

Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Annex A to Appendix 4 to Deadline 4B

Submission: The consequences of the SEZ on assessment of the Outer Thames Estuary and Flamborough and Filey Coast SPAs (as submitted in Deadline 4)

Relevant Examination Deadline: 4B

Submitted by Vattenfall Wind Power Ltd

Date: April 2019

Revision A

Drafted By:	Apem Ltd
Approved By:	Daniel Bates
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Thanet Extension Offshore Wind Farm

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

Relevant Examination Deadline: Deadline 4

Submitted by Vattenfall Wind Power Ltd

Date: March 2019

Revision A

Drafted By:	APEM Ltd and GoBe Consultants Ltd
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1 Introduction

1.1 The Purpose of this Submission

- 1 The purpose of this submission is to provide the Examining Authority (the ExA) with a revised assessment of impacts on red-throated diver, *Gavia stellata*, an interest feature of the Outer Thames Estuary (OTE) Special Protection Area (SPA) both alone and in-combination. The need for a revised assessment of impacts arises from the decision by the Applicant to introduce the Structural Exclusion Zone (SEZ).
- 2 The SEZ is being proposed to the ExA at D4 and is secured as a condition in the DCO (Schedule 11, Part 4, Condition 23). The Applicant is submitting information as regards the non-shipping implications of the SEZ as Appendix 23 of the D4 submission. Effectively, the purpose of the SEZ is to ensure that certain structures cannot be placed within the SEZ. Such structures are, specifically, wind turbine foundations, offshore substation foundations, met mast and waverider/lidar buoys. Other temporary activities during construction and decommissioning, such as vessel manoeuvring, anchor handling and Jack Up barge placement will be possible. Any other long-term (but moveable) structures as requested by the relevant authorities, such as marcation buoyage will be permitted.
- 3 This note provides evidence to the ExA that the result of the incorporation of an SEZ to the west of the proposed development's Array Area, even when assessed following the very precautionary approach advocated by Natural England, is the elimination of any displacement effect on red-throated diver. The Thanet Extension will therefore make no contribution to any in-combination assessment of potential displacement of red-throated diver in the Outer Thames Estuary SPA.

1.2 Summary of Key Findings

- 4 The following statements are provided to the ExA that summarise the Applicant's key findings and conclusions in support of Thanet Extension;
 - The implementation of the SEZ significantly reduces the array area and buffer in extent and results in the array being at an even greater distance from the OTE SPA boundary. The result is no potential for contribution to any effect on displacement of red-throated diver with respect to the OTE SPA due to Thanet Extension;

- The agreed (with Natural England) absence of an Adverse Effect on the Integrity (AEOI) on the red-throated diver feature of the OTE SPA from Thanet Extension alone; and
- The absence of an AEOI on OTE SPA from Thanet Extension in-combination, given the distance between Thanet Extension and the OTE SPA now that the SEZ forms part of the Application.

2 Existing Consented Offshore Wind Farms

2.1 Outer Thames Estuary and Red Throated Diver

- 5 The in-combination assessment for the Outer Thames Estuary (OTE) SPA and red throated diver (RTD) within the Report to Inform Appropriate Assessment (RIAA) (REP2-018 and REP2-019) includes a number of already consented projects, which are at varying stages in their development. The in-combination assessment also includes projects yet to achieve consent. All of these projects were considered in terms of displacement effects. A summary of the existing position on the projects consented most recently, as regards the OTE and RTD, is provided below in Table 1. Where no ruling has yet been made (e.g. the project is progressing through planning), the current position is instead provided. Where a date is available for the conclusion of the HRA/decision letter, projects are presented in date order of the HRA/decision letter.
- 6 No comments on the projects included within the in-combination assessment for the OTE SPA and RTD were raised by Natural England in the Statement of Common Ground (REP3-041).

Table 1: Potential displacement of RTD with respect to the OTE SPA (adapted from Table 12.8 of the RIAA)

Offshore wind farm	Tier	Location relative to the SPA	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
Kentish Flats	1 – consented and operational	Within the OTE SPA	No project specific assessment of the OTE SPA within the Environmental Statement.
Scroby Sands		Within the OTE SPA (part)	No known project specific assessment of the OTE SPA.

Offshore wind farm	Tier	Location relative to the SPA	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
Thanet		Outside of, but functionally linked to OTE SPA	The Thanet consent letter by DTI 18 December 2006 ¹ referenced a screening exercise by DTI for the pSPA in the Thames Estuary, specifically RTD. It concluded no significant impacts and no need for an AA. It also noted that NE accepted the outcome of screening.
Gunfleet Sands		Within the OTE SPA	No known assessment of the OTE SPA for Gunfleet Sands (GFS) I. It is understood that an Appropriate Assessment exists for GFS II (as referenced in the ES for GFS III), but no copy is held. The GFS III ES referenced the AA for GFS II in relation to the OTE SPA and RTD, specifically that the project 'will not cause an adverse effect on the integrity of the site either alone or in combination with other plans or projects' (AA produced by DBERR, 2008, as referenced in GFS III). The Marine licence for construction of GFS II (L/2011/00065/3) makes no reference to the OTE SPA. Gunfleet Sands III, a 2 turbine demonstration project, assessed the OTE SPA in the Offshore Addendum to the ES (dated October 2011) in relation to the export cable only, finding no change to the existing conclusion of no adverse effect and no impact to the OTE SPA and RTD.

¹ <https://itportal.beis.gov.uk/EIP/pages/projects/ThanetDecision.pdf>

Offshore wind farm	Tier	Location relative to the SPA	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
Greater Gabbard		Outside of, but functionally linked to OTE SPA	Letter from DTI dated 19 February 2007 ² . Conclusion of no adverse effect on the integrity of the Thames Estuary SPA alone and in-combination. Stated that both the JNCC and NE concur with the AA and agree that the potential impact on birds is not sufficient to withhold consent.
Kentish Flats Extension		Within the OTE SPA	HRA undertaken by DECC dated 15 February 2013 ³ Note – Kentish Flats OWF screened out from the assessment as it was operational prior to SPA classification in 2010. There is no set threshold at which displacement impacts can automatically be considered adverse. Concluded (paragraph 7.32) no adverse effect in-combination with existing wind farms.

² <https://itportal.beis.gov.uk/EIP/pages/projects/GabbardCDecisionConsent.pdf>

³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010036/EN010036-000830-Habitats%20Regulation%20Assessment.pdf>

Offshore wind farm	Tier	Location relative to the SPA	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
Galloper		Outside of, but functionally linked to OTE SPA	HRA undertaken by DECC May 2013 ⁴ . Paragraph 3.9 concluded no likely significant effect on the Outer Thames Estuary SPA. Decision supported by Natural England (paragraph 3.7). 89 divers were expected to be displaced by Galloper Wind Farm, finding that ‘the strength of density dependence would need to be as strong or stronger than the most extreme values for immigration into the SPA to result due to displaced birds from GWF. [GWF lies outside the outer Thames Estuary SPA]. NE was, therefore able to advise that an AA is not required in respect of the Outer Thames Estuary.’
London Array		Within the OTE SPA	HRA undertaken by DECC July 2013 ⁵ . Four projects were completed prior to designation of the site in August 2010 and therefore not included in the review but were included in the assessment (Kentish Flats, Thanet, Gunfleet Sands I and Gunfleet Sands II). No adverse effect on site integrity was found in-combination.
East Anglia ONE	2 – consented under construction	Outside of, but functionally linked to OTE SPA	HRA undertaken by DECC dated 28 May 2014 ⁶ . Outer Thames Estuary SPA not screened in for assessment (i.e. no LSE).

⁴ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010003/EN010003-000012-Galloper%20Offshore%20Wind%20Farm Appropriate%20Assessment.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010003/EN010003-000012-Galloper%20Offshore%20Wind%20Farm%20Appropriate%20Assessment.pdf)

⁵ <https://itportal.beis.gov.uk/EIP/pages/projects/LondonAAAssessmentThames.pdf>

⁶ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010025/EN010025-000008-Habitat%20Regulations%20Assessment%20\(HRA\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010025/EN010025-000008-Habitat%20Regulations%20Assessment%20(HRA).pdf)

Offshore wind farm	Tier	Location relative to the SPA	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
East Anglia THREE	3 – consented but not under construction	Outside of, but functionally linked to OTE SPA	HRA undertaken by BEIS on 7 August 2017 ⁷ . The applicant identified (paragraph 10.18) the projects contribution during cable laying only as being fewer than 2 deaths per year over 2 consecutive years, with Natural England agreeing the negligible impact to not lead to an AEoI alone or in-combination. Paragraph 10.2 concludes: 'the ExA was satisfied that an adverse effect on the integrity of the Outer Thames Estuary SPA conservation objectives can be excluded both from the Project in-combination with other plans or projects.'
Norfolk Vanguard East & West	4 – application in process	Outside of, but functionally linked to OTE SPA	Not yet determined. SoCG with Natural England ⁸ found that the applicant considered no AEoI alone and in-combination for the OTE SPA, with NE advising the adoption of best practice for vessel operators traversing the site in operation and maintenance will remove the risk of AEoI – position not yet agreed.
Thanet Extension		Outside of, but functionally linked to OTE SPA	Not yet determined – agreed with Natural England to be no AEoI alone (REP3-041).

⁷ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010056/EN010056-002381-East%20Anglia%20THREE%20Habitats%20Regulations%20Assessment%20Dated%207%20August%202017.pdf>

⁸ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-002708-Rep2%20-%20SOCG%20-%202013.1%20Norfolk%20Vanguard%20SoCG%20with%20Natural%20England.pdf>

- 7 It is clear from the information presented in Table 1 above that all projects included within the in-combination assessment for the OTE SPA and RTD for Thanet Extension, for which a project specific HRA has been undertaken by the Competent Authority, formally concluded no AEol alone and in-combination. It is therefore the position of the Applicant that the evidence available demonstrates that there is currently no AEol on the OTE SPA. The most recent such assessment is for East Anglia Three, dated August 2017, with that conclusion reached in agreement with NE. The only relevant project other than Thanet Extension to the in-combination assessment is Norfolk Vanguard which, although still progressing through planning and therefore not yet agreed, has agreement in the SoCG with NE that mitigation is available to avoid the risk of an AEol.

3 Timeline of project changes that reduce the scale of impacts on ornithology receptors

3.1 PEIR / HRA Screening

- 8 The Preliminary Environmental Information Report (PEIR) (APEM, 2017) presented an assessment based on Thanet Extension being at a distance of approximately 4 km from the Outer Thames Estuary (OTE) SPA. It was also based upon the Array Area covering 72.83 km².
- 9 On the basis of Thanet Extension being within approximately 4 km from the OTE SPA, the Applicant decided that this designated site should be brought within scope of the Habitats Regulations Assessment (HRA) for inclusion in the first stage of the HRA – application of the test for a Likely Significant Effect (LSE). This was based on Thanet Extension being within the 8 km of the OTE SPA, the distance advocated by Natural England as appropriate to screen sites in on the basis of an LSE for this species with respect to the potential effect of displacement.

3.2 DCO Submission (ES Chapter and RIAA)

- 10 The assessments within the Environmental Statement Chapter (PINS Ref APP-045/ Application Ref 6.2.4) and RIAA (PINS Ref APP-031/ Application Ref 5.2) were based upon the abundances and densities of seabirds recorded within the Red Line Boundary (RLB) as defined at the time that the PEIR was prepared. Those abundances and densities were described in the Offshore Ornithology Baseline Technical Report (PINS Ref APP-077/ Application Ref 6.4.4.1). The use of the PEIR RLB was in part due to the decision to make a change to the Array Area that was too late to implement in the assessments that were prepared for submission with the Development Application.
- 11 The size of the Thanet Extension Array Area was reduced between the preparation of the PEIR and the Development Application submission by 4.05 km² or 5.56 %, from 72.83 km² to 68.78 km². In addition the distance between the site and the OTE SPA was increased to 6.15 km. The change in these two parameters meant that the assessments in the ES Chapter (PINS Ref APP-045/ Application Ref 6.2.4) and RIAA (PINS Ref APP-031/ Application Ref 5.2) were precautionary, as they were based on the PEIR values, which resulted in a greater abundance of red-throated divers in the prediction of effect and a shorter distance between the Array Area and the OTE SPA than the revised array area and distance would provide.

3.3 Structural Exclusion Zone

- 12 A subsequent amendment to the west of the Array Area has been submitted via a Structural Exclusion Zone (SEZ) at Deadline IV (Appendix 14 to Deadline IV). The SEZ reduces the Array to an area of 59.50 km², which is a reduction of 13.33 km², or 18.30 % compared to that assessed within the ES. The SEZ also reduces the area of the 4 km buffer surrounding the Array (that is used in the calculation of displacement effects when the approach advocated by Natural England is followed) to 196.17 km², which is a reduction of 15.58 km² from the PEIR 4 km buffer area of 211.75 km², or a reduction of 7.94 %.
- 13 The addition of this SEZ also moves the Array Area to a distance of 7.65 km at its nearest point from the OTE SPA. This distance means that the Array Area is now very close to the 8 km distance that Natural England has advocated as the outer limit for any potential influence of a constructed OWF on red-throated diver. This outer limit was defined by Natural England based on a post-construction study of the London Array OWF (APEM 2016) that 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 this study is not relevant to the particular site circumstances of Thanet Extension, and instead represents a highly precautionary approach. As evidenced at Deadline 1 (PINS Ref REP1-023/ Application Ref Deadline 1 – Annex D to Appendix 1: Responses to Relevant Representations), the reason is threefold: that the London Array OWF is a wind farm sited within the OTE SPA, in an area of high red-throated diver density; it is an OWF that is larger than Thanet Extension; and it is sited further offshore. Site specific data collected at Thanet OWF supports this view (as noted in paragraph 16).

4 The Applicant's Position on In-combination Effects

- 14 As noted in paragraph 2, the Applicant put forward an SEZ in the west of the Application Site Boundary at Deadline IV, which in essence positions the Wind Turbine Generators (WTGs), and all other 'above sea structures' further to the east within the Application Site Boundary.
- 15 As a consequence of the SEZ, the nearest a WTGs could be positioned to the OTE SPA boundary is at a distance of 7.65 km, an increase of 3.65 km (48% increase) from the PEIR array boundary that formed the basis of the assessment of displacement within the ES and the RIAA. The reduction in Thanet Extension's development footprint would be by 18.3 % also, from 72.83 km² which formed the basis of previous assessments to 59.50 km², reducing the potential area of influence of displacement for red-throated diver. The reduction in the 4 km buffer as a consequence of the SEZ is of 15.58 km², from 211.75 km² to 196.17 km².
- 16 The application of these two factors on the assessment of potential displacement of red-throated divers from the Outer Thames Estuary SPA would be further reductions to the level of effect and resulting impact. In particular, the revised distance between Thanet Extension and the OTE SPA, at 7.65 km, is within a 5% margin of the maximum distance that Natural England has identified from the London Array OWF post-construction study that red-throated divers might show displacement behaviour from an OWF. At such a distance the scale of any displacement effect will most certainly not be 100% and with a very high degree of certainty based on an examination in the evidence that Natural England rely on (see Figure 20 of APEM 2016) it can be stated to be very close to, if not, zero percent displacement.
- 17 It continues to be the Applicant's position that the evidence from post-construction monitoring of the existing Thanet OWF is that the distance at which the percentage displacement falls to zero at this particular site is less than 4 km. 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.

- 18 The Applicant is of the opinion that even when based on Natural England's highly precautionary criteria, this project may now be considered to be outside of any influence on this species when in the SPA. Therefore, when account is taken of the implementation of the SEZ, which serves to increase the separation distance between the project and the OTE SPA, the Applicant considers it to be clear that the project is so small that, as well as having no adverse effect on integrity when considered alone, cannot make any appreciable contribution to the calculation of an in-combination displacement total from operational, under construction and consented OWFs on the red-throated diver population of the Outer Thames Estuary SPA. As noted in section 2 above, the existing position from the most recent HRA by a Competent Authority (for East Anglia Three) as regards an in-combination effect on the RTD population of the OTE SPA is of no AEol.

5 Overview of Natural England's Position prior to SEZ

5.1 Red-throated diver (and the Outer Thames Estuary SPA)

- 19 The methods for undertaking the in-combination assessment for red throated diver are broadly agreed between Natural England and the Applicant within the current SoCG (PINS Ref REP3-0414/ Application Ref Appendix 25 to Deadline 3 Submission). Natural England provided clarity that, despite some differences that could be applied to the methodology, Natural England acknowledge that the methodology used does not change the relative contribution of Thanet Extension which is small compared to consented offshore wind farms.
- 20 Natural England further advised (REP3-089) that Thanet Extension will not have an adverse effect on the integrity on the red-throated diver population of the Outer Thames Estuary SPA when considered alone. However, Natural England considers that it is not possible to rule out an adverse effect on integrity when the project is considered in combination with consented and operational offshore wind farm projects, although it has been recognised at various stages within the evolution of the statement of common ground that the contribution is not material, not appreciable, and small.
- 21 Natural England provided additional clarification on their position with regard to Thanet extension in the context of other OWF projects (REP3-089) by suggesting that:

Prior to the submission of Thanet Extension, Natural England had already advised that it was not possible to rule out an adverse effect on integrity on the [Outer Thames Estuary] SPA from operational and consented projects due to displacement effects. Thanet Extension lies 8 km from the SPA. Displacement effects on red-throated diver from post-construction monitoring appear to vary between projects, but have been reported up to and beyond this distance, and there is therefore potential for the proposal to exert additional displacement pressure on the SPA. This in-combination contribution is in all likelihood very small in the context of impacts from other OWF projects which lie within, rather than some distance beyond, the SPA.

- 22 It should be noted that Natural England's reference to Thanet Extension being 8 km from the SPA was in error at that point in time, as the SEZ had not been discussed. Therefore, it is correct to point out that at that stage the western extent of Thanet Extension was proposed to be 6.15 km from the SPA (with a major shipping lane lying between Thanet Extension and the OTE SPA).
- 23 It is the Applicant's considered interpretation of the views expressed by Natural England that their concerns arise from consents for OWFs that have already been granted and not from the predicted impacts of Thanet Extension. As confirmed in section 2 above, all previous assessments by the relevant Competent Authority with respect to the OTE SPA and RTD, specifically for OWFs, have concluded no AEoI alone and in-combination.
- 24 The Applicant also considers that Natural England's position, once they have had time to consider the implications of the SEZ, may align with the conclusion that Thanet Extension will not have an adverse effect on the integrity of the red-throated diver population of the Outer Thames Estuary SPA as there is no effect on red-throated diver and consequently there is no contribution to an in-combination effect.

6 Conclusion of No Adverse Effect on Integrity (AEoI) for OTE SPA

- 25 Both the Applicant and Natural England are in agreement that Thanet Extension alone has no adverse effect on the integrity of the RTD feature of the Outer Thames Estuary SPA.
- 26 It is the Applicant's position that the addition of, at most, a single predicted red-throated diver mortality per annum (that mortality being based on the PEIR array boundary and therefore assuming a 4km distance from the OTE SPA) occurring in marine waters that are within, or close to, the proposed Thanet Extension Array Area but outside of the Outer Thames Estuary SPA would not cause an adverse effect on integrity in combination. No such effect has been found to exist before the Thanet Extension was proposed. The Thanet Extension would make no appreciable contribution to the in-combination effects of other windfarms. The evidence presented above, specifically that in relation to the increase in distance and reduction in array area following the implementation of the SEZ, would suggest that the risk of RTD mortality is now substantially reduced from that initial prediction of a single bird, further strengthening the argument that no adverse effect on integrity will result.

7 References

- APEM (2017). Thanet Extension Offshore Wind Farm: Preliminary Environmental Information Report, Volume 2, Chapter 4, Offshore Ornithology. Vattenfall, November 2017.
- APEM (2016). Assessment of displacement impacts of offshore windfarms and human activities on red-throated divers and alcids. Natural England Commissioned Report NECR227, December 2016.
- Vattenfall (2018b). *Norfolk Vanguard Offshore Wind Farm – The Applicant’s Response to Section 51 Advice from The Planning Inspectorate*. October 2018, Document Reference: PB4476-008-001.

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Thanet Extension Offshore Wind Farm

Appendix 25 to Deadline 4 Submission: Offshore
Ornithology In-combination Effects Position Paper
on Kittiwake and the FFC SPA

Relevant Examination Deadline: Deadline 4

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1 Introduction

1.1 Purpose of this paper

- 1 The purpose of this submission is to provide the Examining Authority (the ExA) with a clearly defined position with regards potential effects on the kittiwake feature of the Flamborough and Filey Coast (FFC) SPA that are associated with the Thanet Extension project.
- 2 The document therefore focuses on the remaining areas of uncertainty as reflected by the ExA Action Points and Natural England's submission with regards in-combination effects.

1.2 Summary of Key Findings

- 3 The following statements are provided to the ExA that summarise the Applicant's key findings and conclusions in support of Thanet Extension;
 - The absence of an Adverse Effect on the Integrity (AEoI) on the kittiwake feature of Flamborough and Filey Coast (FFC) SPA from Thanet Extension alone;
 - 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
 - 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. As summarised in section 2, the existing baseline with regards other consents is such that there has been no finding of an existing adverse effect on integrity in-combination, and the contribution of Thanet Extension does not alter this position. Where Natural England consider there to be a potential existing AEoI there is no suggestion from either party that the ~1 kittiwake contribution made by Thanet Extension to FFC SPA causes any appreciable effect.

2 Existing Consented Offshore Wind Farms

2.1 Flamborough and Filey Coast SPA and Kittiwake

- 4 The Report to Inform Appropriate Assessment (RIAA) for Thanet Extension (REP2-018 and REP2-019) identified such a small contribution from Thanet Extension to potential mortality of kittiwake at Flamborough and Filey Coast (FFC) SPA that it concluded, in paragraph 12.4.33 ‘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 SPA’. The subsequent Clarification Note on CRM (REP3-058) undertook further consideration of the cumulative and in-combination contribution from Thanet Extension, based on highly precautionary values provided by NE. Further detail is provided here in Section 5.1.

- 5 A review of the existing legal position as regards the projects considered by both East Anglia Three¹ and Norfolk Vanguard² in-combination with respect to kittiwake and the FFC SPA is provided below in Table 1. Note that the SPA considered for kittiwake may at times vary depending on the date of the assessment relative to consultation commencing on the FFC SPA (being and/ or the Flamborough Head and Bempton Cliffs (FHBC) SPA and the FFC SPA). Where a date is available for the conclusion of the HRA/decision letter, projects are presented in date order of the HRA/decision letter.

Table 1 Potential Collision Risk in Kittiwake with respect to the FFC SPA

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
Beatrice Demonstrator	Operational	Understood to be decommissioned shortly ³ . Total predicted collisions associated with the FFC SPA (by Vanguard HRA) is 0.23.
Blyth (NaREC)	Constructed	Shortly to be decommissioned.

¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010056/EN010056-000553-5.4%20Habitats%20Regulation%20Assessment%20Report.pdf>

² <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-001479-5.03%20Norfolk%20Vanguard%20Information%20to%20Support%20HRA.pdf>

³ https://www.repsolsinopecuk.com/pdfs/uploads/Beatrice_Decomm_EIA_Scoping_Report_Public_Copy.pdf

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
Demonstration)		Vanguard HRA identified a total of 0.42 kittiwake to the FFC pSPA.
Gunfleet Sands	Operational	Vanguard HRA identified a total of 0 kittiwake to the FFC pSPA.
Lynn and Inner Dowsing	Operational	Document not held, Vanguard HRA identified total of 0 kittiwake to the FFC pSPA.
Scroby Sands	Operational	Document not held, Vanguard HRA identified a total of 0 kittiwake to the FFC pSPA.
London Array	Operational	AA for London Array by DTI in October 2006 ⁴ . Did not screen kittiwake in for LSE.
Thanet	Operational	The Thanet consent letter by DTI 18 December 2006 ⁵ only referenced screening for the Thames pSPA with respect to RTD. It concluded, for birds, that given the views of NE, the SoS took the view that no further consideration of the possible impact of the development on birds is required.
Greater Gabbard	Operational	The decision letter from DTI dated 19 February 2007 ⁶ did not identify kittiwake (or FFC SPA) for LSE.
Teesside	Operational	The consent letter from DBERR 17 September 2007 ⁷ did not identify any concern regarding kittiwake and concluded (in agreement with Natural England) no adverse effect on any designated site.
Lincs	Operational	The consent letter from DECC 21 October 2008 ⁸ found that the AA, which had not screened in kittiwake for LSE, concluded no adverse effect in all cases, with no

⁴ <https://itportal.beis.gov.uk/EIP/pages/projects/LondonAAssessment.pdf>

⁵ <https://itportal.beis.gov.uk/EIP/pages/projects/ThanetDecision.pdf>

⁶ <https://itportal.beis.gov.uk/EIP/pages/projects/GabbardCDecisionConsent.pdf>

⁷ <https://itportal.beis.gov.uk/EIP/pages/projects/EDFNDecision.pdf>

⁸ <https://itportal.beis.gov.uk/EIP/pages/projects/CentricaLDecisionConsent.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
		concerns raised by Natural England.
Humber Gateway	Operational	The decision letter issued by DECC 9 February 2011 ⁹ did not identify kittiwake through screening and did not identify any adverse effect on designated sites screened in.
Westermost Rough	Operational	The decision letter issued by DECC 29 November 2011 ¹⁰ , concluded with the Secretary of State considering that his duties in relation to potential impacts on European Sites and Species had been properly discharged.
Kentish Flats	Operational	Kittiwake associated with an SPA were not included in the ES for Kentish Flats and not screened in for LSE for the Kentish Flats Extension HRA (DECC, 15 February 2013 ¹¹).
Galloper	Operational	HRA undertaken by DECC, May 2013 ¹² . Assessed as FHBC SPA, for gannet only (screened out).
Triton Knoll	Consented	The Triton Knoll HRA dated July 2013 ¹³ concluded in paragraph 7.10 that 'All parties were in agreement that adverse effects on site integrity as a result of the Project can be excluded for Flamborough Head and Bempton Cliffs SPA'. Further, the SoS agrees with the recommendations of the Panel, and concludes that no adverse effects on the integrity of these sites [including the FHBC SPA] are expected to arise from the Project either alone or in-combination with other plans and projects subject to the mitigation measures secured in

⁹ <https://itportal.beis.gov.uk/EIP/pages/projects/Humber%20Gateway%20Decision%20Letter%20Final.pdf>

¹⁰ <https://itportal.beis.gov.uk/EIP/pages/projects/WestermostDecision.pdf>

¹¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010036/EN010036-000830-Habitats%20Regulation%20Assessment.pdf>

¹² https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010003/EN010003-000012-Galloper%20Offshore%20Wind%20Farm_Appropriate%20Assessment.pdf

¹³ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010005/EN010005-000014-Habitats%20Regulations%20Assessment.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
		<p>the DML that will be adopted to minimise effects’.</p> <p>Note – the HRA considered up to 288 wind turbines, that was formally reduced to 90 in August 2018¹⁴, on which NE had no comment. The consented collision risk for kittiwake originally being 71-121 adults in the ES (based on 333 turbines), reduced to 17.3 following a turbine number reduction from 333 to 288¹⁵. Although the effect of the further reduction in turbine numbers on collision risk in kittiwake (from 288 to 90 turbines) has not been recalculated, it was confirmed that the change would be a reduction in impact and therefore the existing conclusion of no AEol alone and in-combination remained valid. For reference, both the Vanguard HRA¹⁶ and East Anglia Three HRA¹⁷ assigned a collision risk of 31.18 kittiwake from Triton Knoll to the FFC pSPA.</p>
Dudgeon	Operational	<p>The HRA for the variation by DECC 18 December 2013¹⁸ noted that the original AA by the MMO for Dudgeon enabled the consent. The variation HRA did not identify the FFC pSPA as relevant to the assessment.</p>
Beatrice	Constructed	<p>The Appropriate Assessment¹⁹ dated 19 March 2014 did not identify the FFC SPA (or its predecessor) for likely significant effect.</p>

¹⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010005/EN010005-000904->

[DECISION%20LETTER%20TRITON%20KNOLL%20OFFSHORE%20WIND%20FARM%20%E2%80%93%20NON%20MATERIAL%20CHANGE.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010005/EN010005-000904-DECISION%20LETTER%20TRITON%20KNOLL%20OFFSHORE%20WIND%20FARM%20%E2%80%93%20NON%20MATERIAL%20CHANGE.pdf)

¹⁵ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010005/EN010005-000893-Triton%20Knoll%20NMC%20-%20Review%20of%20Potential%20Impacts%20on%20Natura%202000%20Sites_Updated%20Report%20210618.pdf

¹⁶ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-001479-5.03%20Norfolk%20Vanguard%20Information%20to%20Support%20HRA.pdf>

¹⁷ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010056/EN010056-000553-5.4%20Habitats%20Regulation%20Assessment%20Report.pdf>

¹⁸ <https://itportal.beis.gov.uk/EIP/pages/projects/RecordHabitatsRegulationsAssessment.pdf>

¹⁹ <https://www2.gov.scot/Resource/0044/00446505.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
East Anglia ONE	Consented and under construction	<p>HRA undertaken by DECC, 28 May 2014²⁰. Kittiwake (FFC pSPA) included for LSE in-combination only. Assessed as per the FHBC SPA assessment.</p> <p>Collision risk in-combination (Table 6.3) for EAONE is provided for 325 turbines (as originally assessed) and a reduced 240 (as subsequently considered). In reality, the turbine number has reduced still further – with just 102 turbine foundations finally installed (noting that the further reduction in turbine numbers to 102 is not reflected in the collision risk totals presented and assessed in the HRA). The view of NE in the DECC HRA is based on the 325 turbines. Further, NE specified that an in-combination total of 250-350 kittiwake at risk from collision was their limit.</p> <p>Alone, the risk of collision estimates varied, depending on the parameters and level of precaution applied, from 2 birds to 114 birds (including both 240 and 325 turbine numbers but not the 102 that resulted).</p> <p>Based on 325 turbines and NE’s own calculated most precautionary collision risk numbers, NE in paragraph 6.20 found ‘of the view that that there is sufficient margin of error to safely conclude that no reasonable scientific doubt remains as to the absence of an adverse effect on the integrity of the SPA due to collision risk mortality of kittiwake from the Project in-combination with the consented and/or built wind farms’.</p> <p>Even when additional projects were included in-combination (pre-consent wind farms), the SoS in paragraph 6.28 concluded ‘no risk of adverse effects on the integrity of the Flamborough Head and Bempton Cliffs SPA from the Project in combination with yet to be determined project applications’.</p>

²⁰ [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010025/EN010025-000008-Habitat%20Regulations%20Assessment%20\(HRA\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010025/EN010025-000008-Habitat%20Regulations%20Assessment%20(HRA).pdf)

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
Rampion	Operational	<p>The HRA by DECC dated 9 June 2014²¹ included consideration of kittiwake. PBR analysis estimated a threshold of mortality for kittiwake of 250-350 birds. The collision risk assessment assumed an avoidance rate of 98%. The cumulative risk was estimated to be 217 kittiwake per year. This value includes 104 birds from EA ONE – which differs from the various values considered in the EA ONE assessment, with the SoS confident in the 104 value.</p> <p>The HRA concluded in paragraph 6.47 that ‘On the basis of the amount of headroom left in the PBR analysis when using a 98% AR and considering all projects in tiers 1, 2 and 3 and the EA One OWF, the SoS concludes that the Development, in combination with other plans and projects, will not have an adverse effect on the integrity upon the kittiwake interest features of the Flamborough Head and Bempton Cliffs SPA.’</p> <p>The HRA considered the installation of 175 turbines, with the as built project consisting of 116 turbines. The 34% reduction in as built turbine numbers is not reflected in the collision risk numbers for kittiwake assessed in the HRA.</p>
Firth of Forth Alpha and Bravo	Consented	The HRA by Marine Scotland of 10 October 2014 ²² did not screen in the FFC pSPA or FHBC SPA.
Inch Cape	Revised design in planning	The HRA by Marine Scotland, in relation to the consented project, of 10 October 2014 ²³ did not screen in the FFC pSPA or FHBC SPA.

²¹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010032/EN010032-001702-Rampion%20Environmental%20Assessment%20Report.pdf>

²² <https://www2.gov.scot/Resource/0046/00460528.pdf>

²³ <https://www2.gov.scot/Resource/0046/00460528.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
		No HRA is yet available for the revised design.
Hornsea Project 1	In construction	<p>The HRA by DECC of 27 November 2014²⁴ screened in kittiwake for both the FFC pSPA and the FHBC SPA. Considerable discussion with respect to kittiwake centred on the kittiwake counts at the site. The ExA supported the Applicant’s position, that the original count related to individuals and not pairs as incorrectly reported. That left considerable doubt as regards the reported changes in kittiwake population and difficulties in establishing the f value for PBR analysis – the Applicant estimated 1023 birds, NE 512 birds.</p> <p>For the project alone, collision risk at the most precautionary basis remained below both values and no AEoI was concluded by the ExA, with the SoS in agreement with the conclusion.</p> <p>In-combination, based on their own calculations, NE were satisfied that the most precautionary analysis of kittiwake mortality which used the 98% avoidance for projects up to Hornsea (357-472 birds) would be below the 512 value and there would be no AEoI on the FFC pSPA.</p> <p>However, differences in the precaution applied (the Applicant applied the revised avoidance rates of 99% and 99.5%, with an equivalent mortality to NEs for 99.5% of 71.5-79 birds) meant difference in total mortality predictions between the Applicant and NE. For NE, that raised a concern in-combination when all projects (those ‘past’ Hornsea) were included.</p> <p>The ExA considered the 98% avoidance rate advocated by NE to be over-precautionary and advocated the</p>

²⁴ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010033/EN010033-002059-Hornsea%20Offshore%20Wind%20Farm%20Final%20EA%20including%20HRA%20TA%20and%20AIUGI.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
		<p>Applicants approach to projects in-combination, concluding no AEoI in-combination.</p> <p>The SoS considered all the evidence presented and concluded in paragraph 6.60 that ‘the impacts of the Hornsea project in combination with other plans and projects (using the building block approach and including all projects in tiers 1-4) will not have an adverse effect upon the integrity of the Flamborough and Filey Coast pSPA’.</p> <p>The HRA considered the installation of 240 turbines and the conclusion of no AEoI alone and in-combination was made on that basis. The as built project consisted of just 174 wind turbines, a 27.5% reduction not reflected in the project alone collision risk numbers above.</p>
Dogger Bank Creyke Beck A&B	Consented	<p>The HRA by DECC dated 17 February 2015²⁵ considered collision risk associated with kittiwake at the FFC pSPA. A figure of 500 kittiwake appears to be suggested (in paragraph 7.47) as a threshold for collision risk.</p> <p>Paragraph 7.50 found ‘In agreement with NE and the Applicant the SoS can conclude that predicted Kittiwake mortality using a 98% avoidance rate due to collision from the project alone and in combination will not have an adverse effect upon the integrity of the Flamborough and Filey coast site’.</p>
Sheringham Shoal	Operational	<p>The consent letter from DECC dated 27 March 2015²⁶, supported by Natural England, found no Appropriate Assessment was necessary.</p>
Dogger Bank Teesside A&B	Consented	<p>The HRA by DECC dated 4 August 2015²⁷ identified a PBR, calculated by the Applicant, of 400-800 adult birds.</p>

²⁵ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010021/EN010021-000003-Habitats%20Regulations%20Assessment.PDF>

²⁶ <https://itportal.beis.gov.uk/EIP/pages/projects/SheringhamDecision.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
(noting that Teesside B is now termed Sofia)		<p>Following discussions, NE accepted the 99% avoidance rate for kittiwake and agreed no AEoI alone. The final collision risk values presented (based on NE submissions) were 42 adults for the project alone. The in-combination value calculated by the Applicant was 372 birds.</p> <p>In paragraph 7.61 of the HRA, it states the NE position on 20 November 2014 ‘they agree with the Applicant that if built Dogger Bank Teesside A & B will not cause an AEoI on any SPA/pSPA site and its seabird features, alone and in combination’.</p> <p>The SoS concluded in paragraph 7.63 ‘The SoS, noting the agreement between NE and the Applicant, concludes that the collision risk from the Project alone and in combination with other projects will not have an adverse effect upon the integrity of the Flamborough and Filey Coast site. She considers that a 99% AR is sufficiently precautionary for kittiwakes and this is in line with previous decisions and scientific publications.’</p> <p>A revised HRA for the Sofia project was issued by BEIS in March 2019²⁸. The HRA included consideration of the FFC SPA. The SoS concluded that the changes to the project design would not compromise the conclusions of the existing assessment for the project alone. For the project in-combination, the conclusions of the East Anglia Three HRA were drawn on, finding that ‘there have been no further projects consented, or alterations to existing projects, that would change the conclusions of the East Anglia Three HRA’. In Section 4.1.2, the SoS concluded ‘the changes proposed in the change application will not have an adverse effect on the integrity of the FFC SPA when considered alone or in-</p>

²⁷ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010051/EN010051-002090-Habitats%20Regulations%20Assessment.pdf>

²⁸ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010051/EN010051-002380-FINAL%20-%20Sofia%20NMC%20Application%20HRA%20March%202019.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
		combination with other plans or projects.’
Hornsea Project 2	Under construction	<p>HRA undertaken by BEIS 15 August 2016²⁹. Considered for FFC SPA and FHBC SPA.</p> <p>Despite disagreements in methodology, NE agreed (paragraph 6.31) that kittiwake mortality from the project alone would not result in a population decline below the FFC pSPA citation. The ExA concluded no AEol alone, agreed by the SoS (paragraph 6.35).</p> <p>In-combination, the ExA commented on consistency of NEs advice as regards number of kittiwake in-combination required for a population decline, which has varied from 500 (Hornsea 2 REP4-040), to 512 (Hornsea One). Despite not agreeing with the Applicants approach, NE concluded no AEol alone and in-combination (subject to mitigation).</p> <p>The ExA concluded no AEol alone and in-combination (paragraph 6.46), agreed with by the SoS (paragraph 6.47).</p> <p>Most recent publicly available information indicates that the project under construction will eventually comprise 165 turbines, a 45% reduction from the 300 turbines assessed in the assessment.</p>
Race Bank	Operational	The consent letter from DBEIS dated 26 October 2016 ³⁰ , for a proposed variation, does not represent any change in the environmental impacts as previously consented.
Moray Firth	Pre-application, Application &	HRA by Marine Scotland dated 19 March 2014 ³¹ did not screen in the FFC pSPA or FHBC SPA.

²⁹ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010053/EN010053-002079-Habitats%20Regulation%20Assessment>

³⁰ <https://itportal.beis.gov.uk/EIP/pages/projects/RaceBankDecision.pdf>

³¹ <https://www2.gov.scot/Resource/0044/00446526.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
	Determination and Post-determination	<p>HRA Screening for Moray West dated 20 October 2017³² did not screen in the FFC pSPA or FHBC SPA, with no relevant comment on this issue in the Screening Opinion from Marine Scotland³³.</p> <p>The Scoping Opinion for Moray East dated 16 June 2017³⁴ identifies a need for CRM for kittiwake but does not identify the FFC pSPA or FHBC SPA for consideration.</p>
Neart na Goithe	Application & Determination and Post-determination	<p>The consented project Marine Scotland HRA dated 21 May 2018³⁵ does not identify the FFC pSPA or FHBC SPA for consideration.</p> <p>The revised scheme design scoping opinion from Marine Scotland dated 8 September 2017³⁶ does not identify the FFC pSPA or FHBC SPA for consideration.</p>
East Anglia Three	Consented, not constructed	<p>HRA undertaken by BEIS, 7 August 2017³⁷.</p> <p>As noted in paragraph 6.45, NE agreed that the project alone will not have an AEoI on the kittiwake feature of the FFC SPA, following which the applicant changed the project parameters to reduce the potential for impact further. The ExA (paragraph 6.50) and the SoS (paragraph 6.51) agreed that no AEoI alone for kittiwake of the FFC pSPA would result.</p> <p>In-combination mortality for kittiwake at the FFC pSPA is summarised in Table 4, being at most 323.2 birds per annum. The ExA concluded in paragraph 6.63, agreed by the SoS in paragraph 6.64, that no AEoI in-combination</p>

³² <https://www2.gov.scot/Resource/0052/00526279.pdf>

³³ <https://www2.gov.scot/Resource/0052/00526281.pdf>

³⁴ <https://www2.gov.scot/Resource/0052/00521151.pdf>

³⁵ <https://www2.gov.scot/Resource/0053/00535564.pdf>

³⁶ <https://www2.gov.scot/Resource/0052/00524490.pdf>

³⁷ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010056/EN010056-002381-East%20Anglia%20THREE%20Habitats%20Regulations%20Assessment%20Dated%207%20August%202017.pdf>

Offshore wind farm	Status	Secretary of State ruling on In-combination Impact (or current position if not yet ruled)
		would result for the kittiwake feature of the FFC pSPA.
Norfolk Vanguard	Examination phase (Planning)	No AEoI alone and in-combination concluded by applicant, project alone value currently under discussion with Natural England (not agreed) ³⁸ .
Hornsea Project Three		No AEoI alone and in-combination concluded by applicant, project alone value currently under discussion with Natural England (not agreed).
Thanet Extension		No AEoI alone and in-combination concluded by applicant, project alone value currently under discussion with Natural England (not agreed). See Sections 3, 4 and 5 of current document.

6 It is clear from the information presented in Table 1 above that all projects included within the in-combination assessment for the FFC SPA (and the FHBC SPA) and kittiwake for Thanet Extension, for which a project specific HRA has been undertaken by the Competent Authority, formally concluded no AEoI alone and in-combination. It is therefore the position of the Applicant that the evidence available demonstrates that there is currently no AEoI on the FFC SPA. The most recent such assessment for East Anglia Three is dated August 2017, as referenced and reinforced by the March 2019 HRA for Sofia, both of which concluded no AEoI alone and in-combination for the kittiwake associated with the FFC SPA. The assessment should be placed in the context of the ‘as built’ turbine numbers for several projects (e.g. Hornsea ONE) compared to that assessed, together with the non-material change for a turbine number reduction at Triton Knoll. Such turbine reductions have not been included within the East Anglia Three HRA.

³⁸ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-002708-Rep2%20-%20SOCG%20-%2013.1%20Norfolk%20Vanguard%20SoCG%20with%20Natural%20England.pdf>

3 An overview of the Applicant's Position on In-combination Effects

3.1 Kittiwake (and the Flamborough and Filey Coast SPA)

- 7 The Applicant submitted at Deadline 3 an assessment of the potential in-combination impacts on the kittiwake interest feature of the Flamborough and Filey Coast SPA of the proposed Thanet Extension along with other operational, under construction and consented OWFs (PINS Ref REP3-082/ Application Ref Deadline 3 Submission - Appendix 39: Clarification Note on Collision Risk Modelling Parameters and Thanet Extension's Contribution to Cumulative and In-Combination Totals).
- 8 That in-combination assessment presented two approaches to the CRM, the Applicant's preferred assessment and one considering a more precautionary scenario for predicting collision risk mortality rates. The more precautionary scenario matched the approach advocated by Natural England of using the upper confidence intervals surrounding the percentage of birds flying at collision height (PCHs), avoidance rates according to the SNCBs review (JNCC et al., (2014) in response to Cook *et al.*, 2014) and nocturnal activity rates from Garthe & Hüppop (2004) in the Band CRM Option 2, which form the methodology recommended by Natural England to the Applicant (PINS Ref REP3-064/ Application Ref Appendix 25 to Deadline 3 Submission).
- 9 That in-combination assessment identified that the contribution of Thanet Extension alone to the predicted mortality was between 0.43 and 1.28 kittiwakes in spring and between 0.17 and 0.35 kittiwakes in autumn to the population of the Flamborough and Filey Coast SPA. The Applicant considers that neither of these predicted number of mortalities will result in an adverse effect from the project alone on the integrity of the kittiwake feature of the Flamborough and Filey Coast SPA. In addition, the Applicant considers that Thanet Extension does not make any appreciable contribution to any potential effect on the kittiwake interest feature of the Flamborough and Filey Coast SPA that have been attributed in-combination to result from OWFs that are operational, under construction and consented. The project alone values for Vanguard and Hornsea Three remain under discussion, however the contribution of Thanet Extension (in the context of paragraph 6 above, together with the expected decommissioning of Blyth and Beatrice Demonstrator) remains not appreciable.
- 10 The Applicant is in a position of agreement with Natural England in the current SoCG (PINS Ref REP3-041/ Application Ref Appendix 25 to Deadline 3 Submission) that:

- The methods for undertaking the in-combination assessment for kittiwake are broadly agreed.
 - Assessments based on either party's collision risk assessments make no material difference to the overall conclusions and that using the Natural England recommended methodology for assessing collision risk effects does not change the overall conclusions.
 - Thanet Extension alone will not have an adverse effect on the integrity of the kittiwake feature of the Flamborough and Filey Coast SPA.
- 11 The Applicant's position is that there is no adverse effect on integrity to the kittiwake feature of the FFC SPA and that Thanet Extension does not make an appreciable contribution to the kittiwake in-combination collision risk totals. Further, as noted in Table 1, the anticipated decommissioning of Beatrice Demonstrator and Blyth (NaREC Demonstration), will mean that the 0.65 kittiwake collision risk attributed by the Vanguard HRA to these two projects combined would more than offset the lower combined total for kittiwake collision risk from Thanet Extension during both migration periods (which is estimated to be 0.60 birds).

4 Overview of Natural England's Position

4.1 Kittiwake (and the Flamborough and Filey Coast SPA)

- 12 The methods for undertaking the in-combination assessment for kittiwake are broadly agreed between Natural England and the Applicant (PINS Ref REP3-064/ Application Ref Appendix 25 to Deadline 3 Submission). Natural England provided clarity that, despite some differences between the in-combination totals, they acknowledge that the methodology used does not change the relative contribution of Thanet Extension which is small compared to consented offshore wind farms.
- 13 Natural England further advised (REP3-089) that Thanet Extension will not have an adverse effect on the integrity on the kittiwake population of the Flamborough and Filey Coast SPA when considered alone. However, Natural England considers that it is not possible to rule out an adverse effect on integrity when the project is considered in combination with consented and operational offshore wind farm projects.
- 14 Natural England provided additional clarification on their position with regard to Thanet extension in the context of other OWF projects (REP3-089) by suggesting that:

Prior to the submission of Thanet Extension, Natural England had already advised (at East Anglia 3) that it was not possible to rule out an adverse effect on integrity on the SPA from operational and consented projects due to the level of annual collision mortality predicted for kittiwake. Thanet Extension is some distance beyond the likely foraging range of kittiwake from the SPA during the breeding season, though there is the potential for Flamborough kittiwakes to be impacted by the proposal during the non-breeding season, when they disperse more widely. There is therefore the potential for the proposal to make a contribution to the overall collision mortality total. This contribution is likely to be small in the context of an in-combination total arising from a number of operational, consented or proposed projects, several of which are larger and/or closer to the SPA, including projects within the likely foraging range during the breeding season.

- 15 It is the Applicant's considered interpretation of the views expressed by Natural England that their concerns arise from consents for OWFs that have already been granted and not from the predicted impacts of Thanet Extension.

- 16 As demonstrated in section 2, it is the Applicant's position that OWFs in the English waters of the North Sea up to and including East Anglia Three, together with the revised HRA issued for Sofia in March 2019, were consented by the Secretary of State following a HRA that included an in-combination assessment and that East Anglia Three (and as confirmed for Sofia) was consented because it was concluded that there was no adverse effect on integrity of the kittiwake interest feature of the FFC SPA alone and in-combination.

5 Kittiwake (and the Flamborough and Filey Coast SPA)

5.1 Projects since East Anglia Three

- 17 The in-combination assessment of potential collision risk effects on kittiwake from other operational, under construction and consented projects was presented at Deadline 3 (PINS Ref REP3-082/ Application Ref Deadline 3 Submission - Appendix 39). The CRM outputs for Thanet Extension alone for kittiwake were presented in the form of their additional contribution to the in-combination totals that were submitted by the respective Applicants for East Anglia Three (SPR, 2016) and Norfolk Vanguard (Vattenfall, 2018). The totals for Norfolk Vanguard are from an additional submission of data from Vattenfall to PINS in Response to Section 51 Advice from the Planning Inspectorate (Vattenfall, 2018). These two totals provided Natural England with a range of in-combination collision mortality rates for kittiwake in order to demonstrate that Thanet Extension's collision mortality rates will not make any appreciable contribution to the in-combination totals.
- 18 No major OWF projects have been consented in the southern North Sea since that made by the Secretary of State for East Anglia Three (noting the confirmation of the Sofia HRA in March 2019). Therefore, the projects considered in the latest in-combination assessments of collision risk for kittiwake are those currently moving through the PINS application stage; Thanet Extension, Norfolk Vanguard and Hornsea P3.
- 19 The respective submitted in-combination assessments identified that the predicted number of potentially fatal collisions of kittiwake with turbines from operational, under construction and consented OWFs would be 3,446.9 birds (according to East Anglia Three, which does not include projects since that point in time) or 3,845.1 (according to Norfolk Vanguard, which include projects since East Anglia Three with the exception of Thanet Extension). The former of these two in-combination assessments matches the approach of Natural England and that was the methodology recommended by Natural England to the Applicant (PINS Ref REP3-064/ Application Ref Appendix 25 to Deadline 3 Submission).

20 Following an apportionment process to identify how many of the CRM predicted mortalities are potentially associated with the FFC SPA it was clear that Thanet Extension would make no appreciable contribution to any assessed effects. The kittiwake in-combination assessment submitted at Deadline III within the CRM clarification note (PINS Ref REP3-082/ Application Ref Deadline 3 Submission - Appendix 39) also identified that the contribution of Thanet Extension alone to the predicted mortality was between 0.43 and 1.28 kittiwakes in spring and between 0.17 and 0.35 kittiwakes in autumn to the population of the FFC SPA. These predictions represent a 0.009% and 0.003% increase in mortality in spring and autumn respectively relative to the background levels for the project alone, this is not an appreciable change. These figures should be placed in the context of the anticipated decommissioning of Blyth and Beatrice, together with the 'as built' (e.g. Hornsea ONE) and non-material amendment (eg Triton Knoll) project turbine numbers for several large projects when compared to HRA assessed turbine numbers. Therefore, there is no potential for an adverse effect on the population and hence on the integrity of the SPA from the project alone.

5.2 Conclusion of No Adverse Effect on Integrity (AEoI) for FFC SPA

- 21 Both the Applicant and Natural England are in agreement that Thanet Extension alone has no adverse effect on the integrity of the kittiwake feature of the Flamborough and Filey Coast SPA.
- 22 The Applicant recognises that Natural England has concerns that arise from consents for OWFs that have already been granted and not from the predicted impacts of Thanet Extension alone. However, the Applicant also recognises that previous assessments that led to the conclusions drawn from the assessments at East Anglia Three were over-precautionary. Since East Anglia Three a considerable amount of new evidence supports this case, such as;
- The Crown Estate's 'headroom' report (MacArthur Green, 2017) demonstrated that significant changes to as-built projects since East Anglia Three were evident and that subsequently the in-combination CRM totals should be amended accordingly (examples are provided in Table 1, where 'as built' turbine numbers in several cases are substantially smaller than as assessed and consented);

- Since the publication of the TCE report a number of large English OWF projects, such as Seagreen's Alpha & Bravo OWF, have made significant changes to their project designs, which were also not accounted for in the East Anglia Three assessments;
- Since the publication of the TCE report a number of large Scottish OWF projects, such as Orsted's Hornsea Project Two, have made significant changes to their project designs, which were also not accounted for in the East Anglia Three assessments; and
- Further reductions to overall kittiwake collision mortality rates should be accounted for following the recent announcement that Blythe OWF is to be decommissioned prior to TEOWF being built, together with a similar anticipation for the Beatrice Demonstration project. Blyth was estimated to contribute a mortality rate of 5.4 kittiwakes per annum to the cumulative total.

23 As evidenced in section 2, the Applicant considers that existing consents demonstrate that a conclusion has been drawn by the relevant Secretary of State that there is no adverse effect on the integrity of the kittiwake feature of the Flamborough and Filey Coast SPA through the in-combination of effects from those OWFs that collectively have been consented.

24 It is the Applicant's position that the addition of between 0.60 and 1.63 predicted kittiwake collision mortalities per annum from the Flamborough and Filey Coast SPA occurring as a result of Thanet Extension would not cause an adverse effect on integrity in combination. No such effect has been found to exist before the Thanet Extension was proposed. The Thanet Extension would make no appreciable contribution to the in-combination effects of other windfarms.

6 References

- SPR (2016). *East Anglia Three Revised CRM. Document Reference – Deadline 5/ Second Written Questions/ Revised CRM/ EC017 & HRA16.* Scottish Power Renewables, September 2016.
- MacArthur Green (2017). *Estimates of Ornithological Headroom in Offshore Wind Farm Collision Mortality.* The Crown Estate, London.
- Vattenfall (2018b). *Norfolk Vanguard Offshore Wind Farm – The Applicant’s Response to Section 51 Advice from The Planning Inspectorate.* October 2018, Document Reference: PB4476-008-001.