



Hornsea Project Four

Applicant's Comments on the Report on the Implications for European Sites (RIES)

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Glossary

Term	Definition
Black-legged kittiwake biogeographic population	The east Atlantic breeding population of kittiwake which includes individuals from the Flamborough and Filey Coast SPA (Stroud <i>et al.</i> , 2016). Proposed compensation measures will be undertaken within this populations breeding and migratory range.
Compensation / Compensatory Measures	If an Adverse Effect on the Integrity on a designated site is determined during the Secretary of State’s Appropriate Assessment, compensatory measures for the impacted site (and relevant features) will be required. The term compensatory measures is not defined in the Habitats Regulations. Compensatory measures are however, considered to comprise those measures which are independent of the project, including any associated mitigation measures, and are intended to offset the negative effects of the plan or project so that the overall ecological coherence of the national site network is maintained.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).
European site	A Special Area of Conservation (SAC) or candidate SAC (cSAC), a Special Protection Area (SPA) or a site listed as a Site of Community Importance (SCI). Potential SPAs (pSPAs), possible SACs (pSACs) and Ramsar sites are also afforded the same protection as European sites by the National Planning Policy Framework – para 176 (Ministry of Housing, Communities and Local Government, 2019). European offshore marine sites are also referred to as “European sites” for the purposes of this document.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017
Habitats Regulations Assessment (HRA)	A process which helps determine likely significant effects and (where appropriate) assesses adverse impacts on the integrity of European sites. The process consists of up to four stages: screening, appropriate assessment, assessment of alternative solutions and assessment of imperative reasons of over-riding public interest (IROPI) and compensatory measures.
Hornsea Project Four Offshore Wind Farm	The term covers all elements of the project (i.e. both the offshore and onshore). Hornsea Four infrastructure will include offshore generating stations (wind turbines), electrical export cables to landfall, and connection to the electricity transmission network. Hereafter referred to as Hornsea Four.
Offshore Ornithology Engagement Group (OOEG)	The Hornsea Four Offshore Ornithology Engagement Group means the group that will assist, through consultation with the undertaker in relation to the delivery of each compensation measure as identified in the kittiwake compensation plan, and the guillemot and razorbill compensation plan. Matters to be consulted upon to be determined by the Applicant and will include site selection, project/study design, methodology for implementing the measure, monitoring, and adaptive management options as set out in the kittiwake compensation plan, and the guillemot and razorbill compensation plan.

Term	Definition
National Site Network	The network of European Sites in the UK. Prior to the UK's exit from the EU and the coming into force of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 these sites formed part of the EU ecological network known as "Natura 2000".
Orsted Hornsea Project Four Ltd.	The Applicant for the proposed Hornsea Project Four Offshore Wind Farm Development Consent Order (DCO).
Planning Inspectorate (PINS)	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects (NSIPs).
Report to Inform Appropriate Assessment	The information that the Competent Authority needs to inform an Appropriate Assessment at Stage 2 of the HRA process and which has been provided by the Applicant in the RIAA (B2.2: Report to Inform Appropriate Assessment Part 1 (REP5-012) , Part 2 (REP2-005) , Part 3 (AS-013) , Part 4 (REP1-012) , Part 5-12 (APP-171-178)).
Special Area of Conservation (SAC)	Strictly protected sites designated pursuant to Article 3 of the Habitats Directive (via the Habitats Regulations) for habitats listed on Annex I and species listed on Annex II of the directive.
Special Protection Area (SPA)	Strictly protected sites designated pursuant to Article 4 of the Birds Directive (via the Habitats Regulations) for species listed on Annex I of the Directive and for regularly occurring migratory species.

Acronyms

Term	Definition
AA	Appropriate Assessment
DAA	Developable Area Approach
DCO	Development Consent Order
DML	Deemed Marine Licence
EIA	Environmental Impact Assessment
ES	Environmental Statement
EU	European Union
HRA	Habitat Regulations Assessment
IP	Interested Party
IROPI	Imperative Reasons of Overriding Public Interest
LSE	Likely Significant Effect
NE	Natural England
PEIR	Preliminary Environmental Impact Assessment
PINS	Planning Inspectorate
RIAA	Report to Inform Appropriate Assessment
SAC	Special Area of Conservation
SIP	Site Integrity Plan

SNS	Southern North Sea
SPA	Special Protection Area
UXO	Unexploded Ordnance

1 Introduction

- 1.1.1.1 The Applicant submitted a Report to Inform the Appropriate Assessment ([B2.2 RP Volume B2 Chapter 2 Report to Inform Appropriate Assessment Part 1 \(REP5-012\)](#)) for the Habitats Regulation Assessment (HRA) with the Hornsea Project Four Development Consent Order DCO application submission 29th September 2021 and has continued to engage with the relevant Interested Parties (IPs) throughout Examination. As a result of this engagement, the Applicant has made a number of additional commitments throughout the Examination in response to comments from the Examining Authority and IPs.
- 1.1.1.2 The Examining Authority (ExA) with the support of the Planning Inspectorate Environmental Services Team provided the Report on the Implications for European sites (RIES) ([PD-015](#)) on 28th July 2022. The Applicant has reviewed the RIES and Sections 2 – 5 of this document provided the Applicant's comments on that Report in this document.
- 1.1.1.3 On 28th July the ExA issued a Rule 17 letter regarding NatureScot's confirmation of no Adverse Effect on Integrity (AEol) on the Moray Firth Special Area of Conservation (SAC). The Applicant has made repeated attempts to obtain confirmation, but has not been able to obtain a response from NatureScot. The Applicant is however confident its conclusion of no AEol is robust, as set out in ([B2.2 RP Volume B2 Chapter 2 Report to Inform Appropriate Assessment Part 1 \(REP5-012\)](#)).

2 Applicant's response on the RIES Overview

- 2.1.1.1 Section 1.2 – paragraph 1.2.2 – the paragraph states that the Applicant provided a 'screening exercise for LSE in HRA terms'. The Applicant also provided a preliminary shadow appropriate assessment of the compensation measures, in addition to Stage 1 Screening. The Applicant agrees that future consents for compensatory measures would be subject to separate HRA.

- 2.1.1.2 Section 2.1 – paragraph 2.1.3 – Questions:

Q.2.1.1. The ExA is not aware of any representations from IPs identifying any additional UK European sites for inclusion in the assessment, with the exception of the Tweed Estuary SAC (see ID 3.5.1 of Table 3.5 below). IPs are invited to comment.

The Applicant concurs with the ExA's understanding.

Q.2.1.2. The ExA is also of the understanding that there is agreement regarding the citation information for the sites assessed. IPs are invited to comment.

The Applicant concurs with the ExA's understanding.

- 2.1.1.3 Section 2.2 – paragraph 2.2.7 – Question:

Q.2.2.1. The ExA is not aware of any representations from IPs identifying any additional impacts to be assessed. IPs are invited to comment.

The Applicant concurs with the ExA's understanding.

3 Applicant's Response on the RIES Section 3: Likely Significant Effects

- 3.1.1.1 Table 1 provides the Applicant's response on Section 3 of the RIES regarding Likely Significant Effects (LSE).

Table 1: Applicant’s Response on Section 3 of the RIES

Paragraph	Applicant’s Response
<p>Section 3.2 – paragraph 3.2.1</p> <p>Q.3.2.1. The ExA understands that the Applicant’s conclusions of no LSE with respect to the sites above [i.e. the River Derwent SAC, Lindisfarne SPA, Lindisfarne Ramsar and Tips of Corsemaul and Tom Mar SPA] were not disputed by any IPs during the examination. IPs are invited to comment.</p> <p>Q.3.2.2. IPs are invited to comment if there are any other UK European sites for which LSE can be excluded for all qualifying features.</p>	<p>The Applicant concurs with the ExA’s understanding.</p>
<p>Table 3.2 – ID 3.2.1</p> <p>The Applicant and NE are requested to confirm and justify their positions in relation to effects on the SNS SAC from changes to the sediment transport regime. Can NE confirm which phase(s) of the development its concerns relate to.</p>	<p>The Applicant confirms that the assessment of the impact “Changes to offshore sediment pathways (MP-O-7)” concluded no LSE (see A2.1 Marine Geology Oceanography and Physical Processes (APP-014)). The justification for this conclusion has been provided in Table 1-11 of that ES chapter which states: “Scoped out based on PINS Scoping Opinion (PINS Scoping Opinion, November 2018, ID: 4.1.2). Given the anticipated localised nature of the changes in tidal currents and waves for Hornsea Four, there is expected to be no local or regional changes in the sediment transport regime”.</p> <p>The Applicant’s HRA Screening Report B2.2: Report to Inform Appropriate Assessment Part 2: Appendix A: Habitat Regulations Assessment Screening Report considers impacts to prey items, in relation to the SNS SAC, which is the only potential indirect effect on harbour porpoise associated with changes in the local/ regional sediment transport regime. In Table 6 of that report, the following conclusions are reached:</p> <p>“Given the large foraging range of this species and the short-term duration and temporary nature of any impact, and the conclusions of the Scoping report, the PEIR and the final ES regarding fish and benthic ecology, together with the ES conclusions</p>

Paragraph	Applicant's Response
	<p><i>of a negligible impact for marine mammals as a result in any impact on prey items, the potential effect is therefore considered to be negligible and remains screened out.</i></p> <p>In terms of potential effects on the SNS SAC (harbour porpoise) through an increase in suspended sediment, the Applicant's HRA Screening Report B2.2: Report to Inform Appropriate Assessment Part 2: Appendix A: Habitat Regulations Assessment Screening Report concludes, in Table 6: Determination of potential LSE for offshore sites:</p> <p><i>"Harbour porpoise frequently occur in relatively turbid environments and are thus adapted to locating prey in such conditions. The construction and decommissioning activities will be localised and intermittent in nature and the extent and duration of any increase in suspended sediment (and subsequent deposition) being negligible, it is considered that there is little potential of a significant effect on the foraging ability of harbour porpoise."</i></p> <p>The Applicant confirms its position is that there is no LSE on the SNS SAC from changes to sediment transport regime from Hornsea Four alone or cumulatively, as evidenced in the ES and HRA supporting the DCO application (and referred to above).</p>
<p>Table 3.2 – ID 3.2.3</p> <p>Do the Applicant and NE consider that there is potential for a LSE on harbour porpoise of the SNS SAC and grey seal of the Humber Estuary SAC as a result of indirect effects on prey availability due to impacts on the Flamborough Front?</p>	<p>The Applicant has concluded that there is no potential for LSE on harbour porpoise of the SNS SAC and grey seal of the Humber Estuary SAC as a result of indirect effects on prey availability due to any potential impacts on the Flamborough Front (see G5.7 Indirect Effects of Forage Fish and Ornithology (REP5-085)). Therefore, there is no potential for LSE upon the harbour porpoise and grey seal features of the Humber Estuary SAC.</p> <p>In terms of the harbour porpoise feature of the SNS SAC and the grey seal feature of the Humber Estuary SAC, the Applicant's HRA Screening Report B2.2: Report to Inform Appropriate Assessment Part 2: Appendix A: Habitat Regulations Assessment Screening Report concludes, in Table 6: Determination of potential LSE for offshore sites:</p> <p><i>"Given the large foraging range of this species and the short-term duration and temporary nature of any impact, and the conclusions of the Scoping report, the PEIR and the final ES regarding fish and benthic ecology, together with the ES conclusions of a negligible impact for marine mammals as a result in any impact on prey items, the potential effect is therefore considered to be negligible and remains screened out."</i></p> <p>This conclusion is relevant to all areas of foraging habitat for harbour porpoise/ grey seal, including areas of potentially higher productivity such as the fluctuating 'Flamborough Front'. The Applicant therefore maintains its position regarding no potential for LSE upon the harbour porpoise feature of the SNS SAC and the grey seal features of the Humber Estuary SAC. Natural England</p>

Paragraph	Applicant's Response
	<p>has not provided any scientific evidence to counter the conclusions presented by the Applicant on no potential for LSE in relation to indirect effects on prey availability due to potential impacts on the Flamborough Front.</p>
<p>3.2.4</p> <p>Please can NE confirm whether it considers the impacts of piling on herring and indirect effects on birds and marine mammals could result in a LSE to any qualifying features of European sites, and if so, which ones.</p>	<p>The Applicant has demonstrated that there is no potential for an LSE on qualifying species (specifically ornithology and marine mammals) from potential impacts from Hornsea Four on herring stock. The harbour porpoise feature of the Southern North Sea SAC forage on a wide range of fish species, with the harbour porpoise's range covering multiple seabed types and habitats which support a wide variety of fish species. Ornithological features which forage within the southern North Sea are also forage on a range of fish species, not solely herring. Herring populations within the North Sea are highly mixed out with spawning periods, with the whole North Sea population (Scottish spawning stocks, English Channel spawning stocks and the spring spawning stocks from the Baltic and Nordic countries) managed as a single stock for fisheries purposes. Therefore, impacts to the Bank's herring stock would not alter the prey availability or fish community structure.</p> <p>The Applicant strongly maintains its position that that the originally proposed restriction period of 1st September to 16th October each year utilises a sufficiently precautionary approach and as a result, provides a robust mitigation of the potential effects of piling of the HVAC booster station on herring spawning.</p> <p>Notwithstanding, whilst the Applicant believes it has presented a scientifically accurate and robust justification for the proposed 'peak' herring spawning period throughout this Examination, in response to the MMO's ongoing concerns, the Applicant has submitted its final position as Appendix D of G1.10 Clarification Note on Peak Herring Spawning Period and Seasonal Piling Restriction at Deadline 7 (REP7-065). This Appendix sets out a compromise piling restriction period for the HVAC booster stations commencing 21st August (10 days earlier than originally proposed) to 23rd October (7 days later than originally proposed). Further, in order to provide the MMO with comfort around impacts from increased suspended sediment concentrations and smothering on spawning herring, the Applicant proposes a restriction on seabed preparation activities using either dredgers or control flow excavator (CFE) tools seaward of Mean High Water Springs (MHWS) out to the westernmost extent of the HVAC Booster Station Works Area during the same time period above.</p> <p>The updated piling restriction period is updated in the draft DCO at Deadline 7 (REP7-039). The updated restriction on seabed preparation activities has been incorporated into F2.15 Outline Cable Specification and Installation Plan (REP7-056) (updated and submitted at Deadline 7).</p>

Paragraph	Applicant's Response
<p>Table 3.2 – ID 3.2.6</p> <p>The Applicant is requested to confirm if the ExA's assumption is correct.</p>	<p>The Applicant can confirm that the ExA's assumption regarding LSE is correct. However, the Applicant would emphasise that sufficient information has been provided regardless, as an 'illustrative assessment,' in [REP4-045] to inform the SoSs AA of potential impacts on harbour seal from vessel movements.</p>
<p>Table 3.3 – ID 3.3.7</p> <p>(i) Can the Applicant confirm whether the screening conclusions presented in Matrix 24 of [AS-012] have altered as a result on the revised assessments [REP5-078]?</p>	<p>The Applicant can confirm that screening conclusions in relation to Matrix 24 (AS-012) have not changed and all possible sources of effects screened in for assessment have been assessed, where applicable, using the revised baseline data as presented in the EIA and HRA Annex (REP6-028).</p> <p>The Applicant provided updated data for all auk species (guillemot, razorbill and puffin) at Deadline 5a to include both flying and sitting birds [REP5a-011] which is included in the updated and agreed baseline data presented in [REP5a-009], in line with Natural England's request to allow for barrier effects to be incorporated into the assessment of displacement for these species. The Applicant had already included both flying and sitting birds in the displacement analysis for gannet, which is also in line with Natural England's guidance, in order to account for barrier effects within the displacement analysis for this species. The Applicant notes that Natural England [REP6-057] consider that given the data presented now includes both flying and sitting birds for all three auk species and gannet in the assessment of displacement then the potential for barrier effect is incorporated into the assessment for all four species for both the construction and the operation and maintenance phases of the project.</p> <p>The Applicant notes that Natural England now consider [REP6-057] that barrier effects have been encompassed into all the relevant components of the updated assessments for key species, though whilst the potential for barrier effects acting upon kittiwake cannot be ruled out, this will not make a material difference to their position.</p> <p>Following Natural England's submission [REP6-057], it is the Applicant's position that all data have been appropriately presented and assessed for barrier effect for all key species for all phases of the project. The conclusions of the Applicant's assessments at the EIA level remain that there are of no significant adverse effect for Hornsea Four alone and cumulatively for all species with regards to construction and operational & maintenance displacement and barrier effects. The conclusions of the Applicant's assessments at the HRA level also remain that there will be no adverse effect on integrity to any designated sites with regards to all qualifying features as a result of construction and operational & maintenance displacement and barrier effects from Hornsea Four alone and in combination with other plans and projects.</p> <p>The Applicant maintains its position with regards to the appropriateness of those species scoped in for EIA level assessments and screened in for HRA level assessments within the original ES chapter [APP-017], HRA Screening Matrices [AS-012] and RIAA [APP-</p>

Paragraph	Applicant's Response
	<p>067], respectively. However, it should be noted that through the provision of updated data incorporated into the displacement analysis for all three auks species to account for flying and sitting birds (gannet included such data from initial assessments) then all key species now account for barrier effects within the assessments.</p>
<p>Table 3.3 – ID 3.3.12</p> <p>In [REP2-047] and [REP3-054], the Applicant and NE refer to AEol. Please can the Applicant and NE confirm the ExA's understanding that both parties agree there is a LSE on razorbill of the Farne Islands SPA?</p>	<p>The Applicant can confirm that there is no likely significant effect on razorbill from the Farne Islands SPA (for which razorbill is a component of the seabird assemblage feature) alone and in-combination from potential displacement impacts from Hornsea Four. For clarity, the Applicant provided an assessment for this species, at the request of NE, the outcome of the which was submitted into the examination [REP2-047], which clearly shows that the level of impact predicted is so low as to be considered no material contribution to the natural baseline mortality rates at this colony and would not provide any meaningful contribution to the in-combination effects. The Applicant is of the position that this justifies why the seabird assemblage feature (of which razorbill is a named component) was screened out for no LSE in the HRA Screening [AS-012]. If an LSE did exist (which the Applicant disputes) the assessment demonstrates there is no adverse effects on integrity from Hornsea Four alone or in-combination.</p> <p>In response to Natural England's request to confirm that the predicted levels of impact remain the same using the updated design-based estimates the Applicant can confirm that following the updated baseline data [REP5a-009] there would be no material change to the abundances of razorbill estimated to be present within the Hornsea Four array area and 2 km buffer. Therefore, the Applicant can confirm that there would be no change to the conclusion of the additional assessment provided for razorbill from the Farne Islands SPA [REP2-047]. The Applicant notes that based on the conclusion of no material change to the abundance estimates following the updated baseline, Natural England agree that an AEol can be ruled out for razorbill (as a component of the seabird assemblage) and the seabird assemblage of the Farne Islands SPA (REP7-105).</p>
<p>Table 3.3 – ID 3.3.13</p> <p>(i) Can the Applicant clarify whether Lindisfarne SPA, Lindisfarne Ramsar and the Tips of Corsemaul and Tom Mor SPA have been subject to full HRA screening?</p>	<p>The Applicant is able to clarify that following the initial site selection process described in Section 5.2 and the associated screening criteria described in Appendix A of the HRA Screening report [REP2-005] only those designated sites with qualifying features identified through the screening process were taken through to the assessment of LSE in Section 6. As no qualifying features from Lindisfarne SPA and Lindisfarne Ramsar were identified through the screening process then both sites were omitted from further consideration in the HRA screening report. Therefore, the Applicant can confirm that both sites were subjected to full HRA screening.</p>
<p>Table 3.4 – ID 3.4.1</p> <p>The ExA is not aware of any concerns raised by IPs in respect of bittern. The ExA</p>	<p>Whilst this question appears to be directed at NE, the Applicant can confirm that LSE can be excluded for the bittern qualifying feature of the Humber Estuary SPA.</p>

Paragraph	Applicant's Response
<p>seeks confirmation from NE that LSE can be excluded for the bittern qualifying feature of the Humber Estuary SPA.</p>	
<p>Table 3.5 – ID 3.5.1</p> <p>The Applicant is invited to comment on this matter [lamprey features of the Humber Estuary and Tweed Estuary SACs].</p>	<p>As the ExA notes the lamprey features of the Humber Estuary SAC were considered in the Applicant's HRA Screening Report B2.2: Report to Inform Appropriate Assessment Part 2: Appendix A: Habitat Regulations Assessment Screening Report, in Table 6: Determination of potential LSE for offshore sites, – and subsequently screened out.</p> <p>In terms of the of the Tweed Estuary SAC, this site was not included in the HRA as it is a significant distance from the Hornsea Four proposal (located 257 km from Hornsea Four) – over three times further than the Humber Estuary SAC. Based on the likely scale and duration of impacts associated with the OWF and associated infrastructure and the significant distance of the Tweed Estuary SAC from Hornsea Four, the Applicant maintains its position that this site is outside the scope of potential impacts and thus the scope of the HRA.</p>

4 Applicant's Response on the RIES Section 4: Adverse Effects on Integrity

4.1.1.1 Table 2: Applicant's Response on Section 4 of the RIES provides the Applicant's response on Section 4 of the RIES.

Table 2: Applicant’s Response on Section 4 of the RIES

Paragraph	Applicant’s Response
<p>Section 4.1 – paragraph 4.1.3</p> <p>Q.4.1.1. The ExA understands that: at the point of reporting there is agreement that the conservation objectives applied to the Applicant’s assessment are correct in all cases, and that there are no disputes over the interpretation of the conservation objectives in the information provided to support the competent authority’s appropriate assessment. IPs are invited to comment.</p>	<p>The Applicant concurs with the ExA’s understanding of this matter.</p>
<p>Section 4.3 – paragraph 4.3.2</p> <p>Q.4.3.1. IPs are invited to comment if the ExA’s understanding set out in Table 4.1 below is incorrect.</p>	<p>The Applicant concurs with the ExA’s understanding as set out in table 4.1.</p>
<p>Table 4.2 – ID 4.2.1</p> <p>The Applicant and NE are requested to provide an update on this matter. Please can NE confirm whether it agrees an AEol can be excluded?</p>	<p>The Applicant can confirm that this matter has not been resolved with NE. The Applicant provided an illustrative assessment of the potential effects of high order detonation in REP1-038 at the request of NE, despite UXO clearance not forming part of the proposed application (it will be subject to a separate marine licence application in the future). That illustrative assessment was based on a highly unrealistic worst-case scenario as the Applicant’s anticipated design envelope for UXO clearance is to use low order methods to clear all UXO and therefore the likelihood of a high order detonation being required is extremely low.</p>
<p>Table 4.2 – ID 4.2.27</p> <p>(i) NE stated in [REP3-054] that it would agree there would be no AEol for razorbill if the impacts remain the same as reported in [REP2-047] further to the revised abundance estimates. Can the Applicant confirm whether the mortality predicted in [REP2-047] has changed further to the revision of abundance estimates? Does the Applicant intend to revise [REP2-047]?</p>	<p>The Applicant can confirm that following the updated baseline data [REP5a-009] there would be no material change to the abundances of razorbill estimated to be present within the Hornsea Four array area and 2 km buffer. Therefore, the Applicant can confirm that there would be no change to the conclusion of the assessment provided for razorbill from the Farne Islands SPA [REP2-047] (despite the Applicant maintaining there is no LSE) and that Natural England agree that an AEol can be ruled out for razorbill (as a component of the seabird assemblage) and the seabird assemblage of the Farne Islands SPA (REP6-057) due to no material change to the abundance estimates using the revised baseline data. Therefore, the Applicant does not intend to revise the assessment provided on razorbill from the Farne Islands SPA [REP2-047].</p>
<p>Section 4.2 – paragraph 4.4.9</p>	<p>The Applicant concurs with the ExA’s understanding – as set out in section 4.2 and tables 4.3 and 4.4.</p>

Paragraph	Applicant's Response
<p>Q4.4.1 IPs are invited to comment if the ExA's understanding set out in this section and in Table 4.3 and 4.4 with regards to the in-combination assessment methodology is incorrect.</p> <p>Q4.4.2 IPs are invited to comment if the ExA's understanding set out in this section and in Table 4.3 and 4.4 below or the assessment outcomes is incorrect.</p>	
<p>Table 4.3 – ID 4.3.7</p> <p>Can the Applicant confirm if it intends to revise the outline SIP for SNS SAC?</p>	<p>The Applicant can confirm the outline SIP for SNS SAC has been updated and submitted at Examination Deadline 7 – document reference F2.1.1: Outline Southern North Sea Special Area of Conservation Site Integrity Plan (tracked).</p>

5 Applicant's Response on the RIES Sections 5 and 6: Alternatives and IROPI, Compensation Measures

5.1.1.1 Table 3 provides the Applicant's response on Section 5 of the RIES.

Table 3: Applicant’s Response on Sections 5 and 6 of the RIES

Paragraph	Applicant’s Response
<p>Section 5.1 – paragraph 5.1.4</p> <p>Q.5.1.1. The ExA’s understanding is that further parameter refinement (relating to the Maximum Design Scenarios) is desired by NE but is not currently proposed by the Applicant.</p> <p>(i) Can the Applicant confirm whether there are any further refinements or mitigation under consideration? If so, is there evidence that they would result in a lesser adverse effect on integrity for any of the sites and features concerned?</p>	<p>The Applicant can confirm that there are no further feasible refinements or mitigations for Hornsea Four which would contribute to a material reduction in the predicted collision risk or disturbance impacts from Hornsea Four on any of the key seabird qualifying species of Flamborough Front SPA, namely kittiwake, guillemot and razorbill.</p> <p>The Applicant has throughout the development phase of the project, and through examination, sought to challenge ourselves on bringing forth a project that balances the relative environmental sensitivity of parts of the site with the urgent and overriding need for Hornsea Four a need which is materially strengthened following publication of the British Energy Security Strategy (See Appendix A of F1.6: Statement of Need (REP7-052)).</p> <p>All feasible alternatives considered by the Applicant have been set out in Step 3: Consideration of Alternatives in B2.5: Habitats Regulations Assessment Without Prejudice Derogation Case (AS-017), which presents a Consideration of Feasible Design Alternatives, including the Applicants interpretation of further parameter refinement mentioned herein, for Hornsea Four (see 12.10.1.2 to 12.11.1.9 and Table 12-1).</p> <p>The Applicant would like to highlight the innovative and precedent setting work completed on the Developable Area Approach (DAA) which has resulted in a significant site reduction (846-468km²), with corresponding reduction in energy generation potential notwithstanding, the clear and increasing need for renewable energy, and through which those areas of higher environmental sensitivity within the original site area have been excluded. DAA#1 resulted in ~54% reduction in bird numbers (density of key species over the 2-year survey period) between what was observed in the original AfL (846 km²) to that reduced AfL (600 km²). DAA#3 within the north of the AfL was undertaken in an effort to reduce/eliminate the potential for AEol upon the guillemot and razorbill features of the FFC SPA by removing the remaining areas of high auk (guillemots and razorbills) density to the northwest of the AfL and thereby significantly reducing bird numbers within the final development footprint (~7% reduction in the mean peak abundance across all bioseasons).</p> <p>No stakeholders have identified any further specific parameter refinement which would be both feasible and beneficial to consider in respect of kittiwake, guillemot and razorbill. The applicant has revisited and</p>

Paragraph	Applicant's Response
	<p>stands by the technical parameters that have been considered and discounted in Table 12-1 of B2.5 Habitats Regulations Assessment Without Prejudice Derogation Case (AS-017), such as raising lower tip height, decreasing the number of turbines and operational shutdown. This is due to the substantial work already undertaken by the Applicant in this regard..</p> <p>The lower tip height has already been raised to such heights relative to the flight height for kittiwake that to raise it further, is not considered technically feasible, but would in any event have little to no material change to collision numbers. The lower tip height will be a minimum of 40 m above Mean Sea Level (MSL) (42.43 m above LAT), a new "industry record" and significantly higher than other recent offshore wind farm developments.</p> <p>Reducing the number of turbines and operational shutdown have been considered by the Applicant. Reduction in the numbers of turbines has been considered and implemented at multiple stages of project development, reducing from an upper development potential at the pre-scoping stage of 600 – 700 turbines (assuming the same turbine density per km²). Further evaluation post-Scoping reduced the upper number of turbines to 180 while maintaining the project need and objectives, including to meet the full grid connection capacity of 2.6GW.</p> <p>The imposition of temporary operational shutdowns of turbines could only realistically be considered for species with a distinct and well-established migratory behaviour which occurs over a brief period of time – a scenario that does not apply to the features of the Flamborough and Filey Coast (FFC) Special Protection Area (SPA) under consideration and, for that reason, has been discounted as an alternative for all previous projects similarly found to contribute to AEoI in respect of FFC SPA.</p> <p>Further options for refinement of maximum design parameters may be desirable and IPs may identify theoretical options, but that does not make them 'alternative solutions' for HRA purposes. Alternatives must be feasible (technically, legally, and commercially) and must achieve the objectives of the project, which respond to the urgency and scale of identified need for offshore wind as a response to climate change. As stated above, due to the substantial work already undertaken by the Applicant in this regard, no feasible alternatives remain. As there are no further <i>feasible</i> alternative solutions, there are no implications for the 'alternative solutions test'.</p>