raised in their PEIR consultation response explaining why the size of the proposed

Representation Number	Consultee	Issues raised in the Relevant Representation	Applicant's Response
		proposed location and size of the substation which RAMAC submits Vattenfall have failed to justify or explain.	substation is reasonable and technically justified.
RAMAC	R-7	RAMAC is willing to engage in constructive dialogue with Vattenfall for early agreement in respect of the project. However, until this process has been completed or negotiations have been exhausted, RAMAC objects to the the DCO in its present form for the reasons set out and reserves its rights to provide further submissions (beyond those provided to date) during the course of the DCO examination process.	The Applicant is in negotiations with RAMAC in order to secure an early land agreement. The Applicant made their first detailed formal commercial offer on 6 July 2018 and has made several variations and improvements to the offer in response to specific feedback received from RAMAC and commercial negotiations are ongoing. On 21 December 2018 RAMAC confirmed to the Applicant that agreement on the heads of terms had been reached in principle.

## 1.57 RR-057 - Royal Society for the Protection of Birds

60 The Applicant's responses to the Relevant Representation RR-057 is presented in Table 58.

**Table 58: Applicants responses to RR-057**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Royal Society for the Projection of Birds	RSPB-1	The Royal Society for the Protection of Birds (the RSPB) has been involved with the Thanet Extension Offshore Windfarm (TEOW) project as a member of the Onshore Ecology and Offshore Ornithology Expert Topic Group (ETG). Through this process we have endeavoured to inform the design of the scheme to minimise the risk of harm to its ornithological interests. Despite welcome constructive pre-application consultation and discussions, serious concerns with the offshore aspects of the Application remain. As it stands, we do not agree that the current assessment enables a conclusion of no adverse effect on the Special Protection Area (SPA) sites and their species.	This is noted by the Applicant and addressed on a point by point basis, see RSPB-2 to RSPB-17.
Royal Society for the Projection of Birds	RSPB-2	Due to resource constraints, this representation comprises the RSPB's final submission to the Examination however we reserve the right to add to or change this submission should the design of the scheme	This is noted by the Applicant. The Applicant has appreciated the time that RSPB have contributed, both towards onshore and offshore matters.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		change and/or significant new information is submitted.	
Royal Society for the Projection of Birds	RSPB-3	The RSPB is content that, on the basis of the data provided, this project will have no significant impact on the SPA, Ramsar site or SSSI bird features. For clarity we wish to add that whilst we agreed that little terns are unlikely to be affected, this is due to the location of the historical nesting site being at a safe distance from the development area and therefore there will be no risk of being affected, not because little terns are not currently nesting on site.	This is noted and accepted by the Applicant.
Royal Society for the Projection of Birds	RSPB-4	We are aware that the Kent Wildlife Trust will be raising other concerns relating to, among other things, intertidal habitat and we defer to them on those habitat concerns.	This is noted by the Applicant.
Royal Society for the Projection of Birds	RSPB-5	Key elements of the assessment of offshore ornithology, as presented in the Environmental Statement (ES), do not follow SNCB guidance or advice given by Natural England (NE), nor our suggested approach during consultation. We find that the information presented, especially in relation to displacement, to be unsatisfactory, in terms of presenting an assessment of impacts, which does follow	The provision of further justification for the use of alternative buffers, based on site specific data, has been taken as an action by the Applicant following discussion with Natural England. These notes are submitted as Annexes C to F of this representation and have been submitted directly to RSPB.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>recommended guidance, alongside that given in the ES. In addition, some apparent errors in the tables and text, and lack of detail in places, has resulted in an unclear assessment in relation to offshore ornithology, parts of which we consider to be inadequate. These concerns are set out below.</p>	
<p>Royal Society for the Projection of Birds</p>	<p>RSPB-6</p>	<p>Displacement Assessment - Red throated diver: This is a species of key concern within the region that the proposed Thanet extension is situated. Several aspects of the assessment do not follow SNCB guidance (SNCBs (2017)), or the advice given by NE (which we support) during consultation. Specifically, the rates of displacement (82% during construction and 73% during operation) and the spatial extent used (i.e. that consideration have been given to the windfarm area only without any buffer zone). This is justified on the basis of the evidence provided from post-construction monitoring (Royal Haskoning DHV, 2013). Whilst 'local' data and knowledge can be useful in informing an assessment, the report cited has limitations, for example the use of boat-based surveys and the limited buffer-size of the survey area. More robust</p>	<p>The provision of further justification for the use of alternative buffers, based on site specific data, has been taken as an action by the Applicant following discussion with Natural England. The note will be provided to RSPB for consideration.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>sources of 'local' information, include the post-construction reporting from London Array (APEM, 2016); which shows evidence of displacement to at least 6km. We maintain that, in light of this and the wider evidence base suggesting that displacement of red throated divers goes beyond the wind farm footprint, a precautionary approach would be to follow SNCB guidance and assume that up to 100% of birds within the 4km buffer are subject to displacement during both construction and operation.</p>	
<p>Royal Society for the Projection of Birds</p>	<p>RSPB-7</p>	<p>Displacement Assessment - Auks: The assessment for both razorbills and guillemots during construction and operation, also fails to follow SNCB guidance; both in relation to the spatial extent covered and displacement rates used. It is unclear (due to inconsistencies in the text/ table legend) if 500m or 1km buffers were used for razorbill but neither species was assessed using the 2km buffer recommended.</p>	<p>The provision of further justification for the use of alternative buffers, based on site specific data, has been taken as an action by the Applicant following discussion with Natural England. The note will be provided to RSPB for consideration.</p>
<p>Royal Society for the Projection of Birds</p>	<p>RSPB-8</p>	<p>Displacement Assessment - Gannet: Again, SNCB guidance, to include birds within a 2km buffer, has not been followed.</p>	<p>The provision of further justification for the use of alternative buffers, based on site specific data, has been taken as an action by the Applicant following discussion with Natural England. The note will be provided to RSPB for consideration.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
<p>Royal Society for the Projection of Birds</p>	<p>RSPB-9</p>	<p>CRM - Option 2 (using generic flight height distributions) of the Band model is presented within the ES chapter. It is preferable that site-specific data is used to inform collision risk (option 1); if available and robust. Specifically, the data collected during the Offshore Renewables Joint Industry Programme (ORJIP), study of collision and avoidance, which was conducted at Thanet Offshore Wind, are one potential source of site-specific data. We note that in Annex 4-4 these data were not used due to 'ongoing uncertainties' in relation to the Band model. Whilst we agree that the avoidance rates derived in this study are subject to such uncertainty, it is unclear why the flight height data could not be used. Greater detail, in relation to the ORJIP, historical and recent survey data is needed to explain why option 1 was not presented in the ES. Both options 1 and 2 are provided in Annex 4-4; it would therefore be helpful if an indication were given as to how reliable the figures given for option 1 are thought to be (if unreliable, it is unclear as to why they are presented).</p>	<p>The ORJIP is not considered appropriate for Thanet Extension due to uncertainty in its use. Site specific data is very low in numbers, which reflects the very low density of birds present within the site and the associated low risk. As such the CRM model applied is considered to be most appropriate.</p>



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
<p>Royal Society for the Projection of Birds</p>	<p>RSPB-10</p>	<p>CRM - We do not agree with the use of revised Nocturnal Activity Factors in the CRM. For kittiwake and large gulls, there is no peer reviewed evidence for a change in the factor used. The current factor is derived from the expert opinion collected by Garthe and Hüppop (2004) and this use is endorsed by Band (2012). A review of seabird vulnerability to offshore wind farms (Furness et al., 2013) recommended that no changes be made to the nocturnal activity scores for these species, and an update, including the same authors (Wade et al., 2016) maintained this recommendation. For gannet, there is a peer reviewed paper with revised rates (Furness et al., 2018). While we welcome this review, we are concerned that the mortalities predicted using revised nocturnal activity rates for gannet are potentially underestimated, because they do not account for the fact that the timing of bird surveys might not coincide with peaks in foraging activity at first and last light (see Fig. 3 in Furness et al., 2018). As well as gannet, this is true for all other species concerned. In addition, the Band (2012) model considers the nocturnal period as between sunset to sunrise and so</p>	<p>A clarification note is being drafted in answer to this and questions raised by Natural England. The note will be provided to RSPB for consideration.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>treats flight activity that occurs at twilight as being within the nocturnal flight period. The reduced factor, now used for gannet in the CRM, equates to 0% nocturnal activity. Evidence shows that gannet will forage at twilight, and so these flights are excluded when using the revised activity factor. All of the above means that the figures presented in the ES for collision risk may represent an underestimate for all species.</p>	
<p>Royal Society for the Projection of Birds</p>	<p>RSPB-11</p>	<p>Cumulative &amp; In-comb - Displacement: We have concerns with the methodological approach used to assess cumulative and in-combination displacement for red throated divers. To date, we have not been provided with sufficient detail to enable us to determine its robustness or suitability. Such detail is not provided in the ES or Annexes. For example, apparent inconsistencies in the predicted increase in background mortality in relation to the impact of 'Thanet Extension alone' on the Outer Thames Estuary SPA, presented in paragraph 11.4.12 (at 0.7%) and Table 12.13 (at 0.024%) of the Report to Inform the Appropriate Assessment (RIAA), are of concern and need further explanation.</p>	<p>The provision of further justification for the use of alternative buffers, based on site specific data, has been taken as an action by the Applicant following discussion with Natural England. The note will be provided to RSPB for consideration.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Royal Society for the Projection of Birds	RSPB-12	Cumulative & In-comb - Collision: The in-combination assessment of collision impacts, within the RIAA, focuses on the contribution made by this extension application rather than the total impact 'in-combination' from across all sites.	It is considered appropriate to identify the project's contribution to cumulative/in combination effects as it is this factor that is most relevant when considering the potential project consent.
Royal Society for the Projection of Birds	RSPB-13	Red throated diver: Had SNCB guidance been followed, 696 divers would be subject to displacement impacts vs the 195 (construction) or 174 (operation) presented in the current assessment. We therefore consider the current magnitude of the impacts of displacement on red throated divers to represent a substantial underestimate. Lack of clarity and the uncertainties surrounding the methods used for the cumulative assessment of displacement, mean we cannot currently agree with the conclusions in relation to the magnitude of this impact on red throated diver.	The provision of further justification for the use of alternative buffers, based on site specific data, has been taken as an action by the Applicant following discussion with Natural England. The note will be provided to RSPB for consideration.
Royal Society for the Projection of Birds	RSPB-14	For the in-combination assessment of red throated diver displacement, presented in the RIAA, lack of detail relating to the methods, especially in relation to assessing the absolute impact (additional mortality) mean we cannot currently agree with the conclusion of "no potential for AEol to the	A clarification note has been drafted in answer to this and questions raised by Natural England. The note will be provided to RSPB for consideration.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		red-throated diver feature of the Outer Thames Estuary SPA in relation to in-combination disturbance and displacement effects".	
Royal Society for the Projection of Birds	RSPB-15	The consequences of changes in background mortality (even of a small magnitude) on red- throated diver populations are not currently well understood. In order for a clearer understanding of this, particularly in relation to the in-combination impacts, we recommend that a population model is run, and that counterfactual output metrics are presented (Cook & Robinson, 2017); pending the resolution of the issues surrounding the assessment methods used.	This is not considered necessary for this project given the recognition that overall it is of low importance towards regional populations of red throated diver, as is evidenced by its exclusion from the proposed SPA boundary revisions (and site specific data illustrating low numbers).
Royal Society for the Projection of Birds	RSPB-16	Auks: For guillemots the annual estimate given in the ES of 552 individuals subject to displacement falls within the range of 336-782 that would have been estimated, if the recommended 30-70% displacement including a 2km buffer had been used. For razorbills this is less clear, as it was not possible to compare the annual displacement due to an apparent error in table 17 of annex 4-3. However; the 'spring' data for razorbills suggest displacement of 33 individuals (given in the ES) was an underestimate (38-87 would have been	The provision of further justification for the use of alternative buffers, based on site specific data, has been taken as an action by the Applicant following discussion with Natural England. The note will be provided to RSPB for consideration.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>estimated if SNCB guidance were followed). Overall, it is likely that auk displacement has been underestimated (relative to the most precautionary 70% displacement), but less severely than for red throated divers.</p>	
<p>Royal Society for the Projection of Birds</p>	<p>RSPB-17</p>	<p>Collision risk: It is the RSPB opinion that the overall in-combination impact cannot be considered non-significant based only on an assessment of the magnitude of the extension application's contribution. This is especially pertinent when it comes to gannets and kittiwakes since very large impacts have already been predicted on these SPA populations in the southern North Sea (for example see East Anglia Three, in-combination totals (Royal Haskoning DHV et al., 2015).</p>	<p>As noted previously it is only the projects contribution towards a cumulative effect that is considered relevant as it is only this factor that the Applicant can control.</p>

### 1.58 RR-058 - Thanet District Council

61 The Applicant's responses to the Relevant Representation RR-058 is presented in Table 58.

**Table 59: Applicants responses to RR-058**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
Thanet District Council	TDC-1	Thanet District Council are supportive of proposals which generate renewable energy as a key tenant in the economic, social and environmental dimensions of sustainable development within the National Planning Policy Framework. The issues outlined in the Council's pre-application response comprised the visual impacts of the development, potential impact on air quality from the on-shore construction works, noise and nuisance impacts from on-shore work, impact on land quality from ground works during construction, socio-economic and tourism impacts and shipping and navigation issues.	The feedback from Thanet District Council is noted and welcomed by the Applicant.
Thanet District Council	TDC-2	The Nationally Significant Infrastructure Project (NSIP) application has taken account of the matters raised throughout the process by the Council. It is considered that the main issues to be considered by the Examining Authority from Thanet District Council's perspective are:	The feedback from Thanet District Council is noted and welcomed by the Applicant.

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<ul style="list-style-type: none"> <li>- The visual impact of the new turbines on the seascape and landscape character area designations within the district.</li> <li>- Impacts from the construction works and operation on land quality, human health, controlled waters and ecological receptors from onshore development.</li> </ul>	
Thanet District Council	TDC-3	<p>The Council does not object to the development on the issues raised above, however believes that these matters should be carefully considered by the Examining Authority. In particular, the Council raises concern at this stage over the short-term construction and long-term operational impacts from noise from the substation at night on residential receptors in Ebbsfleet, and the potential impacts from contaminant releases at the landfill site during the construction phase.</p>	<p>Control of contamination from the landfill site at Pegwell Bay Country Park and other areas within Order Limits is secured through Requirement 19 of the DCO (Contaminated land and groundwater plan). This plan must detail mitigation to control the potential for release of contaminants and is to be approved by the relevant planning authority. The basis for the Contaminated Land and Groundwater Plan (CLGP) is set out in section 7 of the Code of Construction Practice (PINS Ref APP-133/ Application Ref 8.1).</p> <p>With regard to noise impacts, the assessment for the receptors at location LT4 concludes a minor adverse effect from construction noise (paragraph 10.10.26 of Volume 3, Chapter 10: Noise and Vibration (PINS Ref APP-066/ Application Ref 6.3.10) of the Environmental Statement). The Code of Construction Practice (PINS Ref APP-133/ Application Ref 8.1) sets out measures to be incorporated in a Construction Noise and Vibration Management Plan to ensure best practical means are employed in accordance with BS5228 'Code of Practice</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>for Noise and Vibration Control on Construction and Open Sites'. This is secured through Requirement 20 (Construction noise and vibration management plan).</p> <p>The Applicant therefore considers that the construction noise effects for receptors at LT4 have been fully assessed in the Environmental Statement and suitable control measures are secured.</p> <p>Operational noise has been assessed for receptors at LT4 as being of minor adverse significance and below World Health Organisation (WHO) guidelines, as set out in paragraph 10.11.2 of the Noise and Vibration chapter (PINS Ref APP-066/ Application Ref 6.3.10).</p> <p>Furthermore, operation noise is controlled by Requirement 25 (Control of noise during operational phase). This requirement states that Thanet District Council, as the relevant planning authority, must approve an operational noise management plan including any monitoring, attenuation or applicable noise limits deemed necessary, prior to operation. These control measures, alongside the assessed minor effect in the Environmental Statement, ensure that operational noise will not lead to significant effects for receptors at LT4.</p>
Thanet District Council	TDC-4	The Council's concern on noise impact from construction and operation of the	Please see the Applicant's response to TDC-3.



Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		substation relates to 8 residential receptors (denoted as LT4 within the Environmental Statement Volume 3 Chapter 10) and we will continue to assess the information provided with the application and engage with the applicant on this matter.	
Thanet District Council	TDC-5	The requirement for intrusive site investigation works and groundwater monitoring prior to construction, necessary to inform appropriate mitigation, and how this is secured through the Development Consent Order requirements, will be assessed in subsequent submissions by the Council.	The Applicant notes the representation and will consider the Council's submissions upon receipt.
Thanet District Council	TDC-6	The Council does not raise any objection with the assessment of significant effects within the Environmental Statement on the matters within the application as submitted, except for significance of impact on residential receptors at LT4 from noise.	Please see the Applicant's response to TDC-3.
Thanet District Council	TDC-7	The Council are content that the Thanet's historic landscape has been considered in the submission and that the conclusion that the impact on the overall character and significance of the heritage assets in the district (above ground) would be limited.	The feedback from Thanet District Council is noted and welcomed by the Applicant.
Thanet District Council	TDC-8	Concerns previously raised regarding the potential impact on the tourism economy	The feedback from Thanet District Council is noted and welcomed by the Applicant. Impacts on tourism have

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		relate to the impact on the seascape and landscape character areas designations from the development. This impact is not quantifiable and therefore is not brought forward as a main issue by the Council, but as a general concern.	been assessed in Volume 3, Chapter 4 (Tourism and Recreation) of the ES (PINS Ref APP-060/ Application Ref 6.3.4). This assessment has considered the effect that visual impacts may have on tourism, drawing on the outcomes of the Landscape and Visual Impact Assessment (PINS Ref APP-058/ Application Ref 6.3.2). The chapter concludes that effects on tourism economy are of minor adverse significance during operation which is not significant in EIA terms.
Thanet District Council	TDC-9	The Council considers that the submission deals with the concerns raised in relation to shipping and navigation issues through the changes made to the project.	The feedback from Thanet District Council is noted and welcomed by the Applicant.
Thanet District Council	TDC-10	With regard to other matters such as traffic and transport, archaeology and ecology, we would defer to the appropriate agencies and organisations already involved in the process.	The feedback from Thanet District Council is noted and welcomed by the Applicant.

### 1.59 RR-059 - National Trust

62 The Applicant's responses to the Relevant Representation RR-059 is presented in Table 60.

**Table 60: Applicants responses to RR-059**

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
National Trust	NT-1	<p>The National Trust does not consider that para 2.6.81 of the Renewable Energy Infrastructure (NPS EN-3) statement has been adequately addressed. It is considered that the explanation for the choice of cable landfall across the Pegwell Bay inter-tidal mud flats (owned by the National Trust) is insufficient.</p>	<p>NPS EN-3 paragraph 2.6.81 requires assessment of installing cables in the intertidal zone and this has been undertaken for all phases of the project in the offshore chapters of the Environmental Statement, in particular Volume 2, Chapter 5: Benthic and Intertidal Ecology (PINS Ref APP-0476/ Application Ref 6.2.5) and Volume 2, Chapter 2: Marine Geology, Oceanography and Physical Processes (PINS Ref APP-043/ Application Ref 6.2.2).</p> <p>As required by paragraph 2.6.81 of NPS EN-3, alternative landfall sites have been considered and the rationale for choosing Pegwell Bay is set out in detail in Volume 1, Chapter 3: Site Selection and Alternatives (PINS Ref APP-040/ Application Ref 6.1.4) of the Environmental Statement. Compliance with NPS EN-1 and EN-3 with respect to the assessment of alternatives is further described in Section 7.2 of the Planning Statement (PINS Ref APP-0134/ Application Ref 8.2).</p> <p>It should also be noted that two other electricity</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
			<p>cables have been installed in Pegwell Bay, namely the Thanet Offshore Wind Farm export cables and the recent Nemolink Interconnector cables. Alternative installation methodologies at landfall have been considered and optionality has been retained as part of the Application as set out in Section 1.5 of Volume 3, Chapter 1: Onshore Project Description (PINS Ref APP-057/ Application Ref 6.3.1) of the Environmental Statement.</p>
National Trust	NT-2	<p>The National Trust supports the objection of the Kent Wildlife Trust (who lease and manage the on shore areas owned by the National Trust) as follows;                      "Alternative routes with less of an impact on designated areas have not been adequately assessed. KWT has repeatedly requested the evidence behind the claim made by the applicant that there is ecological parity between the chosen landfall (Pegwell Bay) and other potential (since discounted) landfall options. Without this we cannot accept arguments of parity since the original options show high-levels of variability in areas of designated onshore and inter-tidal habitats affected."</p>	<p>Please see the Applicant's response to NT-1.</p>
National Trust	NT-3	<p>Para 4.2.8. of the Environmental Statement Volume 1 Chapter 4: Site Selection and Alternatives notes that;</p>	<p>Please see the Applicant's response to NT-1.</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>".... (NPS EN-3) states at paragraph 2.6.81 that the applicant should include an assessment of the effects of installing cable across the intertidal zone which should include information, where relevant, about: "any alternative landfall sites that have been considered by the applicant during the design phase and an explanation for the final choice"</p>	
National Trust	NT-4	<p>Our issue relates to the screening out of the Joss Bay route options 1 &amp; 2 at the initial options appraisal stage. Para 4.8.15 notes the impact of the landfall at Joss Bay on the chalk habitats, but the stated reason in the summary of initial appraisal (table 4.6) is that;                      "Landfall through hard ground present representing significant challenge to offshore burial that it was not considered could be overcome with appropriate engineering solutions. Onshore route generally acceptable with land use considerations/agricultural land being primary issue." Requests for further information in support of the screening out of Joss Bay have not provided any additional detail about the impacts on the chalk habitats or the engineering solutions</p>	<p>The rationale for the decision to remove Joss Bay from the site selection process is set out in Section 4.8 of Volume 1, Chapter 4: Site Selection and Alternatives (PINS Ref APP-040/ Application Ref 6.1.4) of the Environmental Statement. The key issue with the 'hard ground' as was identified during initial studies is the likelihood of direct, long term impact on areas of designated chalk reef habitat. This is set out in paragraph 4.8.15 of the chapter. It was considered that this would lead to unacceptable impacts on this habitat and was a significant reason for removing this route option.</p> <p>It should be noted that on the chosen offshore export cable corridor the Applicant has been requested by Natural England in their Relevant Representation to ensure cables and cable protection are sited outside of designated chalk reef habitat for this exact reason (see the Applicant's response to NE-427). The Applicant has</p>

Consultee	Representation Number	Issues raised in the Relevant Representation	Applicant's Response
		<p>required to overcome the 'hard ground' challenge. As the initial assessment accepted that the route was otherwise viable, this information is significant in the screening out of this option. Given the lack of this information regarding the screening out of the Joss Bay options relating to the inter tidal route at Pegwell Bay and the mixed information provided in the summary, the National Trust is unable to assess the planning balance made in the selection of the Pegwell Bay chosen route over the rejected Joss Bay route. The National Trust maintains its objection to the site selection process and the inadequacy of the level of information given in the Environmental Statement to justify the option chosen.</p>	<p>committed to not installing cables or cable protection in these areas (see the Applicant's response to NE-174).</p>

### 1.60 Port of Tilbury

63 The Applicant's responses to the email received by the Port of Tilbury is presented in Table 60.

**Table 61: Applicants responses to the Port of Tilbury**

Consultee	Representation	Issues raised in the Relevant Representation	Applicant's Response
Port of Tilbury	Email ref	PoTLL wishes to be heard at the ISH scheduled for 12 December 2018 in respect of Marine, Shipping, Navigation and Safety Issues. PoTLL considers that point 2 of the agenda: "Effects on Ports, Harbours, Channels and Related Facilities" would be the most pertinent to its interests and wishes to be given an opportunity to respond to the ExA's questions 2 (a)-(f). The Port of Tilbury is located in the Thames Estuary and it will therefore be impacted by the Thanet Extension OWF.	The Applicant noted this representation and no further response is necessary.

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