THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

NORFOLK VANGUARD OFFSHORE WIND FARM

Planning Inspectorate Reference: EN010079

Secretary of State Additional Information Request

Natural England's advice on Natural England's advice on the Alde-Ore Estuary Special Protection Area (AOE SPA) in principle compensation measures

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19th November 2021

Annex 3 - Natural England's advice on the Alde-Ore Estuary Special Protection Area (AOE SPA) in principle compensation measures

Our comments below are based primarily on the Norfolk Vanguard Applicant's Response to the Secretary of State's (SoS) consultation of 5 July 2021 on 'In Principle Habitats Regulations Derogation, Provision of Evidence Appendix 2 Alde-Ore Estuary SPA In Principle Compensation (Version 2)' that was submitted on 11 August 2021 (MacArthur Green 2021).

Since the submission of MacArthur Green (2021) by the Norfolk Vanguard Applicant, further information has been provided by the Norfolk Boreas Applicant on Alde-Ore Estuary SPA In Principle Compensation, which is also relevant to our Norfolk Vanguard responses. We have therefore considered the updated information provided by Norfolk Boreas in our comments below (particularly that submitted in Royal Haskoning DHV (2021) – the Norfolk Boreas Applicant's response to interested parties representations).

Our Ref.	Section/Point	Comment
3.1	3.1.1/32	Natural England takes a range-based approach to considering collision mortality impacts, given the associated uncertainties. The range of predicted impacts for AOE SPA lesser black-backed gull (LBBG) is between 0.1 and 7 adult collision mortalities per annum, with a central prediction of 3. Natural England's advice is that this level of impact will not result in an adverse effect on integrity (AEoI) from Norfolk Vanguard alone.
3.2	3.1.3/36-37	Natural England confirms its current position is that the in-combination total is 54 collision mortalities per annum from the AOE SPA and advises that this level of impact means an adverse effect on integrity (AEOI) cannot be ruled out, irrespective of whether Hornsea 4 and Dudgeon & Sheringham Extensions are included in the in-combination totals. Natural England considers that the project makes a significant contribution to the AOE SPA in-combination total (3 out of 54 annual collision mortalities, or 5% of that total). We also advise that this contribution should be appraised in tandem with those of other submitted but not determined projects, rather than discretely.
3.3	3.1.3/38	The Applicant notes that the Galloper offshore wind farm was consented on project alone (119 collisions) and in-combination (270-357) collision predictions that are higher than either the project alone or in-combination totals now predicted by Norfolk Vanguard. However, we note that assessment methodologies and Natural England advice regarding these have significantly improved since the Galloper consent (24th May 2013).

		There have been two critical changes: firstly, the shift from the use of Potential Biological Removal (PBR) to the use of Population Viability Analysis (PVA), and secondly, the associated recommendation for interpretation of PVA model outputs using the metrics of counterfactual of population size and counterfactual of growth rate. In addition, there has also been the publication of Natural England's formal Conservation Advice package for the Alde-Ore Estuary SPA and associated conservation objective to restore the SPA's LBBG population, which are available from: [redacted]
3.4	4.1/42	Whilst it is correct to say that EC guidance provides some flexibility, compensating in a way that benefits the impacted site is a well-established principle in the provision of UK compensatory measures. We therefore support the focus on measures that will directly benefit the AOE SPA rather than the wider biogeographic population.
3.5	4.3.1/50	We agree with the Applicant that based on studies of diet and tracking of breeding adults suggesting that sandeels are not an important component of the diet of LBBGs, changes to sandeel fishery management are unlikely to represent a strong measure for compensation in relation to LBBG.
3.6	4.4.1/54	Whilst we agree that fox predation may have made a significant contribution to the declines in the AOE SPA colony, other factors including vegetation changes and human disturbance are also likely to be in play.
3.7	4.4.1/55	Natural England considers that the New Zealand-style predator exclusion fence is an appropriate measure to reduce the impacts of mammal predation, and that installation of such a structure is, on balance, beyond what would be expected from optimal site management at the AOE SPA. There is further discussion needed regarding the appropriate range of predators to be excluded, as there may be some ecological benefits from allowing smaller organisms to enter the enclosed area. Fox, American mink and brown rat are the likely priorities for exclusion.
3.8	4.4.2/59	Whilst we support the use of New Zealand-style predator fencing should an appropriate location be secured (see later comments), Natural England highlights that there are now few ground-nesting LBBGs on

		Orfordness. This indicates that the colony may be slow to establish and increase in the first instance, as there is a limited pool of recruits that have been raised on the ground at this location.
3.9	4.4.2/61	Natural England notes that electric fencing is not currently in use at Orfordness, although there are aspirations to install these as part of the S106 agreement for the Galloper OWF. In any event, Natural England considers that New Zealand-style predator fencing provides benefits above and beyond those provided by traditional electric fencing.
3.10	4.4.3/63	Natural England agrees that the exclusion fence should follow existing landmarks and topography, and notes that this may require an area of larger than 4ha to be fenced. We also note that if compensatory measures are required for multiple projects (including as-yet-unsubmitted projects as part of a strategic compensation approach), an area larger than 4ha may need to be fenced.
3.11	4.4.3/64 and Appendix I	Natural England advises the prediction of 3 collisions using a 99.5% avoidance rate is the mean/central predicted collisions per annum of LBBGs from AOE SPA. This is an estimation which is underpinned by a number of assumptions, several of which have considerable uncertainty associated with them. NE considers that compensatory measures should be able to address the potential range of impacts from the Vanguard proposal, and therefore measures should be designed to compensate for up to 7 collisions per annum (i.e. the 95% upper confidence limit value). We do consider that the proposed compensation would be able to achieve this level of provision provided a suitable location can be found. Natural England highlights that restoring the entire AOE SPA population within a 4ha compound is unrealistic. Whilst gull densities can be high in optimal locations, this may well not be achievable in a location where LBBG have undergone a significant decline. Furthermore, rather lower densities than indicated are a more likely scenario. Natural England has estimated nesting densities from four sub-colonies colonies in the Walney area (data from Sarah Dalrymple at Cumbria Wildlife Trust, *pers comm*). These show a range of productivity values of 0.002 to 0.047 pairs/m^2. Natural England also highlights that large gulls often nest in mixed species colonies, and it is therefore likely that some of the nest sites will be used by herring gull rather than LBBG.
3.12	4.4.3/65 and Appendix I	We welcome the use of the 95% upper confidence limit value of 7 annual collisions in these calculations. However, Natural England notes that no specific evidence is provided to support the use of the 0.5 average productivity rate, the predicted 50% of fledglings reaching adult age and the assumption that all fledglings

		reaching adulthood will recruit back to the natal colony, and is concerned that this results in an under-estimation of the number of pairs required. More specifically we note the following • Productivity**:** Whilst the average productivity quoted of 0.5/pair (in para 65) is approximately what Horswill & Robinson (2015) advise (0.53), this is an average value and given the current state of the AOE SPA colony, it would be more appropriate to have based expectations on the colony at Havergate Island as this also falls within the AOE SPA. Recent productivity from this site is 0.36 for 2017, 0.7 for 2019 and 0.28 for 2020, which gives an average of around 0.45/pair. We do recognise that this makes only a minor difference to the requirements. • Dispersal/philopatry**:** average natal dispersal according to Horswill & Robinson (2015) is 0.47, half the assumption for recruitment used here. We recognise that there is the potential that LBBG reared from colonies elsewhere, including from within the SPA, will recruit into the fenced area. Nevertheless, the rate of recruitment of first-time breeders and returning adults from the fenced area is also likely to depend on the developing colony being a productive one, which does not seem to be the case for LBBG within the SPA at present, even within the well-managed colony at Havergate Island, and may also be the case with the fenced area. Accordingly, the proposed target population size of 84 nesting pairs needs to be treated with some caution.
3.13	4.4.3/66	Natural England is not aware of any evidence on which to base an estimate of 'starting size' for an LBBG colony, so it is unclear how 25 pairs can be considered a 'very modest' assumption, particularly at a colony where there have been recent declines and where productivity of the remaining birds is below average.
3.14	4.4.3/67	We welcome the Applicant's efforts to quantify the potential 'mortality debt' and the length of time it will take to 'pay back' that debt. However, please see our comments on 4.4.3/65 and 4.4.3/66 above, which indicate that the calculations in Appendix 1 are unduly optimistic. Following our review of these estimates, Natural England considers it necessary to have the predator exclusion fence installed in advance of the collision mortality arising, not least given the five-year lag between fledging and first breeding, and consider that installation at least one breeding season before first turbine operation should be secured in the DCO/dML. However, we do not consider it necessary for there to be five breeding seasons prior to first turbine operation, though this timing would need to be reviewed should the Secretary of State mandate that other submitted OWF projects also need to provide compensatory measures for AOE SPA LBBG. In that context we note that Norfolk Vanguard propose to collaborate with Norfolk Boreas, East Anglia One North and East Anglia Two if these projects also require compensation, which will increase the level of compensation that this intervention is required to deliver.

		In this context, we are concerned that the Project's DCO/dML only requires them to submit a compensation plan to the Secretary of State 18 months prior to the operation of any wind turbine. This means that there is no requirement for the compensation to be in place or functional prior to impact. Natural England considers this further reduces the confidence that the measures will be implemented in a timely fashion and fails to provide the requisite certainty regarding when the compensatory measures would be in place.
3.15	4.4.3/68	We agree that a collaborative approach between multiple OWF developers resulting in a single exclusion fence rather than multiple fences would be ecologically and logistically preferable and reduce the potential for other impacts e.g. on landscape receptors. An approach where individual developers make a proportionate contribution is also sensible. It is not currently clear whether the proposed 4ha exclusion area would be sufficient for all those projects currently awaiting determination, or indeed those as-yet-unsubmitted projects likely to require compensation in the future.
3.16	4.4.3/70	We note the focus on the Orfordness part of the AOE SPA, which is logical given the historic presence and remnant population of LBBG in this area. This area has multiple potential constraints (landscape, ex-military, and historic environment as well as ecology) that may raise significant challenges to delivery. We welcome the commitment to working closely with the AONB partnership to ensure that impacts on the landscape are minimised. As well as looking within the SPA, it would also be appropriate to consider locations adjacent to but outwith the SPA, should these provide alternative opportunities to restore or create suitable conditions, including exclusion of predators. We note from the latest submission from Norfolk Boreas (Royal Haskoning DHV 2021), which is also relevant to Norfolk Vanguard, that a specific landowner and land parcel have been identified (Cobra Mist Ltd.) and Heads of Terms are under negotiation, which is welcome progress. The above constraints do still apply in this location and the design of the measures, which has yet to be undertaken, would need to ensure the compensation did not inadvertently impact upon these receptors. In particular, we note the presence of SAC/SSSI habitats within parts of this land parcel. We also highlight that the associated Unit 16 of the SSSI is currently in unfavourable condition, which would need to be remedied through an agreed site management plan, before this area would be suitable for the proposed compensatory measures. Given site management

		measures would need to be implemented and delivering beforehand, the current condition of the Unit has potential implications for the speed at which the compensatory measures can be implemented. In addition, it will need to be demonstrated that the implementation of compensation measures wouldn't affect water level management across the wider Orfordness.
3.17	4.4.3/72	We note the reference to visitor attractions and highlight the need to ensure that should this location be used, the compound is designed in a way that minimises disturbance from visitors, without impacting on any rights of way or the ability of visitors to access significant elements of the historic environment.
3.18	4.4.3/73	Again, we highlight the significance of the historic environment assets on Orfordness and advise that any modifications to those assets should be avoided. We agree that use of existing natural features such as ditches when designing the compound would be appropriate.
3.19	4.4.3/77	Natural England supports the principles brought forward here.
3.20	4.4.4/79	We note that *'it is recognised that there may be constraints to delivering the compensation which could delay its implementation, including agreeing an appropriate location and ensuring that the area chosen can be appropriately managed'*. Natural England is concerned that these constraints, whilst acknowledged, have not yet been addressed through the provision of a site-specific predatory fencing design, and consider that this inevitably reduces the confidence that can be had that the delivery of this compensatory measure is secured. This to our mind reinforces the requirement to secure the installation of the compensatory measure prior to the impacts occurring.
3.21	4.4.5/84	Natural England recommends that the monitoring programme encompasses colony size and productivity monitoring and incorporates colour-ringing to establish rates of survival to adulthood and natal philopatry, as these will be needed to quantify the contribution of the compensatory measure to sustaining the AOE SPA LBBG. We consider that the monitoring requirements should extend across the lifetime of the Norfolk Vanguard project, unless otherwise agreed with Natural England.

3.22	4.4.5/85	We agree that an adaptive approach to ongoing vegetation management will be an important component of ensuring the compensatory measure delivers.
3.23	4.6/93	As advised for other receptors, Natural England does not consider it appropriate to leave the identification of the location for the compensatory measures to the post-consent period, as this could result in significant delays to delivering the measure.
3.24	4.6.1.1/98	Natural England is concerned that the Project's DCO/dML only requires them to submit a compensation strategy to the Secretary of State 18 months prior to the operation of any wind turbine. This means that there is no requirement for the compensation to be in place or functional prior to impact. Natural England considers this significantly reduces the confidence that the measures will be implemented to the timescales set out. Please see our cover letter and comments on the DCO wording (Annex 4) for more detail.
3.25	4.6.2/99	We are pleased that the Applicant will use the list of key matters given here, as it was developed by Natural England. However, Natural England notes that this list was compiled with a view to informing submission of appropriately well-developed compensatory measures into the Examination (or as is the case with current projects, prior to determination), rather than to inform the development of compensatory measures in the post-consent period. It is Natural England's view that sufficient clarify on all these matters is needed prior to determination.
3.26	4.7/102	Whilst we welcome the commitment to working collaboratively with Scottish Power Renewables, it is unclear how this will operate in practice. We note that in the latest Norfolk Boreas submissions it is proposed to work collaboratively with the Norfolk Vanguard project, which we welcome, though this will of course increase the level of compensation needed. We again highlight the significant benefits from installing a single structure that would accommodate the requirements of submitted and future proposals as regards compensating for in-combination impacts on AOE SPA LBBG.
3.27	4.9/105	Please see our comment on 4.6/93. Natural England is concerned regarding the number of matters that the Applicant wishes to delay providing until the post-consent phase, in particular the specific location of the measures.

3.28	Appendix I	Please see our comments on 4.4.3/64 and 4.4.3/65 above. In addition, Natural England provides the following comment: • **Annual colony growth:** the Applicant has considered scenarios of 20%, 10% and 5% annual growth rates. Natural England has reviewed the growth of the Havergate Island colony (also within the AOE SPA), where predators are also managed. Over the past 20 years, the colony grew from 400 AONs (2000) to 1775 (2020), so an average annual colony growth rate of 17.2%. With this in mind, 20% annual growth is perhaps somewhat optimistic, whereas scenarios using a 10% annual growth rate can be considered more precautionary.

REFERENCES

MacArthur Green (2021) Norfolk Vanguard Offshore Wind Farm: In Principle Habitats Regulations Derogation Provision of Evidence – Appendix 2: Alde-Ore Estuary SPA In Principle Compensation. Available from: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-004379-8.24%20In%20Principle%20Habitats%20Regulations%20Derogation,%20Provision%20of%20Evidence%20Appendix%202%20Alde-Ore%20Estuary%20SPA%20In%20Principle%20Compensation%20(Version%202).pdf

Royal Haskoning DHV (2021) Norfolk Boreas Offshore Wind Farm: The Applicant's Comments on Interested Parties Representations. Available from: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-002893-SoS%20Deadline%20-%20Applicant%20-%20The%20Applicant's%20Comments%20on%20Interested%20Parties%20Representations.pdf