



Hornsea Project Four

Statement of Common Ground between Hornsea Project Four and Natural England: Derogation Matters

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Annexes

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1 Introduction

1.1 Reason for this document

1.1.1.1 This Statement of Common Ground (SoCG) has been prepared between Orsted Hornsea Project Four Limited ('the Applicant') and Natural England to set out the areas of agreement and disagreement between the two parties on Derogation and Compensation Matters in relation to the proposed Development Consent Order (DCO) application for the Hornsea Project Four offshore wind farm (hereafter 'Hornsea Four').

1.1.1.2 This SoCG covers Derogation and Compensation Matters only. Separate SoCG's have been prepared with Natural England on further relevant topics as set out in [Table 1](#) below.

Table 1 Summary of all SoCG sought with Natural England

SoCG sought with Natural England	Document Reference
SoCG between Hornsea Project Four and Natural England: Onshore Matters	F3.5
SoCG between Hornsea Project Four and Natural England: Offshore Ornithology	G1.9
SoCG between Hornsea Project Four and Natural England: Other Offshore Matters	G1.10

1.1.1.3 The need for a SoCG between the Applicant and Natural England is set out within the Rule 6 letter issued by the Planning Inspectorate (PINS) post-application of the Hornsea Four DCO ([Rule 6 Letter](#)).

1.1.1.4 Following detailed discussions undertaken through the Compensation Workshops and evidence submitted to support these, the Applicant and Natural England have sought to progress a SoCG (see [Table 2](#) and [Table 3](#)). It is the intention that this document will provide the Examining Authority (ExA) with a clear overview of the level of common ground between both parties at the point of DCO Application, in relation to Derogation and Compensation Matters. This document will facilitate further discussions between the Applicant and Natural England and the SoCG will be updated as discussions progress prior to and during the Hornsea Four DCO examination.

1.2 Approach to SoCG

1.2.1.1 The Applicant has provided information to support a Habitats Regulations Assessment (HRA) of Hornsea Four, specifically, an Appropriate Assessment (AA) documented in the Report to Inform an Appropriate Assessment ("the RIAA") ([Volume 2, Annex 2: Report to Inform Appropriate Assessment Part 1-12 \(APP-167to APP-178\)](#)). In accordance with the Habitats Regulations, the RIAA considers whether Hornsea Four could result in an Adverse Effect on Integrity ("AEoI") on a conservation site of European importance (European site), either alone or in-combination with other plans and projects.

1.2.1.2 The Applicant's evidence presented within the Report to Inform Appropriate Assessment (RIAA) (see [Volume 2, Annex 2: Report to Inform Appropriate Assessment Part 1-12 \(APP-167to APP-178\)](#)), at the point of application, concluded that Hornsea Four will not have an

AEol on any European site, either alone or in combination. After considering the Secretary of State's decision for Norfolk Boreas and the associated Habitats Regulations Assessment (HRA), which follows from the decision made for Hornsea Three, the Applicant has revisited its conclusion of no potential for adverse effects on integrity (AEol) in respect of the black-legged kittiwake feature of the FFC SPA from Hornsea Four in-combination with other plans and projects.

- 1.2.1.3 The Applicant will present an update to the Report to Inform Appropriate Assessment (RIAA) and its derogation case based on an overall conclusion that there is potential for an AEol on kittiwake at the FFC SPA from Hornsea Four in-combination with other projects. These changes will be captured in Revision 2 of [B2.2.1.2 Report to Inform Appropriate Assessment Part 2](#) and Revision 2 of [B2.5.1: Without Prejudice Derogation Case](#) and subsequently updated upon request from the Examining Authority (ExA). The Applicant maintains its position of no AEol alone or in-combination for all other qualifying species or seabird assemblage of the FFC SPA and for all other European sites¹. The Applicant has produced an update regarding the Derogation and Compensation measures position for Deadline 1 which describes the significant progress since DCO submission (see [G1.50 Compensation measures for FFC SPA: Derogation and Compensation Update Position Statement](#)).
- 1.2.1.4 During the consideration of the Application for Hornsea Three Offshore Wind Farm (Hornsea Three), the Secretary of State (SoS) clarified the importance of i) identifying the potential for adverse impacts on the integrity of designated sites during the pre-application period and ii) considering the need for derogation of the Habitats Regulations during the examination, where there is potential for AEol. The SoS further expected Applicants and statutory nature conservation bodies ("SNCBs") to engage constructively during the pre-application period and on these matters, including possible compensatory measures, for consideration during the examination. The SoS was clear that this requirement does not necessarily require that agreement is reached between the Applicant and the SNCBs on the potential for significant adverse impacts on designated sites and evidence relating to derogation can be provided on a "without prejudice" basis, as the final decision on such matters remains for the SoS.
- 1.2.1.5 The "without prejudice" Derogation Case forms part of the application for development consent. Its purpose is to provide, without prejudice, information to demonstrate that the

¹ Please note that gannet has been separated from kittiwake in the compensation documents to reflect the position on AEol and that compensation are now considered necessary for kittiwake, whereas for gannet the Applicant remains confident there would be no AEol alone or in combination and the compensatory measures for gannet remain "without prejudice" measures (see [G1.50 Compensation measures for FFC SPA: Derogation and Compensation Update Position Statement](#)).

Article 6 (4) derogation tests could be met for Hornsea Four if it is necessary to resort to them to authorise the project.

1.2.1.6 This SoCG therefore focusses on the “without prejudice” Derogation Case submitted with the Hornsea Four DCO Application. All compensation measures for kittiwake are no longer “without prejudice”.

1.2.1.7 The structure of this SoCG is as follows:

- Section 1: Introduction;
- Section 2: Consultation;
- Section 3; Agreements Log; and
- Section 4; Summary.

1.3 Overview of Hornsea Four Compensation Measures

1.3.1.1 The Hornsea Four compensation options being considered are:

- **Offshore nesting:** the construction of an offshore artificial nest site or the repurposing of existing oil and gas assets to increase the annual recruitment of kittiwake and gannet into the regional population of the southern North Sea;
- **Onshore nesting:** artificial nesting structure will be located within one of two search zones (one in East Suffolk, and the other from Cayton Bay to Blyth). The structures will be designed to accommodate nesting pairs of kittiwake and gannet;
- **Predator eradication:** Seabirds have a number of natural predators distributed across their range. The most prevalent predator to seabirds generally is rats, which the Applicant proposes to implement a predator eradication programme at selected guillemot and/ or razorbill breeding colonies, such as Guernsey and Alderney;
- **Bycatch reduction:** the incidental capture of non-target species in fisheries – can present a significant pressure on seabird populations. The Applicant proposes to support the overall numbers of these birds through the reduction of bird bycatch in selected UK fisheries with connectivity to the national site network; and
- **Fish habitat enhancement:** Seagrass meadows are amongst the most productive marine habitats in the UK. Seagrass provides rich nursery habitat for a fifth of the world’s biggest fishing species including pollock, herring and whiting, meaning their restoration can improve prey availability.

2 Consultation

2.1 Summary of consultation with Natural England

2.1.1.1 The Applicant recognises the importance of engaging with the relevant stakeholders with respect to Article 6(4) and developing any potential compensation measures, as their

knowledge is important. The Applicant has therefore sought to engage openly and transparently with the key stakeholders.

2.1.1.2 Consultation on the Derogation Provisions has been ongoing in the latter stages of the pre-application stage during the course of a series of online workshops. These online consultations were employed during the COVID-19 pandemic to substitute meetings in-person.

2.1.1.3 **Table 2** below summarises the consultation that the Applicant has undertaken with Natural England during the pre-application phase.

2.1.1.4 Natural England have provided their agreement in principle to the continuing development of the proposed Compensation Measures and do not require the Applicant to consider other compensation measures.

Table 2 Summary of pre-application consultation with Natural England

Date	Form of consultation	Statutory/Non Statutory	Summary
24/06/2020	Online Hornsea Three and Four Compensation Workshop	Non-statutory	To introduce intention to produce 'without prejudice' derogation case. The applicant discussed and obtained feedback on the draft long-list of potential compensation measures presented. The applicant shared their approach to identifying compensation options and long-term implementation.
11/08/2020	Online Hornsea Three and Four Compensation Workshop	Non-statutory	Presentation and discussion of work completed to date on feasible compensation measures, namely artificial nest provision and prey availability research; this was predominately on options for Hornsea Three but informed Hornsea Four's case. Stakeholder responses to the measures were determined.
25/08/2020	Online workshop Compensation measures	Non-statutory	More in-depth discussion of artificial nesting as compensation option for kittiwake. Agenda was focused primarily on Hornsea 3 but informed Hornsea Four's case. The applicant presented calculations to determine number of nest sites required, and also discussed suitable locations, securing sites, adaptive management and roadmap to delivery of the measure.
08/09/2020	Meeting Note: joint Hornsea Three and Four agenda.	Non-statutory	The Applicant obtained advice in relation to offshore fisheries management and the effectiveness of the proposed prey-related compensation. The Applicant discussed offshore fisheries management, with the position that it is legally inappropriate to pursue in the DCO and must be Government led. The effectiveness of prey-related compensation was discussed, with stakeholders reiterating their support for inclusion of prey availability.

Date	Form of consultation	Statutory/Non Statutory	Summary
25/11/2020	Online workshop Compensation measures	Non-statutory	<p>This meeting provided feedback from Natural England on the feasibility and preference for the measures presented, and introduced workstreams pursued for kittiwake, guillemot, razorbill and gannet. The Applicant presented on the PVA modelling, the use of EC Guidance (2018) criteria to identify feasible compensation measures and the feasibility and preferences for measures.</p>
22/01/2021	Online workshop Compensation measures	Non-statutory	<p>This meeting provided The Applicant the opportunity to discuss the proposed compensation measures and establish whether Natural England think they are feasible (either alone or as part of a suite of measures). The Applicant presented on the offshore nesting, Guillemot and Razorbill Fisheries Bycatch and prey availability and seagrass restoration evidence bases and next steps.</p> <p>An update on prey available evidence was provides, as well as DMP and British True for Ornithology modelling progress to date.</p>
28/05/2021	Online workshop Compensation measures	Non-statutory	<p>The Applicant provided an update on the compensation workstreams. The Applicant presented on kittiwake nesting census survey work of oil and gas platforms, as well as prey distribution work. Location and colonisation period of potential new or repurposed offshore nesting structures discussed, in addition to decommissioning of oil and gas structures.</p> <p>The Applicant presented on the results of bycatch reduction to date. Proposals for bycatch reduction trials were also discussed.</p> <p>The Applicant presented on predator eradication results: the shortlisting process and potential of the Channel Islands and Isles of Scilly.</p> <p>The Applicant presented seagrass restoration work to date, including summer 2021 monitoring plans and filling evidence gaps.</p> <p>An overview of seabird prey resource research was presented.</p> <p>The concept of putting forward a “package of compensation measures” was discussed.</p>

Date	Form of consultation	Statutory/Non Statutory	Summary
03/08/2021	Online workshop Compensation measures	Non-statutory	<p>The Applicant provided an update on the progress of Hornsea Four evidence workstreams for compensation measures. Prior to the workshop, the Applicant submitted several compensation plans and requested comments on the plans. The outline structure of the Roadmaps was presented.</p> <p>The Applicant also presented on kittiwake population modelling to identify the population of first-time breeders available to recruit to new colonies and site selection work for offshore nesting structures and early-stage designs.</p> <p>The Applicant gauged Natural England's views on the merit of the compensation measures.</p> <p>The Applicant presented an update on the bycatch reduction proposals, results of fisheries consultation, the details of proposed pilot study; predator eradication work including proposed locations for inclusion; and seagrass restoration proposals.</p> <p>The commitments as part of the HOW03 submission and HOW04 potential extension to the research regarding seabird prey resource were presented.</p>
03/02/2022	Online workshop Compensation measures	Non-statutory	<p>The Applicant provided an update on the progress of Hornsea Four evidence workstreams for compensation measures. This workshop described the progress on artificial nesting site selection, site investigations and stakeholder engagement. Updates were provided on the bycatch reduction technology selection phase.</p> <p>The Applicant informed Natural England of the conclusion of AEol for in-combination effects on kittiwake. The Applicant committed to implementing the nesting structure three breeding seasons ahead of operation.</p> <p>Prior to the workshop a memo was circulated on the approach to the compensation calculations (submitted 2021). The compensation calculations were discussed and agreed.</p>
14/02/2022	Online workshop Compensation measures	Non-statutory	<p>The Applicant provided an update on the progress of Hornsea Four evidence workstreams for compensation measures. Updates were provided on the implementation studies for predator eradication and fish habitat enhancement. A commitment was made to implement the suite of measures bycatch, predator eradication and fish habitat enhancement</p>

Date	Form of consultation	Statutory/Non Statutory	Summary
			for guillemot and razorbill. The compensation calculations were discussed and agreed.

3 Agreement Log

3.1 Overview

- 3.1.1.1 The following sections (Section 3.2 - 3.6) of this SoCG set out the level of agreement between the parties for each relevant topic (as identified in Section 1.1).
- 3.1.1.2 **Table 3** presents the list of documents (and their document references) that have informed the level of agreements presented in Section **Error! Reference source not found. - Error! Reference source not found.**

Table 3: Relevant derogation and compensation documents to this SoCG.

Document Title
Compensation Environmental Impact Assessment Methodology Annexes
A4.6.1 ES Volume A4 Annex 6.1 Compensation Project Description.
A4.6.2 ES Volume A4 Annex 6.2 Compensation Location Plans.
A4.6.3 ES Volume A4 Annex 6.3 Compensation Impacts Register.
A4.6.4 ES Volume A4 Annex 6.4 Compensation Commitments Register.
A4.6.5 ES Volume A4 Annex 6.5 Compensation EIA Annex Part 1.
A4.6.5 ES Volume A4 Annex 6.5 Compensation EIA Annex Part 2.
A4.6.5 ES Volume A4 Annex 6.5 Compensation EIA Annex Part 3.
A4.6.5 ES Volume A4 Annex 6.5 Compensation EIA Annex Part 4.
A4.6.5 ES Volume A4 Annex 6.5 Compensation EIA Annex Part 5.
A4.6.5 ES Volume A4 Annex 6.5 Compensation EIA Annex Part 6.
Derogation
B2.4 RP Volume B2 Chapter 4 Summary Statement.
B2.5 RP Volume B2 Chapter 5 Without Prejudice Derogation Case.
B2.6 RP Volume B2 Chapter 6 Compensation measures for FFC SPA Overview.
B2.6.1 RP Volume B2 Annex 6.1 Compensation measures for FFC SPA Compensation Criteria.
B2.6.2 RP Volume B2 Annex 6.2 Compensation measures for FFC SPA Prey Resource Evidence.
B2.7 RP Volume B2 Chapter 7 FFC SPA Gannet and Kittiwake Compensation Plan.
B2.7.1 RP Volume B2 Annex 7. 1 Compensation measures for FFC SPA Offshore Artificial Nesting Ecological Evidence.
B2.7.2 RP Volume B2 Annex 7.2 Compensation measures for FFC SPA Offshore Artificial Nesting Roadmap.
B2.7.3 RP Volume B2 Annex 7.3 Compensation measures for FFC SPA Onshore Artificial Nesting Ecological Evidence.

Document Title

B2.7.4 RP Volume B2 Annex 7.4 Compensation measures for FFC SPA Onshore Artificial Nesting Roadmap.

B2.7.5 RP Volume B2 Annex 7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design.

B2.7.6 RP Volume B2 Annex 7.6 Outline Gannet and Kittiwake Implementation and Monitoring Plan.

B2.8 RP Volume B2 Chapter 8 FFC SPA Gannet Guillemot and Razorbill Compensation Plan.

B2.8.1 RP Volume B2 Annex 8.1 Compensation measures for FFC SPA Bycatch Reduction Ecological Evidence.

B2.8.2 RP Volume B2 Annex 8.2 Compensation measures for FFC SPA Bycatch Reduction Roadmap.

B2.8.3 RP Volume B2 Annex 8.3 Compensation measures for FFC SPA Predator Eradication Ecological Evidence.

B2.8.4 RP Volume B2 Annex 8.4 Compensation measures for FFC SPA Predator Eradication Roadmap.

B2.8.5 RP Volume B2 Annex 8.5 Compensation measures for FFC SPA Fish Habitat Enhancement Ecological Evidence

B2.8.6 RP Volume B2 Annex 8.6 Compensation measures for FFC SPA Fish Habitat Enhancement Roadmap

B2.8.7 RP Volume B2 Annex 8.7 Outline Gannet Guillemot and Razorbill Implementation and Monitoring Plan

B2.9 RP Volume B2 Chapter 9 Record of Consultation

B2.10 RP Volume B2 Chapter 10 Without Prejudice Derogation Funding Statement

Pre Examination Documents

G1.5 Kittiwake AEoI Conclusion Position Paper

- 3.1.1.3 In order to easily identify whether a matter is 'agreed', 'not agreed' or an 'ongoing point of discussion', the colour coding system set out in [Table 4](#) below is used within the 'position' column of the following sections of this document.

Table 4 Position Status Key

Position Status	Position Colour Coding
<p>Agreed The matter is considered to be agreed between the parties</p>	Agreed
<p>Not Agreed – no material impact The matter is not agreed between the parties, however the outcome of the approach taken by either the Applicant or Natural England is not considered to result in a material impact to the compensation.</p>	Not Agreed – no material impact
<p>Not Agreed – material impact The matter is not agreed between the parties and the outcome of the approach taken by either the Applicant or Natural England is considered to result in a material impact to the compensation.</p>	Not Agreed – material impact
<p>Ongoing point of discussion The matter is neither ‘agreed’ nor ‘not agreed’ and is a matter where further discussion is required between the parties (e.g where documents are yet to be shared with Natural England).</p>	Ongoing point of discussion

3.1.1.4 Each agreement log table for each compensation option contains the follow areas for agreement, taken from the Roadmap for each respective compensation measure:

1. Efficacy of compensation measure (please see Agreement Log)
2. Timescale for delivery
3. Site selection, design, and construction
4. Monitoring and adaptive management
5. Decommissioning
6. Securing consents and agreements
7. DCO wording

3.2 Offshore nesting

Table 5 Agreement Log: Offshore nesting

ID	Hornsea Fours Position	Natural England Position	Position Summary
Efficacy of compensation measure			
OffN1	The compensation measure has merit. The Applicant has demonstrated the compensation measure has merit through the ecological evidence and compensation plan submitted with the DCO (see B2.7 RP Volume B2 Chapter 7 FFC SPA Gannet and Kittiwake Compensation Plan (APP-186) and B2.7.1 RP Volume B2 Annex 7. 1 Compensation measures for FFC SPA Offshore Artificial Nesting Ecological Evidence (APP-187)).	The measure has theoretical merit as potential compensation for kittiwake at a population level. Natural England consider that there is insufficient evidence to suggest that the creation of an artificial colony for Northern gannet would be successful. Creation of ANS for gannet is experimental and high risk.	Kittiwake - Agreed Gannet - Not Agreed – material impact
OffN2	The measure is technically feasible. The Applicant has demonstrated the compensation measure is technically feasible through the ecological evidence, compensation plan, site selection and design and roadmap submitted with the DCO (see B2.7 RP Volume B2 Chapter 7 FFC SPA Gannet and Kittiwake Compensation Plan (APP-186) and B2.7.1 Compensation measures for FFC SPA Offshore Artificial Nesting Ecological Evidence (APP-187) , B2.7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design (APP-191) , and B2.7.2 Compensation measures for FFC SPA Offshore Artificial Nesting Roadmap (APP-188)).	The measure is technically feasible for kittiwake. The provision of a gannet colony requires more space than a kittiwake ANS and the provision of a structure optimised for both species may prove challenging, although a reasonable solution may be possible.	Kittiwake - Agreed Ongoing point of discussion for gannet.
OffN3	The evidence provided demonstrates the ecological efficacy of the measure. The Applicant has presented the evidence of the ecological efficacy through the ecological evidence submitted with the DCO (see B2.7.1 RP Volume B2 Annex 7. 1 Compensation measures for FFC SPA Offshore Artificial Nesting Ecological Evidence (APP-187)).	The evidence provided does not fully demonstrate the ecological efficacy of the measure for either species. Evidence that nest availability is a limiting factor needs to be provided.	Ongoing point of discussion for kittiwake.

ID	Hornsea Fours Position	Natural England Position	Position Summary
		Further evidence should be provided to help us understand which factors may influence the colonisation of offshore structures by kittiwake.	
		Evidence needs to be provided to demonstrate use of offshore structures by gannet as the material provided to date has not addressed NE's concerns.	Gannet - Not Agreed – material impact
OffN4	The Applicant's compensation measure comprises the delivery of one artificial nesting structure in either the offshore or onshore environment (preferred option being offshore repurposed of an existing offshore structure, such as a platform which is due for decommissioning) with each capable of supporting the number of breeding pairs of kittiwake and gannet.	Natural England note that it is not currently possible to confirm whether a single structure is sufficient whilst the impact levels are unclear. The extent to which the measure accounts for the benefits accruing principally to the wider kittiwake population rather than the impacted site must also be considered. However, we consider it unlikely that a single structure would be sufficient due to uncertainties with the measure. We are further concerned that the provision of a single structure does not build in resilience over the lifetime of the project.	Not Agreed – material impact
OffN5	Boat-based surveys, as seen in B2.7.1 Compensation measures for FFC SPA: Offshore Artificial Nesting: Ecological Evidence report Appendices A and B.	The Applicant should be commended for undertaking their work on boat based surveys of nesting birds on oil and gas platforms in the southern North Sea.	Agreed
OffN6	<i>Compensation scale and calculations</i> The Applicant is providing overall compensation at a ratio of 1:2 for each relevant species. The Applicant has demonstrated the calculations and compensation levels are appropriate and sufficient to compensate for the impacts of Hornsea Four.	Due to concerns with the baseline characterisation, it is not possible to agree impact levels and therefore compensation levels. The extent to which the measure accounts for the benefits accruing principally to the wider kittiwake population rather than the impacted site must also be considered. However, we agree with the Applicant's compensation calculation methodology.	Ongoing point of discussion
Timescale for delivery			
OffN7		Natural England welcome the increase lead in time to three breeding seasons prior to operation, however as kittiwake do	Ongoing point of discussion

ID	Hornsea Fours Position	Natural England Position	Position Summary
	<p>For repurposed or new artificial nesting structures, the structure will be in place three breeding seasons prior to the operation of any turbine.</p>	<p>not breed until they are 4+ years old breeding recruits will not enter the biogeographic population until that point.</p> <p>Justification is needed on the deviation from 4 breeding seasons consented for Hornsea Project Three, Norfolk Boreas and Norfolk Vanguard, demonstrating that the required colony size/growth is achievable prior to wind farm operation for the reduced lead in time.</p>	
Site selection, design, and construction			
OffN8	<p><i>New offshore nesting structure site selection</i></p> <p>The Applicant has followed a thorough site selection process to increase colonisation potential where ecological criteria was a primary consideration, with technical and commercial parameters also considered in the site selection analysis (as presented in B2.7.5 RP Volume B2 Annex 7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design (APP-191)).</p> <p>It is appropriate that a 5km buffer was applied to existing and future offshore windfarms as advised by The Crown Estate.</p>	<p>Natural England have concerns that the identified area of highest ecological opportunity for kittiwake is biased to include structures identified as suitable for repurposing.</p> <p>The spatial mapping exercise to identify suitable areas is considered for kittiwake only. It is not clear that similar areas would be defined for gannet.</p> <p>Determining reasons for existing structures being colonised or not is key to ensuring success or failure of the measure.</p> <p>Natural England would welcome further discussion on the most appropriate buffer around existing/future offshore windfarms to use, and how the collision risk for the ANS would be affected.</p>	<p>Ongoing point of discussion</p> <p>Ongoing point of discussion</p> <p>Ongoing point of discussion</p>
OffN9	<p><i>Nesting Structure Design</i></p> <p>The Applicant has undertaken a detail review of nest site characteristics and parameters. Incorporating design features which are likely to improve breeding success, would enhance the chance of the artificial nest structure contributing to additionality. The detailed evidence and design is presented in B2.7.1 RP Volume B2 Annex 7. 1 Compensation measures for</p>	<p>Natural England agrees with the Applicant on incorporating design features which are likely to improve breeding success.</p> <p>Natural England advise that these structures can be further enhanced once the normal constraints of the building can be disregarded, such as specific materials or surfaces used.</p>	Agreed

ID	Hornsea Fours Position	Natural England Position	Position Summary
	<p>FFC SPA Offshore Artificial Nesting Ecological Evidence (APP 187) and B2.7.5 RP Volume B2 Annex 7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design (APP-191).</p>		
OffN10	<p><i>Repurposed Structure Selection</i></p> <p>The process followed for the selection of selecting viable structures to repurpose is appropriate. The Applicant has undertaken extensive engagement and offshore surveys to identify suitable platforms for repurposing. Feasible options were identified where they had existing colonies, scope to provide additional nesting, were in suitable locations, suitable timeframes for decommissioning and operators keen to collaborate in repurposing the platforms to carry forward. The detailed evidence and design is presented in B2.7.1 RP Volume B2 Annex 7. 1 Compensation measures for FFC SPA Offshore Artificial Nesting Ecological Evidence (APP-187) and B2.7.5 RP Volume B2 Annex 7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design (APP-191).</p>	<p>The final location remains undetermined, however a comprehensive spatial mapping exercise considering agreed search criteria has been undertaken and revealed areas of high suitability.</p> <p>If existing colonies (i.e. decommissioned structures) are being maintained additionality must be carefully considered, as should possible consolidation of small colonies across numerous existing structures onto a new structure that may prove to be more attractive to nesting birds. Maintaining a colony with no productivity increase or relocating existing breeding birds would not deliver compensation.</p>	Agree
Monitoring and adaptive management			
OffN11	<p><i>Adaptive Management</i></p> <p>The Applicant’s proposed approach to adaptive management is appropriate and is set out in B2.7.2 RP Volume B2 Annex 7.2 Compensation measures for FFC SPA Offshore Artificial Nesting Roadmap (APP-188). Monitoring will inform any adaptive management of the compensation measure, if required. The Applicant will focus on maximising effectiveness through good initial design and appropriate maintenance.</p>	<p>We acknowledge that the details of adaptive management will be finalised in the post-consent steering group, however we consider that the options available should be set out at this stage, noting that adaptive management will be more difficult offshore.</p>	Ongoing point of discussion
OffN12	<p><i>Monitoring</i></p> <p>The Applicant’s proposed approach to monitoring is appropriate and is set out in B2.7.2 RP Volume B2 Annex 7.2 Compensation measures for FFC SPA Offshore Artificial Nesting Roadmap (APP-188). The details of the monitoring phase of the</p>	<p>We acknowledge that the details of monitoring will be finalised in the post-consent steering group but note that monitoring efforts will need to be in wider scope than just the artificial structure, and the current understanding of existing offshore colonies and their productivity will need to</p>	Ongoing point of discussion

ID	Hornsea Fours Position	Natural England Position	Position Summary
	<p>compensation measure will be discussed with the OOEG and will be set out within the GIMP and GaIMP for approval by the Secretary of State (and other relevant stakeholders, as necessary).</p> <p>Post construction monitoring of the artificial nesting structure will be conducted to record breeding birds and breeding success of the first breeding season. The frequency and duration of any subsequent monitoring (while also informing adaptive management and maintenance) will be discussed in consultation with the OOEG. The precise nature of monitoring at the structure will be influenced by the final form and location the compensation measure takes, but the intention is to predominantly carry out remote monitoring using cameras on the structure.</p>	<p>be built on to fully evidence and quantify the additional benefit of a new or repurposed structure. Further detail is needed on what monitoring will include and the questions it will be aiming to address.</p> <p>If remote monitoring is used, data quality will need to be evidenced.</p>	
Decommissioning			
OffN13	<p>The Applicant's proposed approach to decommissioning is appropriate and is set out in Section 10 of B2.7.2 RP Volume B2 Annex 7.2 Compensation measures for FFC SPA Offshore Artificial Nesting Roadmap (APP-188). The requirement for, and the exact nature of decommissioning the offshore nesting structure, will be determined in consultation with the relevant authorities towards the end of the 35-year operational life of Hornsea Four.</p>	<p>We agree that the decommissioning approach is appropriate as it is secured in the draft DCO conditions that the structure(s) cannot be decommissioned without written permission of SoS to ensure their role in maintaining the National Site Network is fully considered.</p>	Agree
Securing consents and legal agreements			
OffN14	<p>The Applicant's proposed approach to securing key consents and seabed agreements is appropriate and is set out in Section 11 of Volume B2, Annex 7.2: Compensation measures for FFC SPA: Offshore Artificial Nesting Roadmap (APP-188).</p>	<p>Natural England consider that it should be demonstrated at the Application stage that measures have been secured (e.g. via agreements with other sea or seabed users) not just the requirement to deliver agreements in the DCO. This is to provide appropriate confidence that compensation measures can be secured.</p>	Not agreed – Material impact

ID	Hornsea Fours Position	Natural England Position	Position Summary
DCO wording			
OffN15	Draft DCO wording is provided at Volume B2, Annex 7.2: Compensation measures for FFC SPA: Offshore Artificial Nesting Roadmap (APP-188) and is appropriate.	<p>Multiple conditions need to be added, including a requirement to consult the relevant SNCB and all other members of the Hornsea 4 Offshore Ornithology Engagement Group; the requirements upon members; details of dispute mechanism; and scope of discussions.</p> <p>Natural England further note that none of the current conditions secure the need to produce the target level of compensation each year (on average).</p>	Ongoing point of discussion
OffN16	The draft DCO states that the Applicant would be the chair and convener of the OOEG.	Natural England disagree with the Applicant being the Chair of the Steering group and believes an independent Chair should be appointed as the DCO condition allows the Chair to define the scope of discussions. This was the case with Hornsea 3's OOEG.	Ongoing point of discussion
OffN17	The KIMP and GalMP approved under this Schedule includes any amendments that may subsequently be approved in writing by the Secretary of State. Any amendments to or variations of the approved KIMP and GalMP must be in accordance with the principles set out in the gannet and kittiwake compensation plan and may only be approved where it has been demonstrated to the satisfaction of the Secretary of State that it is unlikely to give rise to any materially new or materially different environmental effects from those considered in the gannet and kittiwake compensation plan.	A final version of the compensation plans would need to be provided to account for any changes made during the examination version if it is conditioned that the GKIMP and GGRIMP must be based on compensation plan strategies.	Ongoing point of discussion
OffN18	The draft DCO wording states that the KIMP and GalMP must include an implementation timetable for delivery of the artificial nesting structure, such timetable to ensure that in the event of the implementation of: i. a new or repurposed onshore or offshore structure that does not host an existing colony, the structure is in place to allow for three kittiwake and gannet	The Applicant defines the breeding season as running from 1 April- 31 August in each year. These breeding times are inconsistent with those accepted for Hornsea 3's compensatory measures, and evidence should be provided to justify the reduction.	Ongoing point of discussion

ID	Hornsea Fours Position	Natural England Position	Position Summary
	breeding seasons prior to operation of any turbine forming part of the authorised development; or ii. a repurposed onshore or offshore structure that hosts an existing colony the structure is in place to allow for three kittiwake and gannet breeding season prior to operation of any turbine forming part of the authorised development.	See also Point OffN7 regarding structures being in place for three breeding seasons prior to operation. We advise that compensation needs to be delivering and not just implemented prior to impact.	
OffN19	The draft DCO wording states that the KIMP and GalMP must include details of any adaptive management measures, with details of the factors used to trigger any such measures.	This should also capture any changes to timelines for the measures or to the development if the measures are not delivering the required compensation.	Ongoing point of discussion
OffN20	The draft DCO wording states that the KIMP and GalMP must include provision of details of the proposed ongoing monitoring of the measures including survey methods; survey programmes and colony and productivity counts;	Addition of monitoring and reporting on the effectiveness of measures is required for gannet and kittiwake compensation measures, as has been included for the guillemot and razorbill measures.	Ongoing point of discussion
OffN21	The draft DCO wording states that the KIMP and GalMP must include provision of recording of Hornsea Four OOEG consultations.	This condition should not just require a reporting of the consultation. It should require the Applicant to detail how the consultation responses have been considered and give information explaining why any recommendations or advice has not been included.	Ongoing point of discussion
OffN22	The draft DCO wording states that the KIMP and GalMP must include provision of reporting to the Secretary of State, to include details of the use of each site by breeding kittiwake and gannet to identify barriers to success and target any adaptive management measures.	Provision of reporting should be to all members of the H4 OOEG or relevant SNCB.	Ongoing point of discussion

3.3 Onshore nesting

Table 6 Agreement Log: Onshore nesting

ID	Hornsea Fours Position	Natural England Position	Position Summary
	Efficacy of compensation measure		

<p>OnN1</p>	<p>The compensation measure has merit. The Applicant has demonstrated the compensation measure has merit through the ecological evidence and compensation plan submitted with the DCO (see B2.7 RP Volume B2 Chapter 7 FFC SPA Gannet and Kittiwake Compensation Plan (APP-186) and B2.7.3 RP Volume B2 Annex 7.3 Compensation measures for FFC SPA Onshore Artificial Nesting Ecological Evidence (APP-189)).</p>	<p>The measure has theoretical merit as potential compensation for kittiwake at a population level. However, to date there is a lack of evidence to suggest that nest availability will continue to be a significant limiting factor onshore/coastal following the compensatory proposals already mandated. It is improbable that evidence to address this could be provided during the timeframe of examination.</p> <p>There is insufficient evidence to demonstrate that this measure has merit for gannet.</p>	<p>Kittiwake - Not agreed – Material impact</p> <p>Gannet – Not Agreed – material impact</p>
<p>OnN2</p>	<p>The measure is technically feasible. The Applicant has demonstrated the compensation measure is technically feasible through the ecological evidence, compensation plan, site selection and design and roadmap submitted with the DCO (see B2.7 RP Volume B2 Chapter 7 FFC SPA Gannet and Kittiwake Compensation Plan (APP-186), B2.7.3 Compensation measures for FFC SPA Onshore Artificial Nesting Ecological Evidence (APP-189), B2.7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design (APP191) and B2.7.4 Compensation measures for FFC SPA Onshore Artificial Nesting Roadmap (APP-190)).</p>	<p>Whilst it is technically feasible to build an artificial nesting structure for kittiwake, it is unclear if it would provide any additional benefit given site limitations. NE remain of the view that its merits as a compensation measure have not been demonstrated.</p> <p>Natural England consider that there is insufficient evidence to suggest that the creation of an artificial colony for Northern gannet would prove successful.</p>	<p>Agreed for Kittiwake only</p> <p>Gannet – Not Agreed – material impact</p>
<p>OnN3</p>	<p>The evidence provided demonstrates the ecological efficacy of the measure. The Applicant has presented the evidence of the ecological efficacy through the ecological evidence submitted with the DCO (see B2.7.3 Compensation measures for FFC SPA Onshore Artificial Nesting Ecological Evidence (APP-189)).</p>	<p>The evidence provided does not demonstrate the ecological efficacy of the measure for either species.</p> <p>We cannot be confident that there is a sufficient pool of nest-limited kittiwake recruits, suitable locations and/or prey availability available to meet and sustain the existing high demand from developers for this measure in onshore locations.</p>	<p>Not Agreed – Material Impact</p>

		<p>Natural England does not believe that further onshore artificial nesting structures are likely to result in sufficient benefits to produce compensation.</p> <p>There is little evidence to suggest that onshore artificial nesting structures will be any more likely to attract nesting gannet.</p>	
OnN4	<p>It is appropriate that the compensation measure comprises the delivery of one artificial nesting structure in either the offshore or onshore environment (preferred option being offshore repurposed) with each capable of supporting the number of breeding pairs of kittiwake and gannet.</p>	<p>Natural England note that it is not currently possible to confirm whether a single structure is sufficient whilst the impact levels are unclear. The extent to which the measure accounts for the benefits accruing principally to the wider kittiwake population rather than the impacted site must also be considered. However, we consider it unlikely that a single structure would be sufficient due to uncertainties with the measure. We are further concerned that the provision of a single structure does not build in resilience over the lifetime of the project.</p>	Not agreed – material impact
Timescale for delivery			
OnN5	<p>The timescales proposed are appropriate. For new artificial nesting structures, it is proposed that they are constructed and in place for three breeding seasons before the operation of the turbines.</p>	<p>Natural England welcome the increase lead in time to three breeding seasons prior to operation, however as kittiwake do not breed until they are 4+ years old breeding recruits will not enter the biogeographic population until that point.</p> <p>Justification is needed on the deviation from 4 breeding seasons consented for Hornsea Project Three, Norfolk Boreas and Norfolk Vanguard, demonstrating that the required colony size/growth is achievable prior to wind farm operation for the reduced lead in time.</p>	Ongoing point of discussion
Site selection, design and construction			
OnN6	<p><i>Site Selection</i> The process being followed for site selection and the consideration of alternatives for onshore artificial nesting (as set</p>	<p>The success of onshore ANS is restricted by the demand from existing projects proposing this measure in the same broad geographic region. Suitable sites are rare.</p>	Not Agreed – material impact

	out in B2.7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design (APP-191) is appropriate.		
OnN7	<p><i>Nesting Structure Design</i></p> <p>The Applicant has undertaken a detail review of nest site characteristics and parameters. Incorporating design features which are likely to improve breeding success, would enhance the chance of the artificial nest structure contributing to additionality. The detailed evidence and design is presented B2.7.3 Compensation measures for FFC SPA Onshore Artificial Nesting Ecological Evidence (APP-189) and B2.7.5 Compensation measures for FFC SPA Artificial Nesting Site Selection and Design (APP-191).</p>	Natural England agree that evidence of intelligent design likely to increase suitability for kittiwake has been considered and provided by the Applicant.	Agree
Monitoring and adaptive management			
OnN8	<p><i>Monitoring</i></p> <p>The Applicant's proposed approach to monitoring is appropriate and is set out in Section 7 of Volume B2, Annex 7.4: Compensation measures for FFC SPA: Onshore Artificial Nesting Roadmap (APP-190).</p>	We acknowledge that the details of monitoring will be finalised in the post-consent steering group but note that monitoring efforts will need to be in wider scope than just the artificial structure, and the current understanding of existing colonies and their productivity will need to be built on to fully evidence and quantify the additional benefit of a new or repurposed structure. Further detail is needed on what monitoring will include and the questions it will be aiming to address.	Ongoing point of discussion
OnN9	<p><i>Adaptive Management</i></p> <p>The Applicant's proposed approach to adaptive management is appropriate and is set out in Section 7 of Volume B2, Annex 7.4: Compensation measures for FFC SPA: Onshore Artificial Nesting Roadmap (APP-190).</p>	We acknowledge that the details of adaptive management will be finalised in the post-consent steering group, however we consider that the options available should be set out at this stage	Ongoing point of discussion
Decommissioning			
OnN10	The Applicant's proposed approach to decommissioning is appropriate and is set out in Section 8 of Volume B2, Annex 7.4: Compensation measures for FFC SPA: Onshore Artificial Nesting Roadmap (APP-190) .	We agree that the decommissioning approach is appropriate as it is secured in the draft DCO conditions that the structure(s) cannot be decommissioned without written permission of SoS to ensure their role in maintaining the National Site Network is fully considered.	Agree
Securing consents and legal agreements			

OnN11	<p>The Applicant’s proposed approach to securing key consents and legal agreements is appropriate and is set out in Sections 9 and 10 of Volume B2, Annex 7.2: Compensation measures for FFC SPA: Onshore Artificial Nesting Roadmap (APP-190).</p>	<p>Natural England would expect it to be demonstrated at the Application stage that on ground construction deliverability is secured and not just the requirement to deliver in the DCO e.g. landowner agreement is in place.</p> <p>This is notwithstanding our view that this measure should not be taken forwards.</p>	<p>Not agreed – Material impact</p>
DCO wording			
OnN12	<p>Draft DCO wording is provided at Section 11 of Volume B2, Annex 7.2: Compensation measures for FFC SPA: Onshore Artificial Nesting Roadmap (APP-190) and is appropriate.</p>	<p>Please see our comments on the draft DCO conditions for offshore nesting. ID: OffN15-22</p>	<p>Ongoing point of discussion</p>

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3.4 Predator eradication

Table 7 Agreement Log: Predator eradication

ID	Hornsea Fours Position	Natural England Position	Position Summary
Efficacy of compensation measure			
PE1	The compensation measure has merit. The Applicant has demonstrated the compensation measure has merit through the ecological evidence and compensation plan submitted with the DCO (see B2.8 FFC SPA Gannet Guillemot and Razorbill Compensation Plan (APP-193) and B2.8.3 Compensation measures for FFC SPA Predator Eradication Ecological Evidence (196)).	The theoretical merit of the measure as compensation for the direct mortality of auks is uncertain.	Ongoing point of discussion
PE2	The measure is technically feasible. The Applicant has demonstrated the compensation measure is technically feasible through the ecological evidence, compensation plan and roadmap submitted with the DCO (see B2.8 FFC SPA Gannet Guillemot and Razorbill Compensation Plan (APP-193) , B2.8.3 Compensation measures for FFC SPA Predator Eradication Ecological Evidence (APP-196) , and B2.8.4 Compensation measures for FFC SPA Predator Eradication Roadmap (APP-197)).	The measure is technically feasible. But there are critical uncertainties regarding its efficacy and relevance that could render the measure undeliverable.	Ongoing point of discussion
PE3	The evidence provided demonstrates the ecological efficacy of the measure. The Applicant has presented the evidence of the ecological efficacy through the ecological evidence submitted with the DCO (see B2.8.3 RP Volume B2 Annex 8.3 Compensation measures for FFC SPA Predator Eradication Ecological Evidence (APP-196)).	The evidence provided does not demonstrate the ecological efficacy of the measure. Further evidence is needed on the final location for delivery and scope for population level effects before this can be determined.	Ongoing point of discussion
PE4	The compensation measures for gannet, guillemot and razorbill will be delivered as a suite of measures and benefit in terms of their flexibility and scalability. The Applicant is confident that	Natural England welcomes the commitment from the Project to deliver both the predator eradication and bycatch measures as a package.	Agreed

	each of the measures on their own is robust and deliverable, the inclusion of a number of measures provides stakeholders with additional comfort on the level of compensation that can be provided.		
PE5	The full breakdown of compensation calculations have been provided to Natural England which present the number of additional breeding pairs (additional nesting space) required to compensate the predicted impacts on razorbills from Hornsea Four.	Due to concerns with the baseline characterisation, it is not currently possible to agree impact levels and therefore compensation levels. The extent to which the measure accounts for the benefits accruing principally to the wider auk population rather than the impacted site must also be considered. However, we agree with the Applicant's calculation methodology.	Ongoing point of discussion
Timescale for delivery			
PE6	It is appropriate that the proposed timescale for delivery is that the compensation measure could be implemented at least one year prior to the operation of any wind turbine generator.	Natural England is concerned that measures may not be implemented until one year prior to operation and therefore there will be an accumulation of mortality debt. Auks take 6 years to reach sexual maturity and we note that the compensation will not be delivering until the required number of chicks are being produced and have reached age of first breeding. It needs to be demonstrated that the lead in time selected does not lead to a level a mortality debt that cannot be mitigated. Total predicted impacts from displacement need to be considered in the implementation timeline.	Ongoing point of discussion
Site selection, design and construction			
PE7	Once the list of locations has been refined, a ground truthing exercise is being undertaken and will be completed by the Applicant prior to the grant of the DCO to gather further evidence to maximise the chances of success of the eradication project, and feed into the decision making process.	There is a risk that a suitable location will not be identified, making the compensation undeliverable.	Ongoing point of discussion
PE8	Locations where predator eradication schemes are potentially feasible have been further refined since DCO submission and	Rathlin Island has already received funding for predator eradication and should be removed from the shortlist.	Agreed

	include: Bailiwick of Guernsey including Alderney, Herm and Sark (and therefore Rathlin Island has been removed from the shortlist).		
PE9	The site selection process to date has highlighted a number of potential locations which support populations of guillemot and/ or razorbill colonies, rats (brown and/or black rats) and where a predator eradication scheme is potentially feasible. Site visits, a Habitat Suitability Analysis has been completed and ground truthing studies are underway.	We agree that this process has been undertaken and that potentially feasible sites have been identified. The results of the process will be needed to confirm suitability.	Ongoing point of discussion
PE10	Additional requirements for a successful eradication scheme to be conducted include, but are not limited to, comprehensive stakeholder engagement throughout each stage of the project and community engagement. A leading expert has been contracted to undertake a study in the Bailiwick of Guernsey and further engage with the local community.	It would be fruitful to engage with individuals and organisation that have carried out successful predator eradication projects to ensure effective community engagement.	Agreed
PE11	Following the refinement of the short list, areas where only 'control' is an option are no longer being further considered. Sites within the Bailiwick of Guernsey, including Alderney, Herm and Sark (along with the relevant islands/ islets around the main islands) are being considered further on a full eradication and biosecurity measures basis.	Natural England advise that sites where only 'control' is an option are not short-listed.	Agreed
PE12	B2.8.4 Compensation measures for FFC SPA Predator Eradication Roadmap (APP-197) Appendix A & B Letters of Comfort from Alderney Wildlife Trust and States of Guernsey Agriculture, Countryside and Land Management Services indicates the need of support for a predator eradication programme and their support for the compensation measures.	The Applicant needs to show additionality within the States of Guernsey and Alderney, to show their proposals are above and beyond management plans and / or that current management plans would not be implemented without their input. These areas lie outside UK law – which could present complications. For example, the policy protection provided to compensatory measures with respect to other plans and projects would not apply here.	Ongoing point of discussion
PE13	The selected colony will be chosen based on delivery potential and connectivity to the colonies within the biogeographic region. The compensation calculations identify the number of additional	Ramsar sites highlighted in the Predator Eradication Roadmap, fall outside the UK National site network, so the benefits would	Ongoing point of discussion

	breeding pairs required to provide enough first time breeders back into the biogeographic region.	be indirect. This may need to be factored into the level of compensation provided.	
Monitoring and adaptive management			
PE14	<p><i>Adaptive Management</i></p> <p>The Applicant's proposed approach to adaptive management is appropriate and is set out in Section 6 of B2.8.4 RP Volume B2 Annex 8.4 Compensation measures for FFC SPA Predator Eradication Roadmap (APP-197).</p>	<p>Adaptive management focusses on eradication failure not the colony(ies) not reaching required growth levels.</p> <p>Adaptive management should also capture any changes to timescales for the project and compensation proposals.</p>	Ongoing point of discussion
PE15	<p>Biosecurity measures are essential in order to ensure the area does not become reinvaded by predators. Note that control would not maintain 100% eradication of predators (due to re-infestation), but instead aim to maintain a reduced population. Since DCO submission and following the refinement of the short list areas where only 'control' is an option are not being further considered.</p> <p>It is vital that a set of biosecurity measures are installed to sustain the subsequent population response of breeding seabirds.</p>	<p>Biosecurity plans have been included and are acknowledged as being essential to the measure's long-term success. However, if biosecurity measures fail and re-invasion occurs, ongoing predator control will not seek to eradicate the predator population. This could impact the long term success of the measure.</p>	Ongoing point of discussion
PE16	<p><i>Monitoring</i></p> <p>The Applicant's proposed approach to monitoring is appropriate and is set out in Section 6 of B2.8.4 Compensation measures for FFC SPA Predator Eradication Roadmap (APP-197).</p>	<p>We acknowledge that the details of monitoring will be finalised in the post-consent steering group but note that further detail is needed on what monitoring will include and the questions it will be aiming to address.</p>	Ongoing point of discussion
Securing consents and legal agreements			
PE17	<p>The Applicant's proposed approach to securing key consents and legal agreements is appropriate and is set out in Sections 7 and 8 of B2.8.4 RP Volume B2 Annex 8.4 Compensation measures for FFC SPA Predator Eradication Roadmap (APP-197). Short-listed islands, stacks and islets are owned by the States and letters of comfort are presented in Appendix A & B of B2.8.4 RP Volume B2 Annex 8.4 Compensation measures for FFC SPA Predator Eradication Roadmap (APP-197) from and States of Guernsey Agriculture, Countryside and Land Management Services and</p>	<p>Natural England would expect it to be demonstrated at the Application stage that on ground construction deliverability is secured and not just the requirement to deliver in the DCO e.g. landowner agreement is in place.</p>	Ongoing point of discussion

	Alderney Wildlife Trust who have approval to undertake predator eradication from States of Alderney (States of Alderney responded to the Hornsea Four consultation supporting the investigations and future compensation measures efforts).		
DCO wording			
PE18	<p>Draft DCO wording is provided at Section 9 of B2.8.4 RP Volume B2 Annex 8.4 Compensation measures for FFC SPA Predator Eradication Roadmap (APP-197) and is appropriate.</p> <p>In the event that the undertaker must implement predator eradication and/or predator control measures - an implementation timetable for delivery of the predator eradication and/or predator control measure that ensures that the measure has been implemented two years prior to operation of any turbine forming part of the authorised development.</p>	<p>Please see our comments on the draft DCO conditions for offshore nesting. ID: OffN15-22.</p> <p>Implementation of predator eradication one year before wind farm operations does not give sufficient time for the measure to be delivering before impact.</p> <p>We note that a timescale longer than 2 years may be needed for eradication. Further, auks take 6 years to reach sexual maturity and the compensation will not be delivering until the required number of chicks are being produced and have reached age of first breeding.</p>	Ongoing point of discussion
PE19	The draft DCO wording states that the GGRIMP must include provision of details of any adaptive management measures, with details of the factors used to trigger any such measures.	Adaptive management should also capture any changes to timescales for the project and compensation proposals.	Ongoing point of discussion
PE20	The draft DCO wording states that the GGRIMP must include provision for reporting to the Secretary of State, to include details of the use of each site by breeding kittiwake and gannet to identify barriers to success and target any adaptive management measures.	Provision of reporting should be to all members of the Hornsea 4 OoEG or relevant SNCB.	Ongoing point of discussion
PE21	The compensation measures for gannet, guillemot and razorbill will be delivered as a suite of measures and benefit in terms of their flexibility and scalability. The DCO wording will reflect this commitment.	Natural England welcomes the commitment from the Project to progress the full suite of compensatory measures as a package, should it be required. We consider that this commitment should be secured within the DCO.	Agree

3.5 Bycatch reduction

Table 8 Agreement Log: Bycatch reduction

ID	Hornsea Fours Position	Natural England Position	Position Summary
Efficacy of compensation measures			
BR1	The compensation measure has merit. The Applicant has demonstrated the compensation measure has merit through the ecological evidence and compensation plan submitted with the DCO (see Volume B2 Chapter 8 FFC SPA Gannet Guillemot and Razorbill Compensation Plan (APP-193) and Volume B2 Annex 8.1 Compensation measures for FFC SPA Bycatch Reduction Ecological Evidence (APP-194)).	The measure has theoretical merit as potential compensation for direct mortality of auks and gannet at a population level.	Agreed
BR2	The measure is technically feasible. The Applicant has demonstrated the compensation measure is technically feasible through the ecological evidence, compensation plan and roadmap submitted with the DCO (see B2.8 RP Volume B2 Chapter 8 FFC SPA Gannet Guillemot and Razorbill Compensation Plan (APP-193) , Volume B2 Annex 8.1 Compensation measures for FFC SPA Bycatch Reduction Ecological Evidence (APP-194) , and Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap(APP-195)).	<p>There is currently no proven method for large auk bycatch reduction in the identified fisheries, however we acknowledge that trials are ongoing and that results are pending. We note that One trial might not provide sufficient evidence of effectiveness and/or scale. The longevity of the measure is also uncertain.</p> <p>The measure is possibly technically feasible for gannets. However, there are critical uncertainties.</p>	<p>Auks - Ongoing point of discussion</p> <p>Gannet – Ongoing point of discussion</p>
BR3	The Applicant is confident that each of the measures on their own is robust and deliverable, the inclusion of a number of measures provides stakeholders with additional comfort on the level of compensation that can be provided. The compensation measures for gannet, guillemot and razorbill will be delivered as a suite of measures and benefit in terms of their flexibility and scalability.	Natural England welcomes the commitment from the Project to progress the full suite of compensatory measures as a package, should it be required. We consider that this commitment should be secured within the DCO.	Agree

<p>BR4</p>	<p>The evidence provided demonstrates the ecological efficacy of the measure. The Applicant has presented the evidence of the ecological efficacy through the ecological evidence submitted with the DCO (see Volume B2 Annex 8.1 Compensation measures for FFC SPA Bycatch Reduction Ecological Evidence (APP-194)).</p>	<p>The evidence provided does not demonstrate the ecological efficacy of the measure for either species.</p> <p>Natural England note that the adoption of any method will require a full trial to determine effectiveness and efficacy for the target species and fishery. Any trial of bycatch reduction techniques should quantify levels of bycatch in the fishery. The relevance and significant of the anecdotal evidence has been overstated (in Volume B2, Annex 8.1: Compensation measures for FFC SPA: Bycatch Reduction: Ecological Evidence).</p> <p>Bycatch levels could be altered by fisheries being dynamic, and therefore require new fisheries and reduction methods to be identified and developed.</p> <p><i>Auks</i> The level of bycatch reduction that may be possible for auks cannot yet be determined.</p> <p><i>Gannet</i> Existing bycatch levels may be low, it is unclear if sufficient reductions can be achieved in order to deliver compensation for gannet.</p> <p>Scale of the measure for gannet needs existing levels of bycatch, target fisheries and a proposed method to reduce it to be clarified first.</p>	<p>Auks - Ongoing point of discussion</p> <p>Gannet - Not agreed – material impact</p>
<p>Timescale for delivery</p>			

BR5	<p>It is appropriate that the proposed timescale for delivery is that the compensation measure would be implemented at least one year prior to the operation of any wind turbine generator as detailed in Section 3 of Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap (APP-195).</p>	<p>If a successful method was identified reduction could be achieved quickly, and implementation one year prior to operation would be appropriate.</p>	Agree
Site selection, design and construction			
BR6	<p>The approach to the design and implementation of the bycatch reduction project is appropriate as set out in the Application document, in particular at Section 5 of Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap (APP-195).</p> <p>The Applicant has identified locations in UK waters with high bycatch. This has been determined by the risk mapping process outlined within the Guillemot and Razorbill Bycatch Evidence Report (B2.8.1 Compensation measures for FFC SPA: Bycatch Reduction: Ecological Evidence (APP-195)).</p>	<p><i>Site Selection</i> Natural England agree with the reasoning for the identified locations for auks. Certainty will be given if a bycatch reduction method is proved effective for fishery in that location.</p> <p>Further work is needed to identify a target location and fishery for the measure for gannet.</p>	Ongoing point of discussion
		<p><i>Scale</i> Natural England consider that any quantification or estimation of bycatch reduction is highly speculative. We are concerned about bycatch rates being averaged across vessels in calculations.</p>	Ongoing point of discussion
		<p>Natural England do not consider the scale of compensation achievable possible to have been calculated at this time and do not accept the assertion that compensation over and above the potential impact of Hornsea Four can be provided. The extent to which the measure accounts for the benefits accruing principally to the wider auk population rather than the impacted site must also be considered.</p>	Ongoing point of discussion
		<p>Scale of the measure for gannet needs existing levels of bycatch, target fisheries and a proposed method to reduce it to be clarified first.</p>	Ongoing point of discussion
		<p>No conclusion can be made on the sentiment of the fishery from data provided as there is a potential bias. Additional information should be provided to put the fishery response into context.</p>	Ongoing point of discussion

		It is unlikely that Natural England would deem compensation at 1:1 ratio appropriate due to high levels of uncertainty in the measures' efficacy.	Ongoing point of discussion
		Further clarification is needed on the number of vessels for bycatch reduction. Provision of "precautionary assessment" is needed.	Ongoing point of discussion
		<i>Method</i> Natural England consider listing net illumination as having the highest potential for reducing bycatch of auks to be misleading. Natural England consider it unlikely that net illumination, net visibility and acoustic deterrents would be suitable fall-back options should the LEB trial fail.	Ongoing point of discussion
BR7	<i>Bycatch reduction technology selection phase</i> As detailed in Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap (APP-195) the Applicant is undertaking a bycatch reduction technology selection phase to gain a better understanding of its success in bycatch reduction on guillemot and razorbill to ensure an accurate number of technologies can be deployed for compensation. The methodology of the selection phase is appropriate and has been developed in conjunction with delivery partners, advisors (such as NGO's and fisheries stakeholders) and bycatch reduction technology developers to ensure best practice and a robust approach.	Natural England agrees that the approach to the technology selection phase for the Looming Eyes Buoy has been appropriate.	Agree
BR8	The implementation of the bycatch compensation measure is flexible and scalable depending on the outcome of the bycatch technology selection phase and other compensation measures proposed.	Natural England will be unable to comment on whether the measure is flexible and/or scalable until the bycatch technology selection phase has concluded.	Ongoing point of discussion

BR9	(The Applicant is providing overall compensation at a ratio of 1:2 (1:1 for bycatch and 1:1 for predator eradication with the ratio of impact:compensation), thereby increasing the resilience and likelihood of success.	<p>Early consideration of scaling up compensation is welcome, though at this stage we do not consider that a 2:1 ratio will necessarily deliver the required level of compensation.</p> <p>Moreover, it is unclear how much confidence can be placed in the suite of compensation methods. Proof of concept trials are still required to prove bycatch reduction method efficacy before longer term trials can quantify the potential delivery of compensation.</p>	Ongoing point of discussion
Monitoring and adaptive management			
BR10	<p><i>Monitoring</i></p> <p>The Applicant's proposed approach to monitoring is appropriate and is set out in Section 6 of Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap (APP-195).</p>	<p>We acknowledge that the details of monitoring will be finalised in the post-consent steering group but note that further detail is needed on what monitoring will include and the questions it will be aiming to address.</p>	Ongoing point of discussion
BR11	<p><i>Adaptive Management</i></p> <p>The Applicant's proposed approach to adaptive management is appropriate and is set out in Section 6 of Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap (APP-195).</p>	<p>Bycatch levels could be altered by fisheries being dynamic, and therefore require new fisheries and reduction methods to be identified and developed.</p> <p>This will need to be considered in adaptive management. We consider adaptive management options should be outlined at this stage.</p>	Ongoing point of discussion
Securing consents and legal agreements			
BR12	<p>The Applicant's proposed approach to securing legal agreements is appropriate and is set out in Section 7 of Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap (APP-195).</p>	<p>Natural England would expect it to be demonstrated at the Application stage that relevant contracts are secured, and not just the requirement to deliver them in the DCO.</p>	Ongoing point of discussion
DCO wording			
BR13	<p>Draft DCO wording is provided at Section 11 of Volume B2, Annex 8.2: Compensation measures for FFC SPA: Bycatch Reduction Roadmap (APP-195) and is appropriate.</p>	<p>Natural England welcomes the commitment from the Project to progress the full suite of compensatory measures as a package, should it be required. We consider that this commitment should be secured within the DCO.</p>	Ongoing point of discussion

		Please see our comments on the draft DCO conditions for offshore nesting. ID: OffN15-22.	
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3.6 Fish habitat enhancement

Table 9 Agreement Log: Fish habitat enhancement (resilience measure)

ID	Hornsea Fours Position	Natural England Position	Position Summary
Efficacy of compensation measures			
FHE1	<p>The compensation resilience measure has merit. The Applicant has demonstrated the resilience measure has merit through the ecological evidence and compensation plan submitted with the DCO (see B2.8 FFC SPA Gannet Guillemot and Razorbill Compensation Plan (APP-193) and B2.8.6 Compensation measures for FFC SPA Fish Habitat Enhancement Roadmap (APP-199)).</p>	<p>The measure does not have theoretical merit as compensation. However, Natural England welcomes its consideration as a wider resilience measure.</p>	Agreed
FHE2	<p>The compensation resilience measure is technically feasible. Hornsea Four have already commissioned 4ha of seagrass restoration for planting in 2021/22 and 2022/23. The Applicant has demonstrated the compensation measure is technically feasible through the ecological evidence, compensation plan and roadmap submitted with the DCO (see B2.8 FFC SPA Gannet Guillemot and Razorbill Compensation Plan (APP-193), B2.8.5 Compensation measures for FFC SPA Fish Habitat Enhancement Ecological Evidence (APP-198), and B2.8.6 Compensation measures for FFC SPA Fish Habitat Enhancement Roadmap (APP-199)).</p>	<p>The measure is technically feasible.</p>	Agreed
FHE3	<p>The evidence provided demonstrates the ecological efficacy of the resilience measure. The Applicant has presented the evidence of the ecological efficacy through the ecological evidence submitted with the DCO (see B2.8.5 Compensation measures for FFC SPA Fish Habitat Enhancement Ecological Evidence (APP198)).</p>	<p>The evidence provided demonstrates the ecological efficacy of the resilience measure .</p>	Agreed
Timescale for delivery			

FHE4	The timescale for delivery is appropriate and set out in Section 4 in B2.8.5 Compensation measures for FFC SPA Fish Habitat Enhancement Ecological Evidence (APP-198) .	The timescale for delivery is appropriate	Agreed
Site selection, design and construction			
FHE5	The site selection process to date has highlighted a number of potential locations for seagrass restoration. Site refinement has identified the Humber Estuary as a suitable location and 4ha of seagrass restoration have been commissioned for planting during 2021/22 and 2022/23 as trials by Yorkshire Wildlife Trust.	We agree that the site selection process has been appropriate and that the Humber Estuary is a suitable site.	Agreed
Monitoring and adaptive management			
FHE6	The Applicant's proposed approach to adaptive management and monitoring is appropriate and is set out in Section 7 of B2.8.6 Compensation measures for FFC SPA Fish Habitat Enhancement Roadmap (APP-199) .	. The Applicant's proposed approach to adaptive management and monitoring is appropriate	Agreed
Securing consents and legal agreements			
FHE7	The Applicant's proposed approach to securing key consents and legal agreements is appropriate and is set out in Sections 7 and 8 of B2.8.6 RP Volume B2 Annex 8.6 Compensation measures for FFC SPA Fish Habitat Enhancement Roadmap (APP-199) . Yorkshire Wildlife Trust have a rolling consent for seagrass restoration on the Humber Estuary and own the seabed area suitable for seagrass restoration.	The Applicant's proposed approach to securing key consents and legal agreements is appropriate.	Agreed
DCO wording			
FHE8	Draft DCO wording is provided at Section 9 of B2.8.6 RP Volume B2 Annex 8.6 Compensation measures for FFC SPA Fish Habitat Enhancement Roadmap (APP-199) and is appropriate.	We acknowledge that less detail will be required of a resilience measure compared to a compensatory measure, however it would be welcomed if known parameters (e.g. extent) could be committed to in the final DCO.	Ongoing point of discussion

4 Summary

- 4.1.1.1 This SoCG has outlined the consultation that has taken place between the Applicant and Natural England throughout the pre-application and pre-examination phases.
- 4.1.1.2 This SoCG will be updated as discussions progress and made available to PINS and as requested through the DCO examination phase.

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