THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

Dogger Bank South Offshore Wind Farm

Appendix H3 to the Natural England Deadline 3 Submission
Natural England's comments and advice on Offshore Ornithology Compensation

For:

The construction and operation of the Dogger Bank South (East and West) Offshore Wind Farm located approximately 100-122km off the Northeast Coast in the Southern North Sea.

Planning Inspectorate Reference EN010125

19th March 2025

Appendix H3 – Natural England's advice on Offshore Ornithology Compensation

In formulating these comments, the following documents submitted by the Applicant have been considered in relation to offshore ornithology compensation:

- [REP2-010] 6.2.1 Appendix 1 – Project Level Kittiwake Compensation Plan (Revision 4)
- [PBD-007] 10.19 Project Level Kittiwake Artificial Nesting Structure (ANS) Site Selection Report
- [REP2-060] 12.6 Case for Reduction in Kittiwake Breeding Seasons for ANS Installation

1. Compensation Implementation and Monitoring Plan (CIMP)

We welcome the Examiner's agreement in the Rule 17 letter dated 3rd March 2025 [PD-016] that a populated CIMP should be provided into the Examination. We note that the Applicant has stated in the Project Level Kittiwake Compensation Plan (KCP) [REP2-010] that an ANS monitoring programme "*remains under development and is contingent on outcomes of the onshore ANS monitoring programme at Gateshead*". Natural England welcome the monitoring being undertaken by the Applicant at the onshore ANS in Gateshead. However, we do not consider that the development of a monitoring programme for the offshore ANS should be contingent on the results of this onshore monitoring.

There is a considerable amount of information already available on kittiwake monitoring approaches at ANS, both from the long-established onshore 'Saltmeadows Tower' in Gateshead that is monitored by the Tyne Kittiwake Partnership, and from several offshore ANS that have already been constructed by other OWF projects. An appropriate monitoring plan is essential for determining the success of the proposed compensation measures, particularly given the uncertainties that exist around the ability of these measures to sufficiently compensate for OWF impacts. As such, we advise that the Applicant include a detailed monitoring proposal as part of a kittiwake CIMP.

We also highlight that the Applicant has indicated that adaptive management approaches would be developed post-consent. Appropriate adaptive management measures are essential to ensure that compensation requirements can be delivered should primary measures fail. There remains considerable uncertainty around the ability of these measures to sufficiently compensate for the Projects' impacts, and as such, appropriate monitoring plans and adaptive management measures are necessary to ensure the effectiveness of the measures. As such, we do not consider it appropriate to submit such information post-consent and advise that

further detail on adaptive management is provided within the CIMP. This detail could draw on the submitted IMPs from other OWF that have required delivery of an ANS.

2. Onshore adaptive management

The Applicant refers to the final capacity available to the Projects at the onshore ANS at Gateshead by stating:

"*The apportionment of nests between OWF developers is subject to commercial agreements that are yet to be confirmed. Nonetheless, there would remain sufficient capacity for this onshore ANS to potentially make a notable contribution to the Applicants' overall compensation requirement should it be required*".

Natural England have consistently advised since Hornsea Four that we do not consider that further onshore artificial nesting structures are likely to result in sufficient benefits to produce compensation, given the number and location of such structures already proposed by consented OWF projects. It has not been demonstrated that there is a sufficient pool of nest-limited kittiwake recruits, suitable locations, and/or prey availability available to meet and sustain the existing demand for this measure. In that light, whilst we are not opposed to some nest spaces on the onshore ANS at Gateshead being retained by the Project for adaptive management should the offshore ANS fail, we consider the extent of benefit it could provide would be limited.

3. Site Selection

Natural England note that in the KCP [REP2-010], the Applicant has identified three Area of Search (AoS) candidate sites for progression out of the five shortlisted AoS, following detailed desk-based assessments. However, there is a lack of detail provided as to the specific reasons for the elimination of the three originally shortlisted AoS that have now been discounted (Site 5, Site F, and Northwest). Natural England advises more detail is provided on these specific reasons, as has been provided for the earlier stages of down-selection. Site F, in particular, would appear to have potential in terms of ecological suitability.

The KCP also shows that Site 6a is in close proximity to the AoS being taken forward by ODOW. We therefore advise that consideration should be given to the added ecological resilience of having two ANS structures in different locations, as highlighted in the Kittiwake Strategic Compensation Plan. We also request that information is provided regarding how the advice submitted in Appendix H2 of our Deadline 2 submission [REF], and originally provided

to the Applicant in December 2024, has been and will be considered in the site selection process.

Natural England welcomes the Applicant's commitment to identifying a project-led ANS site during the Examination period and the awareness of the evolving compensation proposals of other relevant projects.

4 Reduction in Breeding Seasons for the ANS

Please see Annex 1 of this document for our advice relating to the Applicant's Case for Reduction in Kittiwake Breeding Seasons for ANS Installation.

Annex 1: Natural England's comments on 12.6 Reduction in Kittiwake Breeding Seasons Prior to Artificial Nesting Structure Installation [REP2-060]

1.1 Summary

Natural England advise that a reduction in lead in time for Artificial Nesting Structures (ANS) from four full kittiwake breeding seasons to two full kittiwake breeding seasons must be considered specifically against the ecological risks arising from the Dogger Bank South project alone. While Hornsea Three and Hornsea Four have recently received approval from the Secretary of State (SoS) to accept a non-material change to amend the Hornsea Four Order to reduce the length of time the proposed ANS for kittiwake needs to be in place before operation, these changes were acceptable on the basis of the particular compensation measures proposed by those projects, and a robust evidence-based case that the changes would not result in significant additional impacts. Therefore, these decisions do not automatically set a precedent that other projects proposing ANS can follow. Accordingly, the evidence for a two-year lead in time as opposed to the four advised by Natural England must be sufficiently strong to provide continued certainty for the success of the measure. Natural England do not consider that [REP2-060] currently provides this.

1.2 Scale of compensation

Natural England have not provided further comment on the impact values presented in this document, as our advice on this has been provided in our comments [AS-160] on the Project Level Kittiwake Compensation Plan [REP2-010].

1.3 Hornsea 3 and 4 decisions

Natural England acknowledge that both Hornsea Project Three and Four Offshore Wind Farms (OWF) were granted Non-Material Changes to reduce the number of breeding seasons for ANS installation prior to operation from four to two. However, we consider the Applicant's statement in Section 3 that "*The non-material changes were consented for both Hornsea projects on the basis of a provision of evidence on growth rates at the ANS*" over-simplifies the case and does not consider the wider context of the applications.

At the point when the NMCs were granted for Hornsea Three and Four, considerable work had been undertaken post-consent with respect to both site securement and ANS design, providing greater certainty and confidence in the measure that would be delivered. It had also been demonstrated that best endeavours had been made to deliver the compensation within

the four breeding seasons required, but that this had become unfeasible largely due to reasons outside of the projects' control.

Specifically, on Hornsea Three Natural England were reassured as the project were progressing four structures, in at least two English regions, each of which were predicted to address their impacts. The provision of multiple ANS provided some comfort that any build up in mortality debt resulting from the reduction in the number of breeding seasons had the potential to be mitigated against by the high level of nest space provision. Furthermore, the installation of ANS in two regions was likely to provide resilience against any negative environmental influences that could arise in one location, again mitigating against the accumulation of mortality debt. Natural England therefore concluded that the NMC would not significantly impair the effectiveness of the DCO in securing the compensatory measures. It should also be noted that three of Hornsea Three's structures were subsequently installed three breeding seasons prior to operation.

For Hornsea Four, Natural England had been consulted through the OOEG and the associated Marine License Application on the location and design plans for the ANS, and agreed that should the Applicant's proposals be progressed, they had a good prospect of delivering ecologically suitable nesting habitat for kittiwake. It was noted, however, that provision of a single rather than multiple structures would increase the risk around non-colonisation. We also highlight that the current iteration of the Hornsea Four Kittiwake Compensation Implementation and Monitoring Plan under review by Secretary of State, includes provision of compensation four breeding seasons prior to operation, albeit the proposals now relate to an onshore rather than offshore ANS.

1.4 Modelling methodology

Natural England consider that further information on the modelling approach, parameters used, and calculations undertaken to obtain the growth rate results presented should be included within this document, rather than exclusively signposting to the Hornsea 4 documentation. The document does not currently detail the consideration of any crucial assumptions, such as juvenile survival rates for example. We advise that further information on the methodology used, and the consideration of any important assumptions is included. This will allow reviewers to assess the extent to which the predictions are precautionary.

For example, it is currently unclear what level of compensation quantum has been used to inform the growth curves in the report. Section 2 provides the predicted annual impact range currently presented in the KCP (104-377); however, Section 4 does not specify which value

has then been used to inform growth rate calculations and determine when 'full' compensation would be provided. We advise that growth curves should be provided considering compensation requirements according to both the Applicant and SNCB advised approach. Natural England would also welcome a more detailed description of how the 'mortality debt' has been calculated, and whether the values presented take into account the need for the ANS colony to sustain itself, i.e. whether they reflect the Hornsea 3 part 2 or Hornsea 4 approach.

1.5 Growth curves: Productivity rates

The Applicant has used three potential productivity rates for the growth rate calculations, defined as low (0.8), medium (1.025), and high (1.38).

We note that 0.8 has been defined as the lowest productivity rate at which a kittiwake colony can be self-sustaining (Coulson, 2017[1]). However, we note that the average productivity rate for kittiwake in the British Isles between 1986 and 2005 was 0.68 (Mavor et al 2008[2]) and that the UK average was defined as 0.69 (Horswill & Robinson, 2015[3]). Furthermore, the average productivity rate for kittiwake at FFC SPA between 2015 and 2021 was 0.57[4] [5] [6] [7] [8] [9] [10] . We therefore advise that a productivity rate of 0.8 should not be considered a worst-case scenario and highlight the need for precaution when interpreting the results of growth rate projections based on productivity rates that may be unachievable for kittiwake colonies in the North Sea.

We highlight that the productivity rate used has a significant impact on the growth curves presented in Figure 4-1 [REP2-060], and that in many of these scenarios, compensation is only achieved within the lifetime of the Projects at the higher productivity rates. Only two

[1] Coulson, J.C. (2017). Productivity of the black-legged kittiwake Rissa tridactyla required to maintain numbers. Bird Study 64: 84-89.
[2] Mavor, R.A., Heubeck, M., Schmitt, S. and M. Parsons (2008) Seabird numbers and breeding success in Britain and Ireland, 2006. Peterborough, Joint Nature Conservation Committee. (UK Nature Conservation, No. 31.).
[3] Horswill, C. and Robinson, R.A. (2015). Review of seabird demographic rates and density dependence. JNCC Report No. 552. JNCC, Peterborough.

[4] Aitken D., Babcock M., Barratt A., Clarkson K & Prettyman S. (2017) Flamborough and Filey Coast pSPA Seabird Monitoring Programme – 2017 Report.
[5] Babcock M., Aitken D., Jackson S. & Clarkson K. (2015) Flamborough and Filey Coast pSPA Seabird Monitoring Programme – 2015 Report.
[6] Babcock M., Aitken D., Kite K. & Clarkson K. (2016) Flamborough and Filey Coast pSPA Seabird Monitoring Programme – 2016 Report.
[7] Babcock M., Aitken D., Lloyd I., Wischnewski S., Baker R., Duffield H. & Barrett A. (2018) Flamborough and Filey Coast SPA Seabird Monitoring Programme – 2018 Report.
[8] Cope, R., Aitken D. & O'Hara D. (2021) Flamborough and Filey Coast SPA Seabird Monitoring Programme – 2021 Report.
[9] Lloyd I., Aitken D., Wildi J.& O'Hara D. (2019) Flamborough and Filey Coast SPA Seabird Monitoring Programme – 2019 Report.
[10] Lloyd I., Aitken D. & O'Hara D. (2020) Flamborough and Filey Coast SPA Seabird Monitoring Programme – 2020 Report.

scenarios (B: initial colony size 20, growth rate 50% and C: initial colony size 20, growth rate 80%) show impacts being compensated within the lifetime of the Projects (30 years) at a productivity rate of 0.8. We also note that climate change is predicted to have a negative impact on future productivity rates for kittiwake populations in the UK (Pearce-Higgins 2021[11]), which further highlights the need for caution when projecting high rates of productivity in future decades.

1.6 Growth curves: Colonisation rates

The growth rate calculations appear to assume that colonisation will take place as soon as ANS installation is complete. Given the variable level of colonisation shown by OWF-related ANS to date (only one of the seven structures having been colonised in the first breeding season, by a single pair, and four structures not having had a nesting pair in the second breeding season), we also advise the report should consider the implications of each scenario having a delayed colonisation period (e.g. 1, 2 and perhaps 5 years), in order to incorporate the current, albeit limited, evidence on ANS colonisation.

1.7 Growth curves: Growth rates

Natural England acknowledge that projecting growth rates for new colonies on ANS is challenging, but available data shows that, while new colonies may show initially high growth rates, these are likely to decline after the first decade (Coulson (2011)[12], Kildaw et al. (2005)[13], & Orsted (2024)[14]). We note that even the rapid growth of the kittiwake colony at Coquet Island averaged under 30% for the first thirty years (Orsted 2024). Natural England have therefore previously advised that a 10% growth rate was more likely to be appropriate for the lifetime of a wind farm (Natural England, 2021). We acknowledge that Hornsea Three and Four used logistic models (whereby the growth rate decreases as target colony size is approached) with starting growth rates of 20, 50 and 80%, as the Project have done, however Hornsea Three and Four had robust monitoring and adaptive management proposals in place to provide comfort that any underperformance in the long term could be addressed. Natural England advise the growth rates used may need to be revisited following provision of the detailed CIMP.

[11] Pearce-Higgins, J.W. (2021) Climate Change and the UK's Birds. British Trust for Ornithology Report, Thetford, Norfolk.
[12] Coulson, J.C. (2011). The Kittiwake. T. & A.D. Poyser, London.
[13] Kildaw, S.D., Irons, D.B., Nysewander, D.R. & Buck, C.L. (2005). Formation and growth of new seabird colonies: the significance of habitat quality. Marine Ornithology 33: 49-58.
[14] Orsted (2024) Application to make a non-material change to Hornsea 4 offshore wind farm order 2023 (S.I. 2023/800) as corrected (S.I. 2024/117). 2 May 2024.

1.8 Delivery

The Applicant has stated that the "*Calculations indicate that offshore ANS would deliver the required compensation quantum within the project lifetime*" and that "*if ANS installation occurs two full years prior to operation, full compensation would be achieved between 16 and 36 years following first generation*". However, the Projects' lifetime has been defined as 30 years in ES Chapter 5 - Project Description [APP-071]. The Applicant's statements that the ANS would take up to 36 years to compensate for impacts and that the ANS would deliver full compensation within the project lifetime are therefore contradictory. Natural England is concerned that, according to the Applicant's own calculations, the ANS may not be able to deliver full compensation within the Projects' lifetime.

It is also stated that there is a possibility that Outer Dowsing (ODOW) OWF may provide their project led ANS in 2025, and that "*this would mean that 50% of the compensation would be delivering earlier than the DBS alone ANS*". However, ODOW has also recently submitted a request into Examination to reduce the number of breeding seasons to two. It therefore cannot be guaranteed that ODOW would have a structure in place by 2025.

1.9 Mortality debt

The Applicant suggests in the KCP [REP2-010] that any *'compensation deficit accrued'* from a delay to the delivery of the offshore ANS would be so small that it would be paid off over the lifespan of the Proposed Development, or that the scale of compensation could be increased, or alternative measures could be relied on to offset any deficit accumulated during the early years of operation. Natural England consider that any of these factors are far from guaranteed. Compensation deficit, or mortality debt, will not just accumulate as a result of the ANS not being in place prior to impact occurring. Each year that the Project is operational, there will be a requirement for the compensation to deliver 'X' adult kittiwake into the breeding population, which will be measured through the number of chicks fledged from the ANS. As evidenced by the growth curves, it will take years for the compensation to deliver in full. The scale of chick provision required each year will therefore be revised iteratively, based on how many chicks have fledged in the previous year(s). Mortality debt can therefore not only accrue from a failure to have compensation measures in place sufficiently before the projects are operational, but also from if the ANS underperforms for several years over the lifetime of the project or takes a significant period of time to become colonised.

1.10 Conclusion

Natural England acknowledge that in all scenarios a significant amount of time is required to achieve the required level of compensation, and a delay in installation is likely to lead to an equivalent delay in full compensation delivery. However, we disagree that there is therefore "*little biological relevance to the four-year figure*" or that "*a reduction in breeding seasons from four to two ahead of operation does not materially affect the delivery of the compensation requirement*". As noted by the Applicant, the four years was originally secured by the SoS to allow sufficient time for the recruitment of juveniles to the adult population, given that kittiwake are known to start breeding on average at four years old. It was also to allow benefits from higher predicted colony growth rates in the early years following colonisation. As detailed in Section 1.6, our understanding of colonisation rates has changed since the initial development of ANS as a compensation measure for Hornsea 3, which if anything, has increased the importance of ANS installation being undertaken as soon as possible in advance of impacts occurring.

We further note that the Applicants have not substantiated their statement that a reduction in breeding seasons "*is necessary to ensure the security of the Projects*", as no information regarding specific logistical constraints have been presented. Natural England consider that a reduction in lead-in time for ANS installation should be considered a last resort and should only be agreed where robust evidence is provided to support confidence in the success of the measure. We do not consider that the information provided by the DBS Projects meets these criteria. Natural England therefore advise that the Applicant provide more robust evidence that every effort has been made to ensure that four breeding seasons are met, and to demonstrate, with confidence, that compensation requirements can be delivered by the measures proposed.