Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Annex F to Appendix 8 to Deadline 8 Submission: Applicant's response to ExA's further requests for information under EPR Rule 17 – 4.1.5

Relevant Examination Deadline: 8

Submitted by Vattenfall Wind Power Ltd

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Revision A

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Revision A	Original Document submitted to the Examining Authority
Revision A	Original Document submitted to the Examining Authority at D7
Revision A	Original Document submitted to the Examining Authority at D8
N/A	

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Tables

1 Introduction

1 This document seeks to provide a single source of information which listing all documents submitted into the Thanet Extension Offshore Wind Farm (Thanet Extension) examination in relation to Habitat Regulation Authority (HRA) matters.

2 This document provides the Applicant's response to the Examining Authorities (ExA's) further requests for information, under EPR Rule 17, question 4.1.5:

Submit at D7 a single document that lists all of its examination submissions that inform, supplement or clarify its HRA findings. For simplicity, this could be a document that provides a summary updated version of the information presented in summary tables 1-3 contained in [REP5-016].

3 This document has been submitted into Deadline 6A to provide all parties with additional time to review its content. The Applicant also intends to submit this document (Revision A) as an annex to the Explanatory Memorandum as part of their Deadline 7 Submission to secure this document and ensure that it is easily discoverable for potential future users.

4 The Applicant revised the Report to Inform Appropriate Assessment (RIAA) (Revision B) to account for project description changes (namely the removal of the Option 2 landfall design and the expansion of the cable exclusion area in the offshore export cable corridor). Revision B of the RIAA superseded the version of the RIAA which was submitted by the Applicant within their Application.

5 The documents which have been submitted into the Thanet Extension examination to clarify, inform or supplement the RIAA in relation to HRA matters are:

- Annex C to Appendix 1 to Deadline 1 Submission: Red-throated diver cumulative (EIA) and in-combination (HRA) impact assessment methodology (PINS Ref (REP1-023);
- Annex D to Appendix 1 to Deadline 1 Submission: Displacement of red-throated divers for Thanet Extension project alone (PINS Ref (REP1-023);
- Annex E to Appendix 1 to Deadline 1 Submission: Displacement of seabirds (other than red-throated diver) (PINS Ref (REP1-023);
- Annex F to Appendix 1 to Deadline 1 Submission: Collision Risk Modelling Parameters and Thanet Extension's Contribution to Cumulative and In-combination Totals) (PINS Ref (REP1-023);
- Appendix 21 to Deadline 2 Submission: Report to Inform Appropriate Assessment (Revision B) (PINS Refs REP2-018 and REP2-019);

- Annex A to Appendix 21 to Deadline 2 Submission: HRA Matrices (Revision B) (PINS Ref REP2-004 which supersedes PINS Ref APP-032 and APP-033);
- Appendix 1 to Deadline 3: Response to ExA Action Points arising from Issue Specific Hearing 3 (PINS Ref REP3-002) [Action Points 9 and 10];
- Appendix 23 to Deadline 4 Submission: Review of the ES and RIAA in relation to the Structure Exclusion Zone (PINS Ref REP4-027);
- Appendix 19 to Deadline 4 Submission: The consequences of the SEZ on assessment of Red throated Diver interest feature of OTE SPA alone and in-combination (PINS Ref REP4-023) (collated into PINS Ref REP4B-016);
- Appendix 25 to Deadline 4 Submission: Offshore Ornithology In-combination Effects Position Paper on Kittiwake and the FFC SPA (PINS Ref REP4-029) (collated into PINS Ref REP4B-016);
- Appendix 4 to Deadline 4B Submission: Addendum to the RIAA (PINS Ref REP4B-015);
- Appendix 32 to Deadline 5: SAC and MCZ Clarification Note and Annexes (PINS Ref REP5-047);
- Appendix 8 to Deadline 5: Response to ExA Action points arising from Issue Specific Hearing 8 - Natural Environment and Commercial Fishing (PINS Ref REP5-015);
- Annex A to Appendix 8 to Deadline 5: Applicants Response to ISH8 Action Points 1 (b), 2 (d) and 9 (b) (PINS Ref REP5-016);
- Appendix 14 to the Deadline 6 Submission: Statement of Common Ground – Natural England Offshore Ornithology (PINS Ref REP6-015);
- Appendix 15 to the Deadline 6 Submission: Statement of Common Ground – Natural England Technical Topics (excluding Offshore Ornithology, Saltmarsh, and Site Selection) (PINS Ref REP6-016);
- Appendix 16 to the Deadline 6 Submission: Deadline 6 Submission - Appendix 16: Statement of Common Ground – Natural England - Project Description, Site Selection and Alternatives; and Saltmarsh (PINS Ref REP6-019);
- Appendix 43 to Deadline 6 Submission: Applicants Response to Natural England's responses to ISH8 Action Points and the Applicants Deadline 5 Submissions on HRA matters (offshore ornithology and marine mammals) (PINS Ref REP6-065); and
- Appendix 58 to Deadline 6 Submission: Outline Site Integrity Plan (PINS Ref REP6-077 which supersedes REP4-022 (and REP2-033)).

6 Hereafter these submissions will be referred to by the Planning Inspectorate's referencing system (PINS Refs).

7 The three sites which additional clarifications have been provided for are:

- Flamborough and Filey Coast (FFC) Special Protected Area (SPA);
- Outer Thames Estuary (OTE) SPA; and
- Southern North Sea (SNS) Special Conservation Area (SAC).

8 The following tables (as taken from PINS Ref REP5-016) have been updated to provide a summary of evidence presented by the Applicant to support the conclusion of no Adverse Effect on Integrity (AEoI) as a result of the project alone or in-combination:

- Table 1: Summary of the evidence presented by the Applicant to support the conclusions of no AEoI with respect to the Flamborough and Filey Coast SPA (kittiwake);
- Table 2: Summary of the evidence presented by the Applicant to support the conclusions of no AEoI with respect to the Outer Thames Estuary SPA (Red Throated Diver); and
- Table 3: Summary of the evidence presented by the Applicant to support the conclusions of no AEoI with respect to the Southern North Sea SAC (harbour porpoise).

1.1 Evidence supporting no AEoI with respect to the Flamborough and Filey Coast SPA (gannet).

9 The Applicant notes that the matter of in-combination effects on gannet as a feature of FFC SPA was raised quite late in the examination (at Deadline 5). Therefore, the most relevant technical clarification for this effect is presented in PINS Ref REP6-065. The Applicant's position is presented in PINS Ref REP6-015 and has concluded **no AEoI for the project alone or in-combination**. No AEoI has been agreed with Natural England for the project alone, but owing to the uncertainty of the effect of other projects, not yet consented, the Applicant has not reached agreement with Natural England for no AEoI for gannet in-combination for FFC SPA.

1.2 Evidence supporting no AEoI with respect to the Flamborough and Filey Coast SPA (kittiwake)

Table 1: Summary of the evidence presented by the Applicant to support the conclusions of no AEoI with respect to the Flamborough and Filey Coast SPA (kittiwake)

Document	PINS Reference	Section	Site/ feature	Conclusion
Report to Inform Appropriate Assessment (Revision B)	REP2-018 and REP2-019	11.4 (paragraph 11.4.146 inter alia, concluding 11.4.149)	FFC SPA/ Kittiwake	Collision risk during operation. Concluded **no AEoI alone**.
		12.4 (paragraph 12.4.26 inter alia, concluding 12.4.33)	FFC SPA/ Kittiwake	Collision risk during operation. Concluded **no AEoI in-combination**.
Deadline 4 Submission - Appendix 23: Review of the ES and RIAA in relation to the Structure Exclusion Zone	REP4-027	Table 2	FFC SPA/ Kittiwake	Screened out - **no increase in the maximum adverse scenario assessed** (small increase in range from 311.47 km to 312.07 km).
Appendix 25 to Deadline 4 Submission: Offshore Ornithology In-combination Effects Position Paper on Kittiwake and the FFC SPA	REP4-029	Section 1.2	FFC SPA/ Kittiwake	(1) The **absence of an** AEoI on the kittiwake feature of FFC SPA from Thanet Extension **alone**; (2) The **absence of AEoI** on the kittiwake feature of FFC SPA from Thanet Extension **in-combination**, given the absence of any appreciable contribution from Thanet Extension; and (3) The findings with respect to kittiwake are between 0.60 and 1.63 birds per annum for FFC SPA, which is agreed as **not adverse** on this site. **The existing baseline with regards other consents is such that there has been no finding of an existing AEoI in-combination, and the contribution of Thanet Extension does not alter this position**. Where Natural England consider there to be a potential existing AEoI (although the reasons behind that view point are not clear or quantified) **there is no suggestion from either party that the ~1 kittiwake contribution made by Thanet Extension to FFC SPA causes any appreciable effect**.
		Table 1	FFC SPA/ Kittiwake	Provides evidence that: (1) **All existing consented offshore wind farms were consented on a basis of no AEoI** alone or in-combination with respect to the FFC SPA; and (2) **Two existing OWF shortly to be decommissioned** (Blythe (licence to decommission Blyth granted November 2017[1], with decommissioning work commencing April 2019[2], expected to last 4-6 weeks[3]) and Beatrice Demonstrator planned for complete decommissioning as part of the decommissioning of the oil platform (to which it supplies power), with removal of the wind turbine 'topside'

[1] http://portofblyth.co.uk/decommissioning-licence-approved/
[2] https://www.offshorewind.biz/2019/04/24/first-uk-offshore-wind-farm-disappears-from-horizon/
[3] https://www.eonenergy.com/about-eon/media-centre/eons-blyth-offshore-wind-farm-to-be-decommissioned-bringing-to-a-close-its-pioneering-contribution-to-the-development-of-renewable-technology/

Document	PINS Reference	Section	Site/ feature	Conclusion
				(including the blades) decommissioned before the 'jackets' (foundation) in 2025-2027[4]. Beatrice decommissioning was approved by BEIS in January 2019[5]). **The two projects have a combined predicted collision risk of 0.65 (i.e. directly comparable to the Applicant's predicted collision risk for Thanet Extension)**; (3) **A number of projects have not built out (or will not be built out) to the maximum WTGs assessed**, e.g. Triton Knoll (288 turbines assessed, reduced to 90 through a non material change), EAONE (325 turbines assessed, 102 foundations installed), Rampion (175 turbines assessed, 116 installed), Hornsea One (240 turbines assessed, 174 foundations installed), Hornsea Two (300 turbines assessed, 165 foundations expected to be installed). **The result is a significant over estimate in the in-combination collision risk totals when comparing the assessed projects to the constructed projects** (a conclusion supported by The Crown Estate's 'Headroom' report[6]. [The overall aim of The Crown Estate's 'Headroom report' was to understand '*how much potential wind farm capacity [in terms of collision risk] is currently 'locked-up' in existing wind farm consents. This results from differences between impact assessments for proposed wind farm designs, which are typically derived using worst-case options for turbine dimensions and numbers, and as-built wind farms, which to date have invariably been smaller or make use of advancements in turbine technology to achieve planned power generation with fewer, larger turbines*.' This report provided evidence of available headroom on the basis of recalculating the collision risk from consented, as-built and planned offshore wind farms for kittiwake at the FFC SPA of 40 individuals (i.e. the difference between the original and updated collision estimates). The evidence provided in The Crown Estate's headroom report strongly suggests that current collision risk estimates for kittiwake are an overestimate. It was also concluded that further headroom could be found for kittiwake in relation to considering evidence that supports continuing revisions to CRM input parameters such as nocturnal flight activity rates.]
Deadline 6 Submission - Appendix 14: Statement of Common Ground – Natural England - Offshore ornithology	REP6-025	Table 3	FFC SPA/ Kittiwake	**No AEoI of FFC SPA is agreed for the project alone**. In-combination – not agreed. Applicants position: The Applicant recognises that Natural England's opinion is that it is not possible to rule out the potential of an AEoI on the kittiwake population of the FFC SPA from other plans and projects. However: (1) It is acknowledged that the **relevant in-combination projects** are other plans and projects, including projects which have been **approved by the Secretary of State** on

[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/772806/Beatrice_Decommissioning_Programmes.pdf
[5] https://www.gov.uk/guidance/oil-and-gas-decommissioning-of-offshore-installations-and-pipelines#table-of-approved-decommissioning-programmes
[6] MacArthur Green (2017). *Estimates of Ornithological Headroom in Offshore Wind Farm Collision Mortality.* The Crown Estate, London.

Document	PINS Reference	Section	Site/ feature	Conclusion
				the basis that there would be **no AEoI in-combination** on the SPA; (2) **Thanet Extension would not cause any appreciable effect on the wider in-combination effects** relating to the mortality of this species which arise from those plans and projects; and (3) **Thanet Extension would not cause an AEoI to arise as a result of this project being included as part of an in-combination assessment**.
Norfolk Vanguard Offshore Wind Farm Offshore Ornithology Assessment Update for Deadline 6[7]	Reference made by the Applicant at Deadline 5 (and ISH8)	Executive Summary	FFC SPA/ Kittiwake	A post-submission note for Norfolk Vanguard, presenting an **updated assessment of potential impacts from collision risk on kittiwake** connected to the **FFC SPA** that might arise from the operation of **Norfolk Vanguard alone and in-combination** was assessed from Thanet Extension's perspective. The assessment provides predictions using Natural England's preferred **precautionary approach** and the Norfolk Vanguard's preferred **evidence based methods**. The findings from this post-submission note were that there would be **no AEoI due to kittiwake collisions** at Norfolk Vanguard **alone or in-combination** (noting that Thanet Extension formed part of that in-combination assessment). The post-submission note considered and presented the most up-to-date collision risk estimates alongside an updated Population Viability Analysis (PVA) in order to provide the ExA with a robust account of collision risk to kittiwake from the FFC SPA from offshore wind farms.
		Paragraph 67 and 69	FFC SPA/ Kittiwake	The **in-combination** (including Hornsea Three) all age class total **annual kittiwake collision estimate** apportioned to **FFC SPA is 495.2**, of which Thanet Extension was considered to contribute 1.4 (towards the precautionary end of the Thanet Extension predicted contribution). The PVA model was an update of similar models produced for Hornsea Project Two, with the addition of a matched-run approach for calculating counterfactual outputs and **an extended simulation period (35 years)**. Simulations were conducted with and without density dependence and were summarised as the counterfactual of population size and population growth rate. The outputs from this model were presented as additional adult mortality, therefore **the total FFC SPA estimates were converted to adults by multiplying by the adult proportion (53%)**. Thus, the all age class estimate including Hornsea Project Three of 495.2 **comprises 262.4 adults**, and without Hornsea Project Three the all age total of 337.4 **comprises 178.8 adults**. The outputs from these models for adult mortality levels of 200 and 300 (the closest upper values to these totals).
		Paragraphs 70 and 72	FFC SPA/ Kittiwake	The **maximum reduction** in the **population growth rate** (including Hornsea Three), a mortality rate of 300 individuals per annum, using the more precautionary density independent model was **0.3%.** Using the **more realistic** density dependent model, the

[7] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-002764-ExA;%20AS;%2010.D6.17_Norfolk%20Vanguard%20Offshore%20Wind%20Farm%20Offshore%20Ornithology%20Assessment%20Update%20for%20Deadline%206.pdf

Document	PINS Reference	Section	Site/ feature	Conclusion
				maximum reduction in growth rate (including Hornsea Three) was **0.1%.** The **kittiwake breeding population** at the FFC SPA has remained **relatively stable** around an average of approximately 40,000 pairs over the **last 20 years**. The RSPB also reported that **since 2000** the population has grown by 7% which would equate to **0.4% annual growth rate** (RSPB unpublished report), with the latest population estimate for kttiwake at the FFC SPA being 45,504 pairs (91,008 individuals) in 2017. Therefore, the **kittiwake population** appears to be in **favourable conservation status** and the relevant conservation objective is to **maintain** this status, subject to **natural change**. On the basis of the population model predictions the number of predicted in-combination kittiwake collisions attributed to the FFC SPA is not at a level which would trigger a risk of population decline, but may result in a slight reduction in the growth rate currently seen at this colony. [The findings from this report demonstrate that no AEoI is apparent with respect to the kittiwake feature of the FFC SPA, with respect to Thanet Extension alone or in-combination with other projects. It also makes it very clear that there is only a very small contribution made by Thanet Extension to the in-combination totals, with the 0.60 to 1.63 individuals representing 0.20% to 0.54% with respect to the maximum mortality rate of 300 individuals per annum in the more precautionary density independent model assessed.] **The worst case in-combination effect will therefore not be sufficient to prevent the FFC SPA kittiwake population from continuing to grow. It is therefore difficult to reconcile how, even as a highly precautionary worst case, a predicted in-combination impact that would not prevent the continued growth of that population, could be viewed as being an AEoI on site integrity (as maintained by Natural England). It is the position of the Applicant that such an in-combination impact does not represent an AEoI on kittiwake from the FFC SPA.**
Appendix 43 to Deadline 6 Submission: Applicants Response to Natural England's responses to ISH8 Action Points and the Applicants Deadline 5 Submissions on HRA matters (offshore ornithology and marine mammals)	REP6-065	Section 3	FFC SPA/ kittiwake	Given the very small numbers attributed to Thanet Extension in the context of the existing headroom and in light of recent agreed changes to both Triton Knoll and for the Dogger Bank Creyke Beck projects that **provide headroom in excess of the very small contribution that Thanet Extension makes to the overall in-combination total**. the Applicant disagrees with Natural England's position on the project in-combination, instead finding no AEoI.

1.3 Evidence supporting no AEoI with respect to the Outer Thames Estuary SPA (Red Throated Diver)

Table 2: Summary of the evidence presented by the Applicant to support the conclusions of no AEoI with respect to the Outer Thames Estuary SPA (Red Throated Diver)

Document	PINS Reference	Section	Site/ feature	Conclusion
Report to Inform Appropriate Assessment (Revision B)	REP2-018 and REP2-019	11.4 (paragraph 11.4.7 inter alia, concluding 11.4.14)	OTE SPA /RTD	Risk of disturbance and displacement during construction and decommissioning. Concluded **no AEoI alone**.
		11.4 (paragraph 11.4.66 inter alia, concluding 11.4.72)	OTE SPA/RTD	Risk of disturbance and displacement during operation. Concluded **no AEoI alone**.
		12.4 (paragraph 12.4.3 inter alia, concluding 12.4.10)	OTE SPA/RTD	Risk of disturbance and displacement during construction and decommissioning. Concluded **no AEoI in-combination**.
		12.4 (paragraph 12.4.12 inter alia, concluding 12.4.25)	OTE SPA/RTD	Risk of disturbance and displacement during operation. Concluded **no AEoI in-combination**.
Appendix 1, Annex C of Deadline 1 Submission: Red-throated diver cumulative (EIA) and in-combination (HRA) impact assessment methodology	REP1-023	Paragraph 32	OTE SPA/RTD	The report considered two scenarios for Thanet Extension: (1) The **SNCBs default scenario** of **100%** displacement **within the array** area and **100%** displacement out to **4 km** from the boundary of the turbine array (SNCBs, 2017); and (2) The **scenario developed from the local site based evidence** that results from the monitoring of the Thanet Offshore Wind Farm of **73% displacement within the turbine array and no displacement outside** the boundary of the turbine array.
		Paragraph 64		**Displacement may** result in the **mortality of a proportion** of the RTD displaced. **Definitive** mortality **rates** associated with displacement for any seabird are **not known** and **precautionary estimates** have to be used. The approach taken in the assessment of Thanet Extension is to consider a **range of mortality** rates, for this species the lower limit is **1%** mortality resulting from displacement and the upper limit is **5%**.
		Table 13		**Change in background mortality** predicted to result from Thanet Extension alone giving rise to 1% or 5% mortality, **scenario no displacement outside** OWF (**scenario 2** above): **0.05 RTDs** (1% mortality) to **0.25 RTDs** (5% mortality), which equates to an increase in mortality of 0.005% to 0.024% relative to background mortality.
		Table 14		**Change in background mortality** predicted to result from Thanet Extension alone giving rise to 1% or 5% mortality, **scenario 100% displacement in 4 km** buffer (**scenario 1** above): **0.2 RTDs** (1% mortality) to **1.01 RTDs** (5% mortality) which equates to an increase in mortality of 0.020% to 0.098% relative to background mortality.
Appendix 1, Annex D to Deadline 1 Submission: Displacement of red-throated divers for Thanet Extension project alone		Paragraph 1		Focus on providing **evidence in support** of the uniq**ue nature of Thanet Extension** with respect to potential **displacement of RTD**, with that potential being **less than** that found at **other, larger OWFs** studied elsewhere across its non-breeding range.
		Paragraph 14		The **assessment of displacement** for **Thanet Extension** is **aided by extensive post-consent monitoring** survey data, analysis and reporting available on non-breeding seabirds (particularly **RTD**) within and in close proximity to the **Thanet OWF**. Given the **data on RTD disturbance and displacement** was **recent and site-specific**, it was given **greater weight**

Document	PINS Reference	Section	Site/ feature	Conclusion
				over **other data sources** from constructed OWFs in more distant parts of the **North Sea**.
		Table 3		**Average monthly density of RTD** in the **spring** migration season (birds/km2): • Thanet OWF: **0.32** • Thanet OWF 4km buffer: **0.81** • Thanet Extension OWF: **0.74** • Thanet Extension OWF 4km buffer: **0.91**
		Paragraph 25		From **site specific data**, an **estimate for displacement** rate of **RTD within Thanet Extension is 57%, dropping to 11% within the 4km buffer (i.e. not 100% within the array, as advocated by NE, and dropping rapidly outside the array boundary)**
		Paragraphs 35 and 37		The Kentish Flats Extension OWF monitoring report **recommended** that the **observed displacement rates (89% within an OWF and 70% within 0-500 m** buffer of an OWF) should be the **primary values** used for future assessments of wind farm disturbance to wintering RTD (not 100% within and out to 4km). The **70% displacement over 0.5 km** recorded at Kentish Flats Extension OWF is equiva**lent to 9% displacement over 4 km** if the density of birds were even across that buffer prior to the construction of the OWF.
Appendix 19 to Deadline 4 Submission: The consequences of the SEZ on assessment of Red throated Diver interest feature of OTE SPA alone and in-combination	REP4-023	Section 1.1	OTE SPA/RTD	This note provides that the SEZ to the west of the Array Area, even when assessed using the very precautionary approach advocated by Natural England, results in the elimination of any displacement effect on RTD. The Thanet Extension will therefore make **no contribution to any in-combination assessment of potential displacement of RTD in the OTE SPA**.
		Section 1.2		The key reasons are: (1) Significant reduction in the array area and buffer in extent, resulting in the **array area being at an even greater distance from the OTE SPA boundary (at least 7.65km**, a 48% increase in distance from that considered at Screening, substantially reducing the potential that any displaced birds are associated with the OTE SPA, even based on the precautionary measure of 8km advocated by Natural England, and particularly in the context of site specific evidence for bird displacement provided above). (2) **agreed no AEoI alone (with Natural England)**.
		Table 1		Provides evidence that: (1) **All existing consented offshore wind farms were consented on a basis of no AEoI alone or in-combination with respect to the OTE SPA**. These include the **7 August 2017 Appropriate Assessment by BEIS** for East Anglia THREE, which **found (in agreement with Natural England) no AEoI alone or in-combination for the OTE SPA and RTD.**
		Paragraph 7		**Post the East Anglia Three** decision, the only relevant project other than Thanet Extension to the in-combination assessment is **Norfolk Vanguard**. Although still progressing through planning, there is **agreement in the SoCG with NE that mitigation is available to avoid the risk of an AEoI to OTE SPA RTD.**
		Paragraph 12		**The assessment in terms of numbers of RTD potentially displaced remains based on the RTD numbers calculated assuming the PEIR boundary**. The SEZ means the area has been **reduced by 18.3%,** with the 4km buffer **reduced by 7.94%.**

Document	PINS Reference	Section	Site/ feature	Conclusion
		Paragraph 13		The SEZ means the **distance between the Array Area and the OTE SPA**, 7.65 km at its nearest point, is **very close to the 8 km distance** advocated by Natural England as the **outer limit for any potential influence** of a constructed OWF on red-throated diver. This outer limit identified that **the displacement effect decays** from 100% displacement at 0 km from the OWF, to 0**% displacement at 8 km** from the OWF. Following that example, the **potential for displacement** by the time a distance of **7.65km is reached is very small**. The Applicant is of the view that **the '8km' study is not relevant** due to the particular site circumstances of Thanet Extension, and instead **represents a highly precautionary approach**. The reasons are evidenced under the Deadline 1 reference (REP1-023) above. [*It should also be noted that shipping route lies between Thanet Extension and the OTE SPA – the presence of which, especially for a species sensitive to disturbance and displacement, effectively separates the OTE SPA from Thanet Extension*.]
		Paragraph 16		At a distance of 7.65km, the scale of any displacement effect will certainly not be 100%. With a **very high degree of certainty, even when based on an examination of the highly precautionary evidence that Natural England rely on, it can be stated to be very close to, if not, zero percent displacement**.
		Paragraph 17		The 8km range advocated by Natural England is based on data from London Array. It remains the Applicant's position that **evidence from post-construction monitoring of the existing Thanet OWF**, that the distance at which the percentage **displacement falls to zero at this particular site is less than 4 km** (i.e. well within the 7.65km range to the OTE SPA). It is also the Applicant's position that **birds have been recorded within the array itself**; evidence that **displacement is not 100% even within Thanet OWF**. **These facts identify the highly precautionary nature of the approach to assessment of effects either alone, or more importantly in-combination, by Natural England**.
Deadline 4 Submission - Appendix 23: Review of the ES and RIAA in relation to the Structure Exclusion Zone	REP4-027	Table 2	OTE SPA/RTD	Highlights that the inclusion of the SEZ increases the minimum distance from the site from 6.15 km to 7.65 km, which offers **a reduction in any potential impact on RTD**.
		Table 3	OTE SPA/RTD	Highlights that the inclusion of the SEZ offers a **net benefit to the previous potential impacts assessed for RTD at the OTE SPA**.
Deadline 4B Submission - Appendix 4: Addendum to the RIAA	REP4B-015	Section 2.2	OTE SPA/RTD	The RIAA submitted at Deadline 2 for the OTE SPA is based on the PEIR distance between the SPA boundary and the closest WTG (4km). That distance, following the SEZ, is now very precautionary–now being 7.65km. **The additional mitigation afforded by the increase in distance does not, however, change the existing conclusions of no AEoI alone or in-combination) but does provide greater weight to them**.
Deadline 6 Submission - Appendix 14: Statement of Common Ground – Natural England - Offshore ornithology (post SEZ)	REP6-015	Table 3	OTE/ RTD	**No AEoI OTE SPA is agreed for the project alone**. In-combination – not agreed. Applicants position: The Applicant recognises that Natural England's opinion is that it is not possible to rule out the potential of an

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				AEoI on the RTD population of the OTE SPA from existing operational projects. However: (1) It is acknowledged that the **relevant in-combination projects** are existing projects which have been **approved by the Secretary of State** on the basis that there would be **no in-combination AEoI** on the SPA; (2) The **evidence from post construction monitoring of the existing Thanet OWF** demonstrates that the distance at which **the percentage displacement of RTD falls to zero at this particular site is less than 4 km**. Further, **RTD were recorded within the array itself**; evidence that **displacement is not 100%** even within Thanet OWF; (3) In the particular circumstances of this case, **the Thanet Extension would not cause any appreciable effect or any effect at all on the wider in-combination effects relating to the mortality of this species which arise from those projects**; (4) **Thanet Extension would not cause an AEoI to arise as a result of this project being included as part of an in-combination assessment**.
Norfolk Vanguard Offshore Wind Farm Offshore Ornithology Assessment Update for Deadline 6[8] (pre SEZ)	Reference made by the Applicant at Deadline 5 (and ISH8)	Executive Summary	OTE SPA	The conclusion of this updated assessment for the OTE SPA is **no AEoI due to RTD displacement during operations and maintenance at Norfolk Vanguard alone or in-combination** (noting that Thanet Extension formed part of that in-combination assessment).
Appendix 43 to Deadline 6 Submission: Applicants Response to Natural England's responses to ISH8 Action Points and the Applicants Deadline 5 Submissions on HRA matters (offshore ornithology and marine mammals)	REP6-065	Section 4	OTE SPA/ RTD	As the site is now close to 8 km from the OTE SPA following the introduction of the SEZ, the drop off in potential displacement values at that range is near to, if not, zero. Coupled with site specific data, which demonstrates that displacement associated with Thanet OWF is less than 4km, then the development of **Thanet Extension itself would not have any displacement effect on RTD** residing within the OTE SPA itself.

[8] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-002764-ExA;%20AS;%2010.D6.17_Norfolk%20Vanguard%20Offshore%20Wind%20Farm%20Offshore%20Ornithology%20Assessment%20Update%20for%20Deadline%206.pdf

1.4 Evidence of no AEoI with respect to the Southern North Sea SAC (harbour porpoise)

Table 3: Summary of the evidence presented by the Applicant to support the conclusions of no AEoI with respect to the Southern North Sea SAC (harbour porpoise)

Document	PINS Reference	Section	Site/ feature	Conclusion
Report to Inform Appropriate Assessment (Revision B)	REP2-018 and REP2-019	11.3 (for UXO: paragraph 11.3.17 inter alia, concluding 11.3.24, for piling: paragraph 11.3.43, concluding 11.3.66, vessel traffic: paragraph 11.3.66, concluding 11.3.84, other construction noise: paragraph 11.3.88, concluding 11.3.93, geophysical survey: paragraph 11.3.94, concluding 11.3.96, use of ADDs, paragraph 11.3.98 and multiple activities, 11.3.102.)	SNS SAC/ harbour porpoise	Underwater noise during construction and decommissioning. Concluded **no AEoI alone**.
		12.3 (paragraph 12.3.15 inter alia, concluding 12.3.47.	SNS SAC /harbour porpoise	Underwater noise during construction and decommissioning. Concluded **no AEoI in-combination**.
Appendix 15 to Deadline 6 Submission: Statement of Common Ground – Natural England Technical Topics (excluding Offshore Ornithology, Saltmarsh, and Site Selection)	REP6-017	Table 3	SNS SAC/ harbour porpoise	**Applicant concluded no AEoI alone and in-combination**. **NE consider that a mechanism needs to be developed by the regulators** to ensure continuing **adherence** to the **thresholds over time**. Until a mechanism by which the Site Integrity Plans (**SIPs**) will be managed, monitored and reviewed is developed, NE are unable to advise that this approach is sufficient to address the in-combination impacts and therefore the risk of AEoI on the SNS SCI [SAC] cannot be fully ruled out. While **NE agrees that SIPs** are a **method to prevent an AEoI**, there is also a need to put a timeframe on the SIP and a mechanism for assessing multiple SIPs at the same time. At what stage will the developer be required to reassess whether the parameters that have been assessed have been exceeded? **Natural England agree [on the mitigation measures and SIP] if there is the production of a SIP by the Applicant and there is clear guidance from the regulator on how this process will be managed strategically.**
Appendix 58 to Deadline 6 Submission: Outline Site Integrity Plan	REP6-077	Paragraph 3	SNS SAC/ harbour porpoise	The **proposed timeframe for the SIP** is as follows: (1) **First review/ update of the SIP (and RIAA Addendum**) to be **issued to the MMO** at least **4 months** prior to the **start date of the first geophysical survey** (2) **Second review/ update of the** SIP (and RIAA Addendum) to be **issued to the MMO** at least **4 months** prior to the **start date of the next 'noisy activity'**
		Paragraph 10		**Adherence to that timetable**, including delivery of the **SIP and RIAA Addenda** for **agreement** with the **MMO**, will **ensure discharge** of Schedule 11, Condition

Document	PINS Reference	Section	Site/ feature	Conclusion
				12(1)(k) and Schedule 12, Condition 10(1)(l) **of the DCO**.
		Paragraphs 22-24		**Committed (in the DCO) mitigation in the SIP** for Thanet Extension will ensure an **AEoI alone and in-combination is avoided** because: (1) It is **only noisy works** at Thanet Extension in the **winter season** (October to March inclusive) that have the potential to **contribute to the thresholds**. (2) As a **worst case**, a complete **winter season restriction** on noisy activity would result in **no contribution to the thresholds** and effectively **remove Thanet Extension** from all **HRA** considerations **for the SNS SAC**. (3) The **inclusion in the mitigation** of a **seasonal restriction** means the mitigation is **wholly within the ability of the Applicant** to **control, commit to and deliver**, is **independent of other projects** and there is therefore **no need to engage in management activities** outside the project (or for the Thanet Extension SIP to be assessed against other SIPs). (4) **The DCO provides that the SIP must be approved in writing by the MMO prior to the activities commencing**.
Deadline 4 Submission - Appendix 23: Review of the ES and RIAA in relation to the Structure Exclusion Zone	REP4-027	Table 2	SNS SAC/ harbour porpoise	Screened out - **no increase in the maximum adverse scenario assessed** (no change in the range, remaining 0km)
Deadline 4B Submission - Appendix 4: Addendum to the RIAA	REP4B-015	Section 2.2	SNS SAC/ Harbour porpoise	Increase in underwater noise – no change in the number, type or duration of activities resulting in underwater noise, and no change in the minimum range from the designated site. Therefore, **no change in the assessment and conclusion of no AEoI**.
Appendix 43 to Deadline 6 Submission: Applicants Response to Natural England's responses to ISH8 Action Points and the Applicants Deadline 5 Submissions on HRA matters (offshore ornithology and marine mammals)	REP6-065	Section 5, Paragraph 8	SNS SAC/ Harbour porpoise	Recognition by Natural England recognised that these mitigation measures as outlined in the SIP would allow the **conclusion of no AEoI on the harbour porpoise feature of the SNS SAC,** provided the **measures are secured in the DCO/DML** to ensure they are enforceable. The Applicant would respectfully highlight that the mitigation measures are provided for within the DCO/DML, as these form the key point of the SIP.

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