Date: 02 November 2020
Our ref: Hornsea Project Three

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BY EMAIL ONLY

Dear Gareth,

Hornsea Project Three – Applicant's submission to Secretary of State Consultation Request for kittiwake compensatory measures

Natural England's remit is to ensure sustainable stewardship of the land and sea so that people and nature can thrive. We are working to achieve a healthy and biodiverse marine environment which can enable a truly sustainable UK offshore wind sector, to support the achievement of 'net zero' and address the climate change emergency. We use our expertise to help facilitate offshore windfarms that are sensitively located and constructed, whilst protecting marine ecosystems from proposals with significant environmental impacts through our statutory advice. This will build the marine environment's resilience to climate change and its ability to mitigate its effects.

On 1st July 2020 the Secretary of State (SoS) issued a "Minded to Approve" letter and draft Habitats Regulation Assessment (HRA) for Hornsea Project Three offshore wind farm in which an adverse effect on site integrity (AEoI) could not be ruled out, in-combination, for the black-legged kittiwake (*Rissa trydactyla*) feature of the Flamborough and Filey Coast Special Protection Area (FFC SPA). The SoS requested that Ørsted (the Applicant) provide further information confirming that sufficient and appropriate compensation measures for kittiwake had been secured by 30th September 2020. Natural England provided advice to the Applicant during the consultation period, which is available in Appendix 5 of the Applicant's submission (publicly available on the Planning Inspectorate website).

Having reviewed the documents submitted by the Applicant on 30th September 2020, Natural England provides the following statutory advice to the SoS and BEIS for consideration. This advice considers the compensatory measures selected for the kittiwake feature, with detailed comments provided in Annex 1 of this letter (Page 3). Overall, Natural England considers that the proposed approach could provide compensation for Hornsea Project 3, but that there are some fundamental uncertainties and limitations remaining. In providing this advice, Natural England has drawn from

the EC Guidance Document on Article 6(4) of the Habitats' Directive 92/43/EEC.

Natural England has also reviewed the Secretary of State (SoS) minded to consent letter, the draft Appropriate Assessment (AA) and the Examining Authority's (ExA) report for Hornsea Project Three. Whilst Natural England's advice remains unchanged from our previous submissions we have taken the opportunity to provide additional advice on certain points of ecology that we feel may be useful to the SoS in making his final determination. These can be found in Annex 2 of this letter (Page 18).

Yours sincerely,

Emma John

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1 Annex 1: Natural England comments on the Hornsea Project Three kittiwake compensation measures submission

1.1 Overview of the proposal

Kittiwake abundance in the UK is estimated to have declined by 65% since the 1980s, accompanied by a corresponding declining trend in productivity (JNCC 2020). Climate change, sandeel availability and sandeel fisheries have been identified as being the main "environmental" drivers of kittiwake productivity (and survival), and therefore trends in abundance (JNCC 2020). These long term, UK-wide declining trends in kittiwake abundance and productivity, and their likely drivers, provide the context within which the likelihood of success of potential compensation measures for the kittiwake feature of the Flamborough and Filey Coast Special Protection Area (FFC SPA) must be gauged.

The Applicant has proposed a compensatory measure focussed on the provision of artificial nest structures, intended to boost productivity of the regional kittiwake population. The Applicant commits to establish and maintain four artificial nest structures across a minimum of two distinct geographic zones along the East coast of England (East Anglia and North East), with each structure capable of supporting a minimum of 404-467 pairs of kittiwake. The Applicant aims to maintain the coherence of the Natura 2000 network by contributing an additional 73 breeding adult kittiwake per annum to the wider Southern North Sea (SNS) kittiwake population, rather than providing compensation directly at the site of impact (FFC SPA). If successful, the measure could benefit the FFC SPA colony by providing more recruits and/or the new structures could become part of the Natura 2000 network at the end of the project's lifetime. Prey availability measures will be revisited in a long-term adaptive management strategy, once other options have been exhausted.

Natural England is broadly supportive of the idea that, in principle, provision of artificial nesting opportunities has some ecological merit and could act to compensate for the predicted impacts to the FFC SPA kittiwake population caused by collision mortality at Hornsea 3. There is some evidence to suggest that artificial nest structures could work in the search areas selected and successful artificial kittiwake colonies do exist. We also consider that the Applicant has made reasonable efforts in identifying the factors most likely to ensure successful colonisation.

While NE considers that the Applicant's proposal has merit, in order for this to be an effective compensatory measure NE consider some key environmental factors need to be operating, about which there is a large amount of uncertainty in the evidence base. We also consider there to be some remaining uncertainties within the Applicant's proposed approach, which are summarised as follows:

1) A critical component for the success of this measure is the existence of a pool of non-breeding birds to colonise the structures that are either currently unable to breed or breeding poorly due to limited nest availability. The applicant has not been able to provide sufficient evidence to support this, so an element of uncertainty remains. Furthermore, NE does not consider nest availability to be a limiting factor on the SNS kittiwake population as a whole. In light of this, the achievable and/or expected productivity level of new colonies is unknown. It will also be difficult (if not impossible) to determine whether new birds produced are additional to the existing population. We consider this to be an unresolved and key risk of the measure that cannot be addressed by increasing the compensation ratio alone, as addressing prey availability limitations would be

required to ensure sufficient food availability during the breeding season to deliver the required productivity boost for the lifetime of the project.

2) NE disagrees that 73 kittiwake per annum is the appropriate target level of compensation required. It is our view that compensation should be targeted at the upper confidence interval of 104+ birds. Our own preliminary calculations indicate that this would require provision of ~1000 nests in a 1:1 compensation ratio. We also highlight that 73 (104) is the number of adult birds that would need to be recruited to the breeding population per annum to replace adult birds lost, not the number of chicks the nest structures need to produce per annum. Nest provision and productivity need to be high enough to ensure that a sufficient number of chicks survive to adulthood, therefore compensation provision based on the upper confidence interval would increase certainty and reduce risk.

3) Given that the Applicant presents examples of artificial nest structures that failed to attract kittiwake (Appendix 2, Annex 2), it is clear that it cannot be guaranteed that structures will be successfully colonised. We therefore consider that a minimum of four structures installed across multiple locations would be necessary to mitigate this risk, noting that the precise number of platforms and nest space would need to be shaped by the calculations. We consider that this would make the compensation ratio greater than 1:1 and therefore provision of a robust adaptive management strategy with the potential to increase the number and/or location of structures is critical in order to maximise success (notwithstanding uncertainty related to point 1).

4) The appropriateness of compensation being provided to the wider SNS population rather than the site of impact to maintain the coherence of the Natura 2000 network needs to be considered. The Applicant believes that this measure will benefit the FFC SPA colony as it will obtain its recruits from this wider population, however the number of 'new' birds that will recruit back to FFC SPA as a result of this measure is unknown and we note that there is no proposal by the Applicant for this to be investigated. We believe that it would not be difficult for the Applicant to establish testing for this in their monitoring framework.

5) Given the backdrop of national declines in kittiwake populations, the long-term sustainability of the measure is uncertain. NE considers prey availability to be the greater limiting factor on kittiwake population increase. NE welcomes the Applicant's commitment to revisiting prey availability compensation measures in a long-term adaptive management framework and consider that this goes some way to increasing confidence in the long term sustainability of the primary compensation measure. However, we consider it essential that relevant monitoring to support and determine the need for its implementation is conducted throughout, rather than after all other options for adaptive management have been implemented without success. As the Applicant has presented (Appendix 3), certain aspects of this measure are not straightforward and monitoring might reveal alternative options for implementation or a lack of need for further measures being implemented.

6) European Commission and Defra guidance states that the measure should be functioning prior to the loss occurring. NE's interpretation of this would be that to be considered 'functioning', the compensation measure should be providing adult birds at the required level before any impact

occurs and that there should be sufficient lead-in time factored in to enable this. If this is not the case we would expect accumulated mortality debt to be addressed within the submission.

Natural England therefore considers that the proposed approach could provide compensation for Hornsea Project 3, but that there are some fundamental uncertainties and limitations remaining. For this reason it should not be assumed that this approach may be extended to other developments.

The Applicant's submission also provides a summary of the future work needed to fully secure and finalise the measure including obtaining the necessary land rights, defining the precise implementation and monitoring details, and obtaining the necessary consents and permissions for the measure (Appendix 2, Kittiwake Compensation Plan (KCP)), which will be presented in a Kittiwake Implementation and Monitoring Plan (Appendix 2, Annex 1) at a later date. Natural England recognises the unique situation in which Hornsea 3 has had to provide this submission, however we think it worth noting that we would usually expect these aspects to be clearly defined and secured as far as possible prior to consent.

1.2 Fundamental assumptions of the measure

Central to the provision of artificial nest structures as a compensatory measure for kittiwake are the assumptions that natural nest availability is a limiting factor for SNS kittiwake populations, and that there is subsequently a pool of non-breeding birds to populate new structures that are either currently unable to breed or breeding poorly due to limited nest availability.

NE disagrees that nest availability is a limiting factor for the SNS kittiwake population as a whole and considers that the scale of limitation is poorly evidenced in the Applicant's submission. NE accepts that suitable nesting opportunities may be a limiting factor in certain locations (e.g. Norfolk and Suffolk) and that there are large sections of the SNS coastline that do not provide suitable natural nesting opportunities for kittiwake, however locations such as the East coast of Scotland have a large supply of natural nest sites available that are no longer in use. Furthermore, kittiwake populations have declined at both a national and site level (kittiwake numbers at FFC SPA have declined from 85,395 to 51,535 breeding pairs (1987 to present) despite favourable habitat status) with new colonies establishing in relatively few man-made areas (e.g. coastal towns and associated structures), suggesting that nest availability is not currently a limiting factor at the site of impact or in the SNS population as a whole.

Similarly, Furness (2013) states: *"in most areas of their breeding range there is no shortage of natural nesting habitat (cliffs), and not all of the potential nesting habitat is occupied, so provision of artificial cliffs would be unlikely to provide useful breeding habitat for this species and would be an expensive measure."* It is widely considered, and acknowledged by the Applicant in Appendix 2, Annex 2 that declines in kittiwake populations are more likely due to other factors such as prey availability limitations and climate change.

NE also does not consider sufficient evidence to have been provided to demonstrate that a pool of non-breeding birds exists to colonise new structures that are not breeding due to lack of nest availability, or indeed that there is evidence upon which the Applicant could do so. The Applicant states in Appendix 2, Annex 2 that "*the size of the pool of recruits is unknown and is difficult to ascertain (Black and Ruffino 2020)*". It is our view that it is likely that new colonies would be

established either by birds formerly breeding elsewhere, or by inexperienced birds, which would have to be accounted for in productivity estimates of the new colonies (discussed further in Section 1.4). It is therefore uncertain whether birds produced at new colonies will be additional to the existing population.

1.3 Target level of compensation

The Applicant proposes to compensate against a target of 65-73 kittiwake collisions per annum, stating that based on their interpretation of NE advice, this represents the potential upper impact range of kittiwake mortalities (Appendix 2, KCP). The Applicant also states that this represents the most precautionary end of the potential impact range as used by the Secretary of State (SoS) in his Appropriate Assessment decision (Appendix 2, KCP). Natural England considers this to be a misrepresentation of both sets of advice.

NE highlights that the SoS Habitats Regulation Assessment (HRA) report (July 2020) estimated an annual collision risk mortality of between 65 and 73 breeding age kittiwake (Confidence Intervals: 40-46 to 91-104) resulting from the operational phase of Hornsea 3. The 95% confidence intervals (40-104 adult collisions per annum) represent the range of annual collisions of adult kittiwake that the value for Hornsea 3 is predicted to lie within, based on the baseline survey data available. Issues with the baseline survey data input to the collision risk model are well documented (e.g. REP1-211, REP4-130, NE Response to SoS Consultation 3 22 April 2020) and lead us to be confident that it cannot be assumed that there will be no impact above the midrange of 65 to 73 kittiwake per annum. We therefore advised the Applicant to base compensation against a target of at least 104 kittiwake per annum (Appendix 5). We note that the SoS HRA does not rule out 104 collisions as a basis for compensation in its conclusions.

Our position remains that a minimum of 104 collisions should be considered to represent Hornsea 3's contribution to the in-combination AEoSI at FFC SPA. In order for NE to have confidence in the measures put forward, the calculations that support them would need to be based on the upper collision value of 104+ birds, or the proposals brought forward would have to demonstrate to our satisfaction that 104+ birds will be compensated for, as it is essential that the compensation put forward is capable of fully offsetting the range of impacts of the proposal.

NE notes that whilst the Applicant has acknowledged NE's position on this in their submission (Appendix 1; 4.2), they have not provided a reason for concluding that the target of compensation and baseline for calculations should instead be 73 birds per annum.

1.4 Provision of artificial nest structures

NE welcomes the Applicant's commitment to provide four structures across a minimum of two geographically distinct zones to account for uncertainty in colonisation success and spatial variation in success due to differing local conditions, however we consider both of these aspects to be minimum requirements.

The Applicant has calculated that 467 breeding pairs would be required to provide 73 adult kittiwake per annum and that by providing four structures capable of supporting 400+ nests, they are providing four times the required level of compensation. NE disagrees with this assertion. We reiterate our

position that 104 collisions per annum should be used as the starting point to set compensation measures against, with necessary variability incorporated for demographic parameter values.

Assuming a starting point of 104 collisions per annum, previous calculations presented by the Applicant (Artificial Nesting Workshop 25 August 2020) indicate that a minimum of 582-867 additional breeding pairs would be required to provide a 1:1 ratio of compensation, depending on the productivity level of the colonies. NE has not produced calculations in the same detail as those provided by the Applicant, however our own calculations indicate nest provision in the order of ~1000 nests would be appropriate as a 1:1 ratio to compensate for 104 collisions per annum. We emphasise that this is an indicative figure produced in order for us to understand the ballpark of required compensation, rather than a detailed calculation. It incorporates a time lag to first breeding from natal birds and survival to age of first breeding (assumed to be 5 years in each case), but it does not take account of variance around these parameters or low productivity at first breeding attempt.

NE highlights that the Applicant's calculations are predicated on the existence of a pool of non-breeding adult birds ready to colonise new nest sites. As previously stated, there is no certainty that this pool of non-breeding birds exits. Our calculation therefore assumes the more likely scenario that colonising birds will be from colonies elsewhere and most likely from those with low productivity given the Applicant's evidence of site fidelity to high productivity sites (Appendix 2, Annex 2). In our view it is equivocal to assume that productivity at new colonies would be new productivity, and account therefore needs to be taken of the likely difference in productivity between that which would have been achieved at an existing colony and that which would be expected to be achieved at the new, and the calculations adjusted accordingly. A precautionary approach to achieve this would be to take the difference between likely productivity at the new colony and that currently achieved at FFC SPA (the SPA impacted). In this instance, a more likely net contribution to the wider population is ~0.5 chicks per pair, rather than ~1 suggested by the Applicant.

We consider the treatment of the availability of a pool of non-breeding birds to be a key difference in approach, rather than a fundamental disagreement on calculation methodology. If the SoS agrees that differential productivity should be taken into account owing to uncertainty surrounding the pool of non-breeding birds, then it is our view that the Applicant's calculations could be adapted for ~0.5 chicks per pair rather than 1 and scaled from 73 to 104 quite simply.

Provision of 1600 nests (4 x 400+) would potentially provide 1.6x the number of nests that our simplistic calculations have so far indicated. This would allow for 1200 nests if one structure failed to attract nesting birds entirely (and 800 if two did). Furthermore, four structures with capacity for 400+ nests is likely to reduce the lead-in time taken to reach the required level of colonisation. The proposals do therefore build in some redundancy and arguably a multiplier, however we disagree with the statement that: "*Natural England have further advised that four structures with approximate capacity of 400+ nests each would be suitable to compensate for an impact of 104 kittiwake a year*" (Appendix 1; 5.7).

We advised (24th September 2020; Appendix 5) that in order to account for the uncertainties associated with the use of artificial nest structures as compensation for impacts to kittiwake at FFC SPA, that multiple structures should be provided with a minimum of two structures in each of the two zones identified by the Applicant. We agree that each structure should be capable of accommodating 400+ nests, however the total amount of nest provision should be at a sufficient ratio to account for the uncertainties associated with the measure based on revised, detailed calculations.

NE highlights that the guidance for Article 6(4) of the Habitats Directive 92/43/EEC states that "*compensation ratios of 1:1 or below should only be considered when it is demonstrated that with such an extent, the measures will be 100% effective in reinstating structure and functionality within a short period of time.*" In light of this guidance and remaining uncertainties within the measure, NE considers that a greater compensation extent than a 1:1 ratio should be incorporated into the number of nests, structures and/or locations provided to increase certainty in the measure.

Additionally, colonisation of new structures is not certain with four of the nine artificial nest structure cases presented by the Applicant in Table 3.2 of Appendix 2, Annex 2 exhibiting limited or no success in attracting kittiwake to nest. Furthermore, 100% colonisation of any structure cannot be guaranteed (Appendix 2, Annex 2). Combined with our assessment of the number of nests required to compensate for 104 kittiwake, we do not consider that provision of four structures represents a 4:1 compensation ratio and disagree that the current proposal has "the potential to deliver four times the upper estimate of the SoS impact estimate" (Appendix 1; 1.11).

It is important to highlight that the requirement of this compensation measure is to provide 73 (104) additional breeding adult birds per annum and not 73 (104) chicks per annum. These calculations are therefore to show how many breeding pairs are necessary to produce enough chicks per annum to result in 73 (104) additional adult kittiwake recruiting to the SNS population per annum i.e. 467 breeding pairs to ensure 73 adults (noting disagreement on the target level of compensation and expected productivity of new colonies). Whilst the figures currently presented factor-in uncertainty around demographic parameters, further uncertainty needs to be factored-in to determine the nest provision required to ensure that at least 467 pairs nest and breed each year. We also note that it is unlikely that the Applicant will be able to prove that the requisite level of adult recruitment is occurring per annum (discussed further in Section 1.11), particularly as some chicks surviving to breeding age are not guaranteed to recruit to FFC SPA and provide direct compensation and are more likely to contribute to the wider population. The emphasis must therefore be placed on ensuring a sufficient number of chicks are produced per annum.

1.5 Extension to other projects

In Appendix 1, Section 5.8 the Applicant suggests that should the structures be colonised by more than 404-467 breeding pairs, that this compensation measure could be shared with other offshore wind farm projects. NE has serious concerns with the scalability of this measure to other projects for several reasons.

Firstly, as outlined in Section 1.1 NE considers the target of compensation to be a minimum of 104 adult kittiwake per annum, not 73. Our preliminary calculations indicate that this would require the provision of ~1000 nests in a 1:1 compensation ratio. Furthermore, 404-467 nests and/or breeding pairs to produce 73 breeding adults also represents a 1:1 compensation ratio which would only be considered acceptable if there was 100% certainty in the success of the measure.

Secondly, as detailed in Section 1.4 colonisation of structures is not certain and it cannot be guaranteed that 100% colonisation will be achieved (Appendix 2, Annex 2). We therefore anticipate that all four structures as a minimum would be required to adequately compensate for Hornsea 3's impact alone.

As previously highlighted, the success of this measure is largely dependent on there being a pool of "potential breeding kittiwake" that are constrained by a lack of nesting space, or are obliged to nest in locations with no or poor productivity. Given that suitable unoccupied nest space can be identified along the East Coast and the size of the pool of recruits in the North Sea is unknown, it is not certain that this pool is substantial enough to support the compensation requirements of multiple projects.

Furthermore, the Applicant's submission notes uncertainty in the availability of prey to support colonies (Appendix 3), and that the stock of the sandeel stock biomass has declined below precautionary stock reference points. There are therefore questions over whether current sandeel stocks could support additional colonies and where these could be located, given that the current search areas are in locations with existing colonies. Whilst this does go some way to demonstrating that the areas are suitable, the Applicant has not demonstrated that there is additional capacity at these locations, particularly in terms of prey resource, or that there is capacity for nests beyond the number required to compensate for the impact of this project. Additional projects wanting to pursue the same approach will exacerbate these issues further.

NE therefore considers that the scale of opportunity for measures of this nature to provide compensation is very limited, and that it is highly unlikely that such measures could provide compensation for multiple projects for the level of impact on FFC SPA associated with the Hornsea zone.

1.6 Site selection

NE welcomes the Applicant's commitment to provide four structures across a minimum of two geographically distinct zones to account for uncertainty in colonisation success and spatial variation in success due to differing local conditions, however we reiterate that we consider both of these aspects to be minimum requirements.

NE is broadly satisfied with the two search areas identified by the Applicant, but think it important to note that there are currently several parties interested in establishing artificial nest structures in the Lowestoft area.

NE notes that we would generally expect compensatory measures to identify specific locations and measures in advance of consent being granted, and whilst acknowledging the particular circumstances of Hornsea 3, advise that future projects should develop their compensation measures to a significantly greater degree prior to submission.

1.7 Timeframe for implementation

Appendix 2, Annex 2 (Section 9) suggests that new structures can be expected to be colonised by an average of 23 pairs, with rapid growth in the first 3-5 years followed by growth at a slower rate. Assuming colonisation and growth occurs at predicted levels, providing at least four structures with capacity for 400+ nests would likely reduce the time taken to reach the required number of active nests to fit within the lead in time available, thereby reducing the risk of accumulated mortality. In addition, this would also reduce the risk of the required number of nests not being reached should one or more structures fail to be colonised, either completely or partially. Using a minimum of four structures to best take advantage of an initial colonisation spike and high early growth rates gives

higher certainty of the Applicant reaching the required number of breeding pairs before energy generation.

NE notes however, that it is indicated several times in the submission (Appendix 2 KCP, Sections 3.50, 4.4 and footnote 11) that the artificial nest structures are only required to be built, rather than colonised before the wind farm is operational for the compensation measure to be 'functioning'. We do not agree with this and consider that for the compensation measure to be considered 'functioning', the required number of chicks should be being produced before any impact occurs with sufficient time for the first year's to have recruited to the adult breeding population at time of first impact, thereby ensuring that adult birds are replacing adult birds. If this is not the case, mortality debt will accumulate until colonies have reached sufficient size. NE advise that if this approach is not taken forward a commitment to address mortality debt should be conditioned within the DCO (see Section 1.9).

As detailed in Section 1.4 colonisation of new structures is not guaranteed and mortality debt could accumulate if new colonies do not establish and/or grow as quickly as predicted in the implementation timeline, with a relatively short timeframe present between securing compensation and commissioning of the offshore wind farm (OWF). While we accept that the Applicant has provided evidence on the factors that are more likely to ensure success of the compensation structures, it is by no means certain that kittiwake will start nesting in the first breeding season after construction, or that they will use the structures to breed at all. It is also not the case that the full complement of breeding kittiwake will occupy structures in the first breeding season as there will be a period of colonisation and colony growth. The colony growth curves presented in Figure 9.1 of Appendix 2, Annex 2 demonstrate that this occurs over a number of years, and particularly for larger colonies, this can stretch to decades. It is therefore inevitable that should structures only be available at turbine operation, there will be accumulation of collision mortality while the new colonies establish.

NE notes that a DEFRA funded review of Natura 2000 compensatory measures found that "*Ratios of compensation to loss above 1:1 reflect issues of uncertainty, and anticipated delays in the timescales in which compensation habitat takes to develop replacement functionality.*" Whilst this guidance relates to protected habitat loss, we consider it also relevant to protected species loss and replacement.

NE highlights the need to have compensatory measures in place and operational to fully compensate for impacts before they arise wherever possible.

1.8 Adaptive management

NE highlights that whilst provision for appropriate adaptive management is a critical component of the overall plan, there should be confidence that the initial proposal has a reasonable chance of success and is designed to take into account all likely risks to occupancy/fledging. This should be done by identifying and learning lessons from those existing structures which have failed and implementing all features that will ensure the greatest chance of success, accounting as far as possible for potential uncertainties. NE notes that there might be more examples of artificial nest structures available by the time the Applicant is implementing their measure. We advise that the entire knowledge base be used to inform the design of new structures, not just those which are available for current documentation.

The Applicant highlights in Section 12.6 of Appendix 2, Annex 2 that it is important to consider the distinction between the intelligent design of structures, maintenance activities and adaptive management. NE agrees with this sentiment and acknowledges that this distinction has broadly been met across the Applicant's management proposals. It will be important for this distinction to continue to be maintained and prioritised in future discussions.

NE highlights that the current adaptive management proposals include relocating structures in case of poor performance, but not the provision of additional nest availability through new structures or bolt-ons. This might be required should all structures partially colonise but not to the level required to meet the target number of breeding pairs across all structures, or if some structures are particularly successful and become space limited.

NE considered it important that all available options for long-term adaptive management were kept open as it will not be known which are the most appropriate and/or feasible until they are needed. As prey availability could be a limiting factor to the long-term productivity of new kittiwake colonies, we considered it important that a commitment was made to look at prey availability measures further in case they are found to be needed as a contingency option. We therefore welcome the inclusion of measures accounting for possible prey limitations in both the short and long-term adaptive management frameworks.

NE considers supplementary feeding to be an appropriate short-term emergency intervention measure whilst more long-term measures are established. NE acknowledges that long term measures related to prey availability will necessarily be assessed and determined at a later stage as needed, however we have concerns regarding the assertion that "*The Applicant has therefore also committed to continue consultation relating to prey availability as an adaptive management measure in the event that the Applicant and OOEG are satisfied that all other adaptive management measures relating to the success of the artificial nesting structures have been deployed without success*" (Appendix 1, 5.23 and 6.5). If the Applicant is indicating that prey availability measures will not be implemented until other options have been investigated, that is acceptable. However, we would not consider this commitment to be satisfactory if it will not see any further consultation on prey availability measures until all other adaptive measures relating to the success of artifical nesting have been deployed without success, with agreement between the Applicant and Offshore Ornithology Engagement Group (OOEG). NE would prefer to see further work on prey availability progressed in tandem with delivery of the artificial nesting structures so that suitable prey availability measures are ready to be implemented as soon as any evidence accrues that the artificial structures are not meeting their objective. Waiting until that point to begin work towards a prey availability strategy could result in high levels of accumulated mortality debt. At the very least we would expect relevant monitoring to be conducted throughout to inform the need for and cause of extra measures being needed, including monitoring relevant to prey availability.

We also disagree that these measures must be "*directly associated with, and can be implemented from, on or local to the artificial nest structures*" (Table 1.1; Appendix 2, KCP). As the Applicant proposes to maintain the Natura 2000 network by recruiting kittiwake to the regional Southern North Sea population rather than specifically to the localised site of impact (FFC SPA), we consider that prey availability measures delivered at a regional scale would still be considered targeted to the compensation measure.

NE further notes that the Applicant states that "*Any long-terms challenges to the effectiveness of the artificial nest structures relating to prey resource should be viewed in a North Sea context and in consideration of natural variability and climate change*" (Appendix 2, KCP, 3.25). NE considers that if this is going to be a concern in the success of the compensation provision then the Applicant should be investigating it further to see where might be affected and locating structures accordingly.

NE considers it worth noting that the Applicant's strategy is to assume that structures will be successful, and that adaptive management is focussed on boosting productivity if lower than expected, or there is disturbance. We consider that the Applicant has done a reasonable job of attempting to identify the factors most likely to ensure successful colonisation, however their supporting evidence shows that four out of nine existing structures failed to attract kittiwake (Appendix 2, Annex 2) indicating that success is not guaranteed and there does need to be contingency for total structure failure. Relocation of structures has been suggested and we have highlighted above that additional structures would be another mitigation mechanism, but we do think that the Applicant needs to explicitly recognise this possibility and identify what they would do. As detailed above, their long-term prey availability proposal is also aimed at boosting structure productivity rather than combating total structure failure.

1.9 DCO condition

2(1) – This condition states that no later than 12 months prior to the commencement of the authorised project, a kittiwake implementation and monitoring plan (KIMP) must be submitted to the SoS for approval. NE suggest that BEIS might want to consider whether this gives the Applicant sufficient time to implement the measure in line with condition 2(5) below, before the wind farm becomes operational and impact begins to accumulate.

Furthermore, NE does not consider it appropriate that approval of the KIMP constitutes discharge of the compensation delivery requirement as indicated by the Applicant in the Executive Summary of the KCP (Appendix 2: "*Wording is provided that will incorporate the compensation requirement into the Development Consent Order with discharge of this requirement to be based on approval of a submitted Kittiwake Implementation and Monitoring Plan (KIMP) 12 months prior to the commencement of the authorised project*"). It is NE's opinion that the compensation requirement can only be discharged if/when the measures are proven beyond reasonable doubt to have been effective in compensating for the predicted additional annual adult mortality of kittiwakes attributed to the development.

2(5) – This condition states that artificial nest structures must be constructed prior to first operation of any wind turbine generator comprised in Work No.1. NE highlights that a 3-5 year colonisation period will be necessary to ensure that the compensation is functioning (i.e. producing the required number of chicks with the first having been recruited to the breeding adult population; Section 1.7) prior to the impact occurring. Whilst Table 1.2 factors in this time period (noting that there is no room for error or delays in the process) we do not consider that this has been secured within the current DCO condition.

If this is not secured, we recommend that the need to address accumulation debt resulting from the wind farm being operational prior to the required colonisation level being achieved is secured within the DCO.

2(6) – This condition states that the structures must be retained during the operation of the generating station unless otherwise approved by SoS. NE considers that this condition should be extended to state that the structures cannot be decommissioned without written approval by the SoS, given their role in maintaining the coherence of the Natura 2000 network. The Applicant suggests that decommissioning requirements will be addressed via the planning consents required for each structure, through required submission of a decommissioning plan at the end of life of the windfarm (Appendix 2, 3.46). NE does not dispute that this will be required, however we think it is important for this requirement to also be captured within the DCO.

2(10) – This condition states the requirement to provide compensation and meet condition 2(1) will not apply should the SoS conclude that the authorised project will not have an AEoI on FFC SPA (i.e. through revised project parameters). NE highlights that AEoI on the kittiwake feature of FFC SPA could not be ruled out in-combination prior to the inclusion of Hornsea 3's impact. We therefore consider that any level of impact from Hornsea 3 to the kittiwake feature will require compensation to be provided.

NE notes that 3.28 of the Kittiwake Compensation Plan (Appendix 2) states that "This number of birds (73) would be required to be produced each year (on average) that the Hornsea Three wind farm is in operation (and therefore when the impact may take place)". We highlight that the current DCO condition does not currently secure the need to produce the target level of compensation each year (on average). We also note that as discussed in Sections 1.4 and 1.11, it is unclear whether the Applicant will be able to prove that the requisite number of additional adults has been recruited each year, we therefore recommend that the condition focusses on the requisite number of chicks and/or nest provision required to meet this target and that the SoS ensures he is satisfied with this uncertainty.

NE acknowledges that the Applicant's preferred prey availability proposal lies outside the scope/definition of compensation under Article 6(4). However, we do not consider it appropriate that the Applicant's commitment to deliver the preferred prey availability proposal is secured legally out with the Development Consent Order. As detailed in Section 1.8, NE considers that prey availability must be considered as a potential priority issue within the suite of adaptive management measures, should additional nest provision fail to deliver the required number of additional kittiwake fledglings per annum. Accordingly, we recommend that the work within the preferred prey availability proposal that could generate the evidence needed to implement the practical management measures regarding prey availability, ought also to be secured through the DCO rather than outside it. We reiterate that work on this issue ought to be front-loaded and not deferred until all other adaptive management measures have been explored and found not to be successful.

1.10 Prey availability

As prey availability is not being taken forward as a primary compensation measure, we do not intend to provide detailed comments on specific aspects we might disagree with. We accept that finer details will be agreed upon during the development of adaptive management proposals as and when needed. Here, we provide a high level overview of our thoughts on the evidence presented by the Applicant in support of prey availability compensation measures.

Firstly, NE thinks it important to highlight that we do not consider prey availability to be a restrictive term committing the Applicant to any single approach, rather it is a broad term that can be applied to

cover all measures to do with food provision. Given evidence of UK wide declines in kittiwake productivity and abundance (JNCC 2020), provision of additional nesting opportunities in isolation carries a degree of uncertainty of long-term success if prey availability issues are not also dealt with.

We disagree that mechanisms to increase the availability of prey to kittiwake have been comprehensively explored, as the work presented has focussed only on fishery management within a single fishery. We accept that the focus on the sandeel fishery was the appropriate place for the Applicant to place their efforts in the time they had given the known links to kittiwake productivity, but do not consider that this represents a comprehensive assessment of prey availability measures as a whole. Natural England maintain that in identifying compensatory measures to increase kittiwake productivity through increased prey availability, a wide range of options could be potentially explored.

The Applicant considers that a single project would be unable to deliver an effective prey availability compensation measure in a timely and proportionate manner. NE acknowledges that certain mechanisms related to increasing prey availability, specifically sandeel, might require a Government led and/or strategic response, however this does not preclude the Applicant's involvement in such a response. Additionally, it is possible that there are options to increase prey availability that have not yet been explored, that could more easily be delivered through mechanisms that are less reliant on a Government led/strategic response. Furthermore, it is important to note that obstacles currently presented by the Applicant to demonstrate the unfeasibility of certain implementation mechanisms to increase sandeel availability will not necessarily remain the same over the 25/30+ year lifespan of the offshore windfarm. In light of this, we appreciate the Applicant's commitment to pursue avenues of research to better enable future projects to deliver prey availability compensation measures, and to support a government-led process

The Applicant has identified two research opportunities from the OWSMRF work that they propose to take forward to increase our understanding of kittiwake-prey interactions and their future sustainability. As per our advice dated 24 September 2020 (Appendix 5), whilst we agree with the two research objectives chosen by the Applicant, we consider there to be other research objectives that it would also be of value for the Applicant to pursue under Hornsea 3 to support the needs of adaptive management, particularly objective 3.11 (Quantifying the effects of fisheries management on kittiwake demography, Ruffino et al 2020). Furthermore, Natural England does not consider it appropriate that any commitment by the Applicant to fund and deliver research identified by JNCC as being needed to improve understanding of the relationships between kittiwakes and their food supplies should be "*subject to being granted a DCO*". Rather, the DCO should establish that legal commitment.

NE notes that the Applicant makes several statements throughout the submission relating to the legality of certain mechanisms of prey availability measures. NE does not have the expertise to comment on these but advise that BEIS might want to seek advice to determine their validity. The statements concerned are: 5.20 (Appendix 1); 4.54, 4.63, 4.64, 4.65, 4.66 and 4.70 (Appendix 3).

1.11 Criteria of success

We acknowledge that defined success criteria will be decided on in discussion with the OOEG at a later stage, however we consider that there are some assumptions and/or concerns worth raising now. We also highlight that we would usually expect success criteria to be better defined prior to consent.

The Applicant considers the success of the measure to result from producing young that will recruit to the wider SNS kittiwake population, from which colonies along the East coast of England including FFC SPA will derive recruits. However, they do not intend to test for recruitment at FFC SPA as part of their success criteria. It is for the SoS to determine if this is sufficient/acceptable to maintain the Natura 2000 network. We note that we do not consider that it would be difficult for the Applicant to establish a colour ringing programme at the new colonies which could be coupled with regional scale and FFC SPA monitoring to test for recruitment success at both a regional and site level.

Furthermore, the Applicant states that "*By encouraging sufficient additional breeding, the overall breeding population will increase by at least the same amount as that predicted to be lost through collision mortality*" (Appendix 2, KCP, 4.3). A commitment to deliver 'additional' breeding adult kittiwake is made several times during the submission and requires that the kittiwakes which the Applicant hopes will fledge each year from the artificial nesting structures are additional to the numbers of fledglings that would have been produced each year in the absence of these stuctures. NE does not consider that it will be sufficient proof of success simply to demonstrate colonisation and successful breeding at structures at the "required" rate. Rather, it will be necessary to establish beyond reasonable doubt that the individuals which colonise the artificial structures are breeding more successfully than they otherwise would have done in the absence of these structures, and that the improvement in their productivity is sufficient to generate the excess fledglings needed over and above the number that they might have reared otherwise i.e. to establish that there is a net increase. This assumption will need to be shown in monitoring plans, and is made more complicated by the lack of evidence for a pool of currently non-breeding birds to populate structures. NE is currently unsure how the Applicant will be able to prove that new birds produced are additional to the existing population.

1.12 Acceptability of proposed measures

In summary, NE advises the SoS to consider the following in making decisions about the acceptability of artificial nesting structures as compensatory measures proposed for the kittiwake feature of the FFC SPA.

There are significant uncertainties in the likelihood and rapidity of colonisation of new structures; the provenance of any kittiwakes that do colonise them (i.e. non-breeders or breeders drawn from existing colonies); the growth rate and productivity of new colonies that do establish; and the eventual recruitment of 'new' breeding birds to the FFC SPA.

In NE's view, these uncertainties suggest that the extent of compensatory measures should be suitably large to ensure success of the measures in compensating for the upper range of predicted impact, with appropriate checks and balances built in as contingency.

Due to the novelty of the approach as a compensatory measure, and because of the aforementioned uncertainties, it will be essential that the monitoring plan can operate over a suitable regional scale (including FFC SPA) as well as in more detail at the artificial structures. It will be important to understand (for instance) colonisation, productivity, diet, movement and breeding colony interchange.

Similarly, the adaptive management plan must offer an agreed route to success if monitoring suggests compensatory measures are not successful. Despite the current complexities, this should include

mechanisms addressing prey availability, which studies have shown can directly boost kittiwake productivity. The Applicant's research commitment is likely to help inform the plans, and in our view, this commitment should be conditioned in the DCO.

References

Applicant submission documents in response to the SoS Minded to Approve letter, publicly available on the Planning Inspectorate website:

Appendix 1: Compensatory measures

Appendix 2: Kittiwake Compensation Plan

Appendix 2, Annex 1: Outline Kittiwake Implementation and Monitoring Plan

Appendix 2, Annex 2: Kittiwake artificial nest provisioning: Ecological Evidence

Appendix 2, Annex 3: Kittiwake artificial nest provisioning: Site selection and Pathway to securement

Appendix 3: Supporting evidence for kittiwake prey resource

Appendix 5: Record of consultation

Furness, R., MacArthur, D., Trinder, M. and MacArthur, K. (2013) Evidence review to support the identification of potential conservation measures for selected species of seabirds. MacArthur Green, Glasgow.

JNCC. (2020) Seabird Population Trends and Causes of Change: 1986–2018 Report (https://jncc.gov.uk/our-work/smp-report-1986-2018). Joint Nature Conservation Committee, Peterborough.

Morris, R.K.A., Harley, M., Cottle, R., Banks, B., Doody, J.P., Brown, A.E., Weston, A., Hart, R. & Prince, S. (2016) Review of the Effectiveness of Natura 2000 Sites Compensation Measures in England. Project code: WC1076. Funded by DEFRA and Natural England.

REP1-211 Annex C: Natural England Detailed Advice on Ornithology. Natural England.

REP4-130 Deadline 4 Submission - Response to the Examining Authority's Further Written Questions, Further information requested by the Examining Authority and Appendix. Natural England.

Ruffino L., Thompson, D. and O'Brien, S. (2020) Black-legged kittiwake population dynamics and wider drivers of population change in the context of offshore wind development, *JNCC Report No. 651*, JNCC, Peterborough, ISSN 0963-8091.

2 Annex 2: Natural England comments on the Hornsea Project Three 'minded to consent' decision in principle documentation published on 1st July 2020

Summary

Natural England has reviewed the Secretary of State (SoS) minded to consent letter, the draft Appropriate Assessment (AA) and the Examining Authority's (ExA) report for Hornsea Project Three, published on BEIS's website on 01 July 2020.

Please be advised that Natural England's (NE) advice provided on 22nd April 2020 to the SoS on the Hornsea Project 3 (HP3) application remains unchanged by the HP3 minded to consent decisions.

Natural England stands by the advice it has already given, however we believe it might be helpful to the SoS for us to advise on certain points of ecology in relation to these documents.

We therefore provide additional comments on Ornithology (Section 2.2), Benthic Ecology (Section 2.3) and Marine Mammals (Section 2.4) with a view to providing practical suggestions that the SoS may wish to consider prior to determining the application. We also provide some overarching comments drawn from our experience of Offshore Windfarm cases post consent which the SoS may find helpful (Section 2.1).

2.1 Overarching comments

2.1.1 Changes to project parameters and assessments and the implications post-consent

It is increasingly common for substantial changes to be made to projects as they progress through the examination process. This often means that the original Project Description (PD) Environmental Statement (ES) and figures provided in the shadow HRA are no longer representative of a project when it is ultimately granted consent. Although updated information can be found throughout the representations made in examination, this is often located across multiple documents and can be difficult to locate, especially where a high volume of representations have been made within the examination and as time elapses.

However, these documents are really important reference points in the post-consent phase in ensuring that the final design parameters align with the Worst Case Scenarios (WCS) assessed pre-consent. Where they are superseded it can prove very problematic in the pre-construction phase, and lead to protracted discussions and multiple consultations.

Although this issue is not unique to HP3, there has been an unprecedented amount of additional information provided both during and subsequent to the examination in public.

We would therefore recommend that updated or final collated versions of these key documents are published along with the final decision in order to ensure that there is clarity on this matter.

2.1.2 Consistency of assessments pre- and post-consent.

In Natural England's post-consent experience, significant weight is often attached to the detail within the SoS's HRA and interpretation thereof. With this in mind there are aspects that Natural England believes warrant further consideration, and a greater narrative within future assessments.

Offshore windfarm developments are routinely consented on the basis of the "Rochdale Envelope Approach" with broad parameters that are subsequently refined post consent. Consequently the HRA undertaken by the SoS is necessarily high level, and more detailed assessments are often required once the project parameters have been defined in order to ensure that the SoS's conclusions in relation to site integrity continue to hold true at the point of condition discharge.

In these cases we find that differences in approach to the HRA between competent authorities can lead to significant challenges post consent. Therefore we advise that it may be beneficial to better align the HRA process prior to consent to de-risk projects going forward.

2.2 Ornithology

Natural England provided detailed ornithological advice to the SoS in our submission on 22nd April 2020. Our advice to the SoS remains unchanged.

We have, however, carefully considered the minded to consent documentation and would like to highlight the following points that we feel the SoS may wish to consider further when publishing his final decision on this application.

2.2.1 Ornithological Assessments

Through the Examination the Applicant provided a number of revised ornithological assessments, and then subsequent to the Examination, the Applicant supplied a substantial amount of additional information. This included additional survey data and revised project parameters with a view to reducing impacts to designated site features. Along with this, the Applicant provided updated calculations for Kittiwake from Flamborough and Filey Coast SPA in the context of the revised project parameters, but our understanding is that these did not incorporate the additional survey data collected.

Natural England notes that the SoS has taken account of this updated analysis and the additional survey data within his assessment of all seabird receptors, however, a full set of updated collision and displacement analyses; apportioning, and population viability analysis have not been made available in the public domain.

This issue has already been highlighted through the Norfolk Boreas Offshore Windfarm examination, and is of relevance to other plans and projects pre application/examination. In the absence of updated assessments, Natural England's advice to Norfolk Boreas, East Anglia Two (EA2) and East Anglia One North (EA1N) Examinations has been to derive figures presented within the Hornsea 3 examination which most closely align with our advice. However, there are concerns (shared by a number of interested parties) that this will result in building in unnecessary headroom into overall cumulative and in-combination totals. The only way this could accurately be determined would be through the provision of updated figures based on the revised project parameters and inclusive of the additional survey data.

Natural England would therefore welcome the provision of updated assessments/figures for all seabird receptors based on the revised project parameters and incorporating the additional survey data provided, noting that this would be of greatest benefit to the Examinations of EA1N and EA2, and a number of forthcoming projects.

It would be helpful if this could include, for displacement:

- Complete density and abundance estimates (for the footprint plus appropriate buffer) with confidence intervals around the monthly density and abundance estimates.
- A secondary table of apportioning figures presented by season.

For collision:

- Updated band model spreadsheets for all species (kittiwake, herring gull, lesser black-backed gull, great black-backed gull, gannet)
- Apportioning rates for gannet at Flamborough and Filey Coast SPA

Natural England is happy to discuss this in further detail if required.

2.2.2 Seabird Assemblage

Natural England additionally notes that the seabird assemblage feature of Flamborough and Filey Coast SPA has been omitted from the HRA. **Natural England advises that all features are clearly documented and considered within the final Habitats Regulations Assessment.**

2.3 Benthic Ecology

As highlighted in our advice provided to SoS on 22nd April 2020, which summarised Natural England's advice to the SoS in relation to the impacts to benthic features. As with ornithological issues, our advice remains unchanged.

However, we have fully reviewed the documentation provided in support of the SoS's minded to consent decision with a view to ensuring mechanisms are in place to allow uncertainty to be addressed in a more manageable way prior to construction should this project gain consent. The following comments are therefore offered to assist the SoS in his determination.

Whilst, the comments focus more specifically on impacts on designated sites; many of the points raised would be equally applicable to areas outside of designated sites.

2.3.1 Certainty in reversibility and recovery.

2.4.1.1 Sabellaria spinulosa reef

As the SoS will be aware from our Examination submissions, Natural England advises that all impacts to Annex 1 reef within designated sites should be avoided and that we have highlighted concerns that it may not be within this project. We have concerns about the lack of evidence to support the assumed recoverability of *Sabellaria spinulosa* reef in areas that have been subject to cable installation, as well as the potential for reef to recover after infrastructure, which has been in place for a number of decades is removed. Therefore our advice on these points remains unchanged.

Consequently, should consent for this project be granted, we would advise that these concerns are addressed within the DCO conditions and that these aspects are also captured within the in-principle monitoring plan to ensure that the assumptions relating to recovery can be tested and the knowledge base furthered.

2.4.2.2 Sandbanks

i) Feature recovery after sandwave levelling

As highlighted in Natural England's examination submissions the evidence base for the recovery of sandbanks following sandwave clearance is also limited. Whilst the emerging monitoring evidence is encouraging, there remains uncertainty as to whether the affected areas will demonstrate full recovery, the timescales over which this may occur, and the extent to which the findings will be replicated at all sandbank systems noting that the monitoring is from a single offshore windfarm project.

The Applicant's assumptions on recovery are largely predicated on their ability to dispose of dredged material within the sandbank system. There is also an assumption that these locations can be secured in areas that will not impact on Annex 1 reef habitat.

To manage these uncertainties and risks, should consent be granted, NE would welcome a condition that ensures that dredged material will be disposed of in similar habitat locations, that allow sediment to be retained within the sandbank system and that impacts to other features (particularly reef) are avoided. We would also welcome for all OWF NSIPs some form of outline agreement on the criteria that should be met for any disposal site beyond those currently included in the application documents including, but not exclusively, similar grain size.

ii) Effectiveness of sandwave levelling to avoid further impacts

Although sandwave clearance is designed to increase the potential of the project achieving the optimal burial depth, it should be noted that this practice does not fully negate the need for cable protection throughout the lifetime of the project, and that the placement of cable protection in areas of sandwave/Annex I sandbank remains an option within the current project plan. Consequently, sandwave levelling cannot be considered to be fully mitigating the impact of cable protection on the sandbank features of the SACs or the relevant features of the MCZ.

As with reef, there has been limited direct monitoring of areas that have had infrastructure removed and so uncertainty around the recoverability of the feature remains. In this instance, the dynamic nature of the sandbank system suggests that the potential for recovery is favourable, however it is not clear to what degree the features might recover and the timeframe over which this could be expected.

Consequently we would again advise that this be addressed within the DCO conditions (see Section 2.3.4 below) and that these aspects are captured within the in-principle monitoring plan to ensure that these assumptions can be tested and the knowledge base furthered.

2.3.2 'Temporary lasting' Impacts

We note the SoS's conclusions relating to impacts being 'temporary lasting' in their nature. Natural England has advised extensively on this issue in line with current case law and our advice remains unchanged. However we note that fundamental to the SoS conclusion are the assumptions that infrastructure will be fully removed after 30 years, and that upon removal features will fully restore to favourable condition.

Whilst Natural England accepts that this assessment needs to focus on the parameters outlined in the application, on speaking with industry we are also aware that it is highly probable that if the projects remain viable there will be applications to extend the lifespan of the OWF beyond the current proposed 30 years. Therefore we advise that there would be merit in giving further consideration to this point and seeking to include measures to "futureproof" the project to allow the continuation of energy generation if otherwise determined feasible.

Therefore we would advise that further consideration is given to managing the risks around this issue in the DCO conditions (See Section 2.3.4 below).

2.3.3 Cable Crossings

We note that the HRA does not reflect the requirement for cable protection at cable crossings to be left in situ. The applicant's position is that cable protection at cable crossings is necessary for public safety. We are also aware from industry discussions, including with the Applicant, that cable crossing agreements etc. often prohibit the decommissioning of cable protection above cable crossings and therefore this risks permanent impacts.

Natural England would therefore recommend that this point is considered further and that if appropriate the relevant sections of the DCO and HRA are updated to reflect these areas of cable protection remaining in situ in order to avoid the need for DCO variations in the future.

2.3.4 Decommissioning considerations

The SoS's conclusions appear to be largely predicated on the inclusion of a decommissioning condition being sufficient to remove all potential for AEoI and have referenced other consents such as Dogger Bank Windfarm. Whilst Natural England recognises that previous consents have adopted such an approach, it should be noted that subsequent to the Dogger Bank Windfarms achieving consent (2015), it has become apparent that the decommissioning of cable protection is significantly more problematic than anticipated with a limited guarantee of success. This is something that the SoS may not have been aware of. Please be advised that Natural England's advice throughout examination has been based on this current understanding.

Natural England's concerns around the confidence in achieving full decommissioning therefore remain and we would welcome **a condition that clearly sets out and seeks to address uncertainties as far as possible prior to the deployment of any cable protection.**

Based on the wording agreed in the Norfolk Boreas examination, we suggest that this could read as follows:

XX.—(1) The obligations under paragraphs (2) and (3) shall only apply in respect of— (a) cable protection, apart from at cable crossing locations with existing cables and pipelines, which is installed as part of the authorised project within the The Wash and North Norfolk Coast Special Area of Conservation and North Norfolk Sandbanks and Saturn Reef Special Area of Conservation as at the date of the grant of the Order; (b) These obligations do not permit the decommissioning of the authorised scheme, and no authorised decommissioning activity shall commence until a decommissioning programme in accordance with an approved programme under section 105 (2) of the 2004 Act has been submitted to the Secretary of State for approval and all relevant consents have been granted under the Marine and Coastal Access Act 2009.

(2) No later than 4 months prior to each deployment of cable protection, except where otherwise stated or unless otherwise agreed in writing by the MMO, the undertaker must submit the following documents for approval by the MMO:

(a) A decommissioning feasibility study on the proposed cable protection to be updated at intervals of not more than every ten years throughout the operational phase of the project.

(b) A method statement for recovery of cable protection.

(c) A Monitoring Plan including appropriate surveys of cables situated within The Wash and North Norfolk Coast Special Area of Conservation, North Norfolk Sandbanks and Saturn Reef Special Area of Conservation and Cromer Shoal Chalk Beds Marine Conservation Zone that are subject to cable protection to assess the integrity and condition of that cable protection and determine the appropriate extent of the feasibility of the removal of such cable protection having regard to the condition of the cable protection and feasibility of any new removal techniques at that time, along with a method statement for recovery of cable protection.

(d) A monitoring plan to include appropriate surveys following decommissioning to monitor the recovery of the area of The Wash and North Norfolk Coast Special Area of Conservation, and North Norfolk Sandbanks and Saturn Reef Special Area of Conservation impacted by cable protection.

(3) No cable protection can be deployed in The Wash and North Norfolk Coast Special Area of Conservation and North Norfolk Sandbanks and Saturn Reef Special Area of Conservation until the MMO, in consultation with the Statutory Nature Conservation Body approve in writing the documents pursuant to (2) above.

2.3.5 Cable repair works

We note that any cable protection required as a result of cable repair works over the lifetime of the project will require a separate marine licence. As we have advised previously, it is important that the likelihood of requiring further cable protection in these circumstances should be considered at the DCO consenting phase and assessed accordingly in any HRA. Therefore we would welcome further consideration of how the risks around this might be managed.

2.3.6 Additional comments on the Appropriate Assessment

- We note that rock protection is referenced in the HP3 AA, however our advice is that this is amended to 'cable protection' as otherwise the AA could potentially overly restrict the developer and reduce options that have a higher likelihood of removal at decommissioning.

- Large Shallow inlet and bay is missing from the feature list for Wash and North Norfolk Coast SAC and whilst the attributes are similar to other Annex I habitats we advise it is prudent to include all features in an HRA.

- The in-combination assessment did not include consideration of outstanding marine licence applications for example Race Bank for the Wash and North Norfolk Coast SAC and the SoS may wish to update this ahead of the final decision.

2.4 Marine Mammals

Natural England have a few minor comments in relation to the updated Site Integrity Plan.

- JNCC have now produced updated noise guidance. This can be found at https://hub.jncc.gov.uk/assets/2e60a9a0-4366-4971-9327-2bc409e09784

- It should also be noted that the Conservation Objectives for the Southern North Sea are final and there are no updates currently planned.

It would be helpful if the SIP could be updated to reflect these points.