THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

FIVE ESTUARIES OFFSHORE WIND FARM

Appendix D8A to Natural England's Deadline 8A Submission

Natural England's comments on 10.20.12 Methodological Differences Between the Applicant and Natural England on Ornithology Matters [REP7-076]

For:

The construction and operation of Five Estuaries Offshore Wind Farm, located approximately 57 km from the Essex Coast in the Southern North Sea.

Planning Inspectorate Reference EN010115

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Appendix D8A Natural England's comments on 10.20.12 Methodological Differences Between the Applicant and Natural England on Ornithology Matters [REP7-076]

In formulating these comments, the following documents have been considered:

- [REP7-076] 10.20.12 Methodological Differences Between the Applicant and Natural England on Ornithology Matters

1. Summary

In the technical note 10.20.12 [REP7-076], the Applicant outlines the methodological differences between its own and Natural England's preferred approaches to the assessment of project impacts on offshore ornithology including those with respect to quantifying compensatory measures. In so doing the Applicant provides a broad critique of what is perceived as the precautionary nature of Natural England's best practice guidelines and advice, coupled with more specific criticism of various technical aspects of it. In this document we balance the Applicant's assertions by providing a brief overview of our approach to the assessment and what guides it, and our reservations regarding the Applicant's deviations from that best practice.

2. Detailed comments

2.1 Assessment Differences Between the Applicant and Natural England

Natural England has responded to some of the key areas of disagreement raised in [REP7-076}, notably adult apportioning, the use of sabbaticals, displacement, and mortality rates for auks (see [PD2-005] Revised NE relevant reps Appendix C – Offshore Ornithology). We have also responded to similar Applicant submissions in previous and on-going offshore wind Examinations including those relating to precaution and collision risk modelling (CRM) parameters (avoidance rate, nocturnal activity factors, flight speed and height), for example at Deadline 9 of the Norfolk Vanguard examination, see p23-27 of EN010079-003190-DL9 - Natural England - Deadline Submission.pdf, and Deadline 4 at the Outer Dowsing examination, see Appendix F3 [REP4-139]. However, whilst recognising that there is inevitable and legitimate debate regarding the best approach to quantifying impacts for which the evidence base is still limited, Natural England remain of the opinion that the Examination phase of a planning application is not an appropriate forum for constructive discussions on the interpretation of that evidence base and its application in best practice for impact assessment. The Natural England/Statutory Nature Conservation Bodies (SNCBs) approach to impact assessment is one which takes account of the evidence-poor, high-uncertainty environment within which the assessments are carried out, as well as the requirements of the Habitats Regulations to adopt a precautionary approach. Ultimately this is a matter of ecological judgement and given Natural England's role as the appropriate national conservation body, considerable weight ought to be given to its advice and there should be cogent and compelling reasons for departing from it (Akester and Anor 2010).

Regarding the specific differences between the Applicant's and Natural England's approach to the assessment presented in [REP7-076] we outline and, for the most part, reiterate our position on each point below:

2.2 (Section 2.2) Lesser Black-Backed Gull (LBBG) Apportioning and Sabbaticals

On this matter we refer the ExA to our previous response to the Applicant's approach to apportioning LBBG and sabbaticals in our Revised NE relevant reps Appendix C [PD2-005] (see NE ref C27 and C28).

To reiterate, Natural England do not accept the Applicant's preferred approach to apportion adults during the breeding season using the generic data presented in Appendix A of Furness (2015) which is based on a theoretical generalised stable age structure.

The Applicant considers Furness (2015) to provide a more accurate representation of population age structure than site-based data, due to the proportion of individuals aged within the latter, and the potential conflation of birds in adult-type plumages and breeding adults. The Applicant also argues that Furness (2015) draws upon a wide number of data sources gathered across multiple years to model population age structure and so reduces the potential for any bias associated with the snapshot nature of site-based surveys. Natural England advise that the stable age structure reported in Furness (2015) is unlikely to be representative of the actual proportions of adults present within specific areas at different times of year. This is especially notable during the breeding season within foraging range of colonies, when adults are likely to predominate. Furthermore, we believe it should be possible to age a representative sample of lesser black-backed gulls from the DAS data. The Applicant's approach constitutes a significant source of uncertainty which could lead to over, or more importantly, underestimation of impacts. Natural England, therefore, do not accept the Applicant's preferred approach to apportioning adults to SPAs.

Natural England continues to advise that for species that can be aged as adult or sub-adult from DAS, such as LBBG, site-specific data represents the best available evidence for apportioning and that this should be used wherever possible. Where good quality site-specific ageing data are not available, then Natural England recommend that a precautionary approach should be adopted and all 'adult type' birds (i.e. birds that cannot be distinguished from adults and hence might be adults are apportioned as adults). We also suggest that the apportioning of adult birds should be season specific, to account for any seasonal variations in the use of the site.

Regarding the exclusion of birds on sabbatical, Natural England continue to advise that integrity judgements should be based on assessments that do not remove these birds at the apportioning stage. Natural England does not consider the current evidence base sufficient to recommend sabbatical rates of >0 for any seabird species. We therefore welcome the presentation of results derived from adult populations that have not been altered to take sabbaticals into account. We acknowledge that sabbaticals are an important consideration for improving impact estimates and represent a knowledge gap. However, at present we do not believe that simply removing them from assessments during apportioning is appropriate.

Key issues that currently preclude the proper consideration of sabbaticals are briefly detailed below:

- Mean proportions of populations expected to take sabbaticals are poorly understood. Temporal and spatial variation of sabbatical rates remains largely unknown. Thus, we have no basis to assign rates to breeding populations that are not directly studied.
- The behaviour of sabbatical birds is unknown. We do not know if they are present at colonies, or how they forage. Thus, we do not understand their potential impact exposure.
- It is possible that sabbatical birds contribute to some colony population estimates if they are present in breeding habitat during counts. Further, if they do remain at colonies (e.g. defending a nest site) some sabbatical birds may even inform productivity rates calculated for breeding populations. This would need to be accounted for in impact assessment.

- Sabbatical birds are part of the breeding population, and their potential impact exposure compared to breeding birds is not known.

Natural England note the sabbatical rates applied by Applicant align with those recommended by Marine Scotland for the Seagreen Phase 1 Offshore Project (Marine Scotland, 2017). However, these rates were taken from guidance supplied to a Scottish OWF by Marine Scotland seven years ago and were specifically for inclusion within a PVA model, not apportioning. Further, the use of these rates is not justified or evidenced in the cited document.

Expert review of the seabird demographic rates presented by Horswill & Robinson (2015) and the literature used to inform them should introduce significant caution in any consideration of sabbaticals during impact assessment. In short, there are insufficient studies to inform a full understanding and no clear basis to extrapolate findings to other colonies. Further, it is highly uncertain that historic findings remain relevant now, or for the extended period that OWF projects may impacts on populations.

2.3 (Section 2.3) Guillemot and Razorbill Displacement and Habituation

On this matter we refer the ExA to our Revised NE relevant reps Appendix C [PD2-005] (see NE ref C32).

Natural England do not regard 50% displacement and 1% mortality an appropriately precautionary approach to the assessment of impacts from displacement on guillemot or razorbill. Further, and contrary to Applicant's statement that Natural England advise a rate of 70% displacement, we do not advocate for the use of single values in impact assessments, as they run a significant risk of 'false precision'. This is inappropriate given the limitations of the studies on offshore windfarm displacement thus far carried out and the resulting equivocal evidence base as highlighted by the Applicant. Accordingly, Natural England's range-based approach seeks to encompass a range of potential displacement effects as observed in post-construction monitoring studies. This is set out within our Best Practice Guidelines (Parker 2022). However, we do generally use a rate of 70% displacement (and, in this case, 2% mortality) for calculating compensatory requirements for auks, due to the desirability of having clear targets for measures to deliver (and these were requested specifically for this Project within C31 and C32 of our Relevant Representations [PD2-005].

Natural England do not consider the APEM (2022) review to be sufficient justification for use of a single displacement rate of 50% for auks at Five Estuaries and similarly outlined these objections to this position in its response to the review in the Hornsea 4 examination (PINS ref. EN010098 Natural England review of G1.47 Auk Displacement and Mortality Evidence Review Revision: 01) [REP2-085]. Many of the points raised within this response are applicable to Five Estuaries.

With regards to the APEM (2022) report, Natural England observes that there are methodological issues with many of the studies cited, not just those reporting more significant displacement effects. This includes, but is not limited to, the use of boat-based surveys, a survey methodology that is no longer considered fit for purpose (not least because auks are disturbed by boats), the uncertainty around how displacement rates have been calculated, and the distance (i.e. array only, or array + various buffers) over which displacement has been calculated. This last point is likely to be a critical factor in determining whether displacement rates are comparable between projects, since displacement effects have been recorded beyond the limits of several of the studies considered by APEM's review (for example up to 9km (Peschko et al. 2020) and 21km (Peschko et al. 2024) in the German North Sea), meaning that these studies have potentially underestimated the level of displacement. Furthermore, displacement rates might be

expected to decrease with distance from the impact and therefore vary according to the surveyed area. Consequently, Natural England remain wary of relying too heavily on direct comparisons between the projects assessed in the APEM (2022) report and current proposed developments including Five Estuaries, due to differences in windfarm scale, turbine size and array area.

Regarding evidence for low rates of displacement and habituation, Natural England consider the evidence base insufficient to draw any conclusion either way, particularly given the paucity of post-consent monitoring thus far. We acknowledge the evidence cited by the Applicant but can draw no specific conclusions about rates of displacement in their favour. The observations at Thanet OWF and presented by Leopold and Verdatt (2018) require verification across broader times scales and geographic areas.

We note Trinder et al. (2024) has been cited as evidence for lower rates of displacement and habituation but highlight several flaws in doing so. For example, Trinder et al. (2024) does not specifically attempt to quantify a displacement rate for auks with respect to the array and a 2 km buffer, and indeed the method described in the paper only looks at auk distribution out to 400m from the turbines, so will be unable to detect displacement effects from the array as a whole i.e. the macro-displacement effects extending well beyond 400m reported by numerous studies. Existing SNCB advice acknowledges that some auks will enter offshore wind farms and a 2 km buffer, as reflected by the matrix of displacement rates allowing impacts to be presented for 10-100% displacement, with an emphasis on 30-70%. In the current assessment framework, birds that are not displaced from the array and buffer area are assumed to be unimpacted. It is effectively the behaviour of those unimpacted birds that the new method outlined by Trinder et al. (2024) assesses, rather than those that are deterred from approaching or entering the array and are subject to displacement as a result. This means that the method appears to have rather limited relevance to impact assessments, given the necessary focus of these on array-scale displacement.

In summary, Natural England do not agree that the Applicant has provided sufficient evidence to support a single displacement rate of 50% and continue to advocate for a range-based approach when considering displacement impacts in terms of both displacement and mortality rates.

3. (Section 3) Compensation Calculations

Natural England's headline advice on calculations for seabird compensation requirements is set out in REP5-095. Regarding our current position on the appropriate calculations for the Five Estuaries project we direct the ExA to Appendix D8 of our Deadline 8 submission [REP8-051], where we recognise that the 'Hornsea 3 part 2' method is only suitable for kittiwake and propose alternative approaches for LBBG, guillemot and razorbill.

We acknowledge that knowledge gaps remain and that the application of a ratio to address the uncertainty of success should continue to be set on a case-by-case basis, considering the level of impact, the feasibility of the measure, and its potential effectiveness. We highlight that the ratio should be applied to scale the implementation of a measure, for example by delivering at multiple distinct sites, each capable of addressing the impact alone.

Reiterating our comments in the Appendix D8 to Natural England's Deadline 8 Submission [REP8-051] we highlight that the application of any method to calculate the scale of compensatory measures with respect to the number of breeding pairs required to compensate a specified annual mortality impact remains somewhat contentious. The pressing need for independent expert advice on the topic led to the British Trust for Ornithology (BTO) being contracted by Natural England (on behalf of the Collaboration on Offshore Wind Strategic Compensation) to critically review the available methods and

determine the most appropriate for this application, or to identify an alternative method. The contract's principal focus is on kittiwake but is also considering whether the method is appropriate for other species. However, the outputs of this project will not be finalised in time for proper consideration within this examination.

Our case-specific advice on this topic and set out in our Appendix D8 submission [REP8-051] reflects current knowledge and the application of expert judgement to the potential of measures to deliver tangible benefits, but we acknowledge the need for greater clarity of advice and guidance in this challenging area.

4. (Section 4) Levels of Precaution – Collision Risk Model (CRM) Avoidance Rates, Flight Height, and Nocturnal Activity Factor (NAF)

In reference to the Applicant's concern of 'compounding precaution during the assessment, apportioning and compensation calculation process', Natural England advise that these represent separate elements of the Habitat Regulation Assessment (HRA) process, the first being the need for precaution within the assessment of impacts to Special Protection Areas (SPAs) (including via apportioning) and the second being the need to consider the efficacy or likelihood of success of the proposed compensation measures, and that both are required to have the requisite confidence that any proposed compensatory measures will result in the Project's impacts being offset within its lifetime.

Natural England refers the Applicant and Examining Authority to Appendix G1 to our Deadline 5 Submission [REP5-095], on Seabird Compensation Calculations for further detail on our position regarding the need to address the uncertainty of success of measures within the compensation calculations. We also reiterate our advice therein that **Natural England has no intention of setting unachievable targets for compensatory measures.** In that light, we refer the Applicant and the Examining Authority to our updated advice on seabird calculations submitted at Deadline 8 [REP8-051], where we propose an approach to ensure this is the case.

Regarding the Applicant's concern on precaution and the specific parameters used for the CRM carried out for kittiwake and lesser black-backed gull we address each one below:

4.1 (Section 4.2.4) Avoidance Rates
Please refer to the Joint SNCB advice note (Ozsanlav-Harris et al., 2023) with regards to the justification for the advised avoidance rate for kittiwake (i.e. the 'all gulls' rate rather than species-specific rate).

4.2 (Sections 4.2.5-10) Flight Height, Flight Speed and NAF
Natural England advise that in general, caution must be used when proposing alternative parameters for collision risk modelling to those recommended by the SNCBs, due to the way avoidance rates are calculated. The calculation of avoidance rates involves a comparison of how many collisions are predicted by the model, in the absence of avoidance and using given parameters, with real-world collision data collected from wind farms. If the model parameters are changed so that fewer collisions are predicted in the absence of avoidance, then a lower avoidance rate may also be warranted - the smaller the gap between predicted (without avoidance) and observed collisions, the lower the avoidance rate. The SNCBs are currently reviewing some of the recommended parameters for collision risk modelling, which may lead to some changes, but currently Natural England do not consider it appropriate to use a different flight speed to the recommended value as an input for stochastic collision risk modelling (sCRM), for the reasons stated above. However, we do recognise that data collection on flight speed and nocturnal activity of various seabird species is yielding further insights into seabird behaviour.

4.3 (Section 4.7) Summary

We do not agree that Natural England has misapplied the precautionary principle. We highlight that decision-makers need to be in a position to conclude 'beyond reasonable scientific doubt' that protected populations will not be adversely impacted by a project in order to satisfy the requirements of the Regulations. Where there is doubt about impacts - and we think it fair to say that there is consensus across the sector that there is considerable scientific doubt - precautionary decisions should be taken to protect relevant sites. Precaution should also be applied if there is an absence of information on the effects of a proposal. Furthermore, the implementation of the approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identify at each stage the degree of scientific uncertainty. Importantly, the over-arching precautionary approach should not be confused with the elements of caution applied to the assessment of the scientific data and, for example, have been incorporated into the Natural England best practice guidelines.

Natural England and the SNCBs in general seek to ensure decisions are based on the best available, objective, and scientific information. The higher levels of estimated impact and required compensation attained by following Natural England's 'best practice' interpretation of the data compared to the Applicants are largely due to methodological differences and are not strictly additive. Importantly, where data or outcomes are uncertain, Natural England seeks a range-based approach or the use of upper confidence intervals in order to account for all potential eventualities indicated by the data. This contrasts starkly with the use of single impact values, which we continue to consider presents a misleading picture as regards our understanding of the potential impacts.

As noted above, Natural England has no intention of setting unachievable targets for compensatory measures. It seeks protection proportional to the estimated impacts, derived from an approach consistent with other assessments already decided where there is a common basis of evidence and, subject to review, in light of new scientific evidence or other emerging information.

Furthermore, Natural England and the other SNCBs keep up to date with developments in the evidence base with respect to seabird population ecology and the impacts of offshore wind developments and are actively involved in many research projects e.g. OWEC (Offshore Wind Evidence and Change) programme, including leading projects such as Reducing Seabird Collisions Using Evidence (To the ReSCUE: Understanding flight heights for seabird conservation and offshore wind expansion – Natural England) and commissioning evidence reviews such as Ozslanav-Harris et al (2023).

We are also active members of forums such as OWEER (the Offshore Wind Environmental Evidence Register) and OWEKH (the Offshore Wind Evidence & Knowledge Hub) that are aimed at facilitating the sharing of evidence and sector-wide engagement and agreement on how best to assimilate the evolving evidence base into agreed guidance and approaches. All this supports its advice and ensures it remains led by the best available evidence.

References

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