THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms

Appendix D1 to the Natural England Deadline 6 Submission

Natural England's Further Advice on Marine Mammals Technical Note and Addendum [REP3-115]

For:

The construction and operation of the Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms located approximately 16km and 27km respectively from the Norfolk Coast in the Southern North Sea.

Planning Inspectorate Reference: EN010109

20th June 2023

Appendix D1 - Natural England's Further Advice on Marine Mammals Technical Note and Addendum [REP3-115] – Population Modelling in the Marine Mammals Technical Note

As outlined in our Deadline 5 cover letter, Natural England deferred providing our review of the updated population modelling provided by the Applicant in the Marine Mammals Technical Note [REP3-115] until Deadline 6. Our comments and advice to the population modelling is set out below.

1. Summary of Advice

Natural England requests further information on two aspects of the cumulative assessment and associated population modelling:

- Justification for downgrading the magnitude of the assessment for bottlenose dolphin and thereby excluding the species from the population modelling;
- Demonstration that the project-alone piling scenario that has been used as the worst-case scenario is indeed the worst-case.

Overall, Natural England considers the population modelling fit for purpose, except for the two queries above which should be resolved. Natural England's view on the population modelling undertaken by the Applicant is presented in detail below.

2. Detailed Response

Species Assessed

The Applicant has undertaken population modelling using Interim Population Consequences of Disturbance (iPCoD) for three marine mammal species; harbour porpoise, harbour seal and grey seal. Population modelling was undertaken because the residual impact assessment concluded Major Adverse impacts for these species (see Table 4-34 of the Marine Mammals Technical Note and Addendum [REP3-115]).

Despite concluding a high magnitude of bottlenose dolphins disturbed in Table 4-33, the Magnitude is presented as Low in Table 4-34 because the Applicant considers this is more appropriate. The Applicant's justification for this downgrading of the Magnitude (Paragraph 22 and Footnote 62) is not detailed or robust. Further information is needed to justify the exclusion of bottlenose dolphins from significant cumulative disturbance impact and therefore the population modelling.

Population Parameter Inputs

Natural England recognises that there is limited information on the population parameters for the specific populations being assessed. We broadly consider that the Applicant has applied reasonable population parameters as a proxy for where region-specific information is missing, as is the case for harbour and grey seals.

For harbour seals specifically, Natural England has sought expert advice from the Sea Mammal Research Unit, (SMRU) at St Andrews University on the parameters used due to

our concerns over the declining population in the Wash. We have been advised that the rate of decline in the Wash (24% since 2015) is similar to the rate of decline of the Scottish East Coast population (24% between 2016 and 2021). Therefore, the Applicant's approach of using the parameters from the Scottish East Coast population appears reasonable. It is difficult to predict the future of the Wash population and whether the observed decline will persist. The focus of our review of the population modelling has been on the key output of relevance to the impact assessment, namely whether there is a difference between the unimpacted and impacted population.

The harbour porpoise population parameters in Table 4-7 appear to differ to the parameters presented by Sinclair *et al.* (2020). Sinclair *et al.* (2020) presented updates to the recommended demographic parameters, compared to those included in the iPCod framework. The parameters used by the Applicant for harbour porpoise appear to match the parameters in the helpfile for the current iPCod framework. Whilst Natural England advises that the latest parameters should be used, we consider that updating these would not make a material difference to the outcome of the population modelling. Therefore, an update is not required in this instance.

We consider that the Management Units (MUs) selected as the reference populations are broadly appropriate. An assessment at both the MU and SAC scale has been undertaken, providing context to the assessment.

Impact inputs (project alone)

The Applicant has used a worst case of one monopile and one pin pile being installed in each 24-hour period (Paragraph 106). However, it is not clear how this comprises the worst case, given that both concurrent piling (2 piles being installed at the same time) and sequential piling of two monopiles at SEP and DEP are within the project envelope for which consent is being sought. Further information is needed to demonstrate that what has been assessed is indeed the worst-case scenario.

Natural England considers that the disturbance distances, and the residual days of disturbance, used by the Applicant are suitably precautionary.

Impact inputs (cumulative)

The Applicant's review of the available project data for screened in offshore wind farms projects (see Table 4-18) appears comprehensive and based on the best available information at the time. We note that projects in the pre-application phase may continue to refine and publish their project data. However, it is reasonable to implement a cut off point for new data and we consider that what is presented in Table 4-18 is acceptable.

Model outputs and determining significance

The range of forecast intervals that have been presented are appropriate. Natural England notes that there is increased uncertainty with increased time from the modelling start year. Our advice is, therefore, based on the short- to medium-term predictions.

The Applicant has used a threshold of an (additional) 1% annual decline due to construction works of offshore wind as resulting in a disturbed population compared to an undisturbed population (see Paragraph 213). Natural England considers that this approach for defining potential significant impacts is appropriate in most scenarios. We note that it is in line with the recent Natural Resources Wales (NRW) position statement (NRW 2023) on assessing the effects of hearing injury from underwater noise on marine mammals, where NRW state that a population decline of >1% per year (versus a modelled unimpacted reference population) would constitute a high likelihood that a significant effect and adverse effects on integrity (AEoI) cannot be ruled out.

The worst-case prediction of annual decline is for harbour porpoise, which are predicted to have an annual decline of 1.78% by End 2031 (Table 4-36), equivalent to an annual decline of ~0.3%, under the in-combination scenario. Grey seal are predicted to decline up to 0.03% by End 2031. Harbour seal are predicted to have effectively the same un-impacted and impacted population mean at each forecast interval presented. These results are all not significant based on the 1% threshold mentioned earlier.

It is Natural England's view that the context for the assessment of the harbour seal feature of the Wash and North Norfolk Coast SAC differs because this designated feature has an overall unfavourable conservation status. As detailed in Natural England's Relevant Representation [RR-063], the Applicant must demonstrate that the project will not hinder (neither stop nor slow) the recovery of the species in the site. This has been taken into account by Natural England in its review of the outcomes of the population modelling for harbour seal specifically.

The population modelling of harbour seal, at both the MU and SAC level, from both project alone and cumulative effects (see Tables 4-12, 4-38, 5-11 and 5-29), shows effectively no difference in the size of the unimpacted population mean and the impacted population mean. Therefore, the results as presented indicate that offshore wind impacts will not cause any additional decline to the harbour seal populations assessed.

References

Natural Resources Wales (2023) NRW's Position on Assessing the effects of Hearing Injury from Underwater Noise on Marine Mammals
([redacted])

Sinclair, R. R., Sparling, C. E., & Harwood, J. (2020). Review Of Demographic Parameters and Sensitivity Analysis To Inform Inputs And Outputs Of Population Consequences Of Disturbance Assessments For Marine Mammals. Scottish Marine and Freshwater Science, 11(14), 74.