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THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE)
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NORFOLK BOREAS OFFSHORE WIND FARM

Planning Inspectorate Reference: EN010087

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**

20th August 2021

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

Our Ref.	Section/Point	Comment
3.1	3.1.1/36	<p>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 0.4 and 5 adult collision mortalities per annum, with a central prediction of 2. Natural England's advice is that this level of impact will not result in an adverse effect on integrity (AEoI) from Norfolk Boreas alone.</p> <p>Natural England highlights that we have recently commissioned a report from British Trust for Ornithology (BTO) into the appropriate avoidance rates to use in Collision Risk Modelling. This was published 20 August 2021: Additional analysis to inform SNCB recommendations regarding collision risk modelling BTO - British Trust for Ornithology</p> <p>We advise that the SoS will need to have due regard of the implications of this on CRM prior to determination of this project and for other projects also in the planning system.</p> <p>For LBBG, the avoidance rate recommended in the BTO report for the basic Band Model is 98.6%, compared to the previous SNCB recommended avoidance rate of 99.5% (Cook et al, 2014). Natural England is likely to recommend the revised AR going forwards, which will result in an increased level of mortality to be predicted for this project. However, this is highly unlikely to result in an AEoI alone. However, it would be appropriate for the Applicant to present updated CRM totals using this updated avoidance rate to provide a clear audit trail regarding the predicted impacts of the development, and to inform the scale of compensatory measures that may be needed. Natural England's initial calculations are that under these avoidance rates, the Norfolk Boreas alone figure would become 6 adult LBBG collisions per annum (range 1 – 14).</p>
3.2	3.1.2/40-41	<p>Natural England confirms its current position is that the in-combination total is 54 collision mortalities per annum from the AOE SPA, based on the current SNCB recommended avoidance rate for LBBG of 99.5%. Natural England advises that this level of impact means an adverse effect on integrity (AEoI) cannot be ruled out, irrespective of whether Hornsea Project 4 and Dudgeon & Sheringham Extensions are included in the in-</p>

		<p>combination totals. The adoption of a lower avoidance rate following the BTO recommendations only increases the predicted collision mortality and therefore does not affect this advice.</p> <p>Natural England considers that the project makes a significant contribution to the AOE SPA in-combination total (2 out of 54 annual collision mortalities per annum, or 3.7% of that total, using a 99.5% avoidance rate). We also advise that this contribution should be appraised in tandem with those of other submitted but not determined projects, rather than discretely.</p>
3.3	3.1.2/42	<p>As was previously noted in our Deadline 9 response [REP9-047] during the Boreas examination, 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 Boreas. However, we note that assessment methodologies and Natural England advice regarding these have significantly evolved 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.</p> <p>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: https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9009112&HasCA=1&NumMarineSeasonality=8&SiteNameDisplay=AldeOre%20Estuary%20SPA</p>
3.4	4.1/46	<p>Whilst it is correct to say that EC guidance provides some flexibility, compensating in a way that benefits the impacted designated site is a well-established principle in the provision of UK compensatory measures. Especially where there are uncertainties. We also support the focus on measures that will directly benefit the AOE SPA rather than the wider biogeographic population.</p>
3.5	4.3.1/54	<p>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.</p>

3.6	4.4.1/58	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 a contributing factor.
3.7	4.4.1/59	Natural England considers that the New Zealand-style predator exclusion fence is an appropriate additive 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	4.4.2/63	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	4.4.2/65	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	4.4.3/67	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	4.4.3/68 and Appendix I	Natural England advises the prediction of 2 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. <u>NE considers that compensatory measures should be able to address the potential range of impacts from the Boreas proposal, and therefore measures should be designed to compensate for the 95% upper confidence limit</u>

		<p><u>value.</u> We do consider that the proposed compensation would be able to achieve this level of provision, including if the BTO recommended avoidance rate of 98.6% is used, provided a suitable location can be found.</p> <p>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 at natural coastal colonies are currently shown elsewhere in England. For example, Natural England has estimated nesting densities from four sub-colonies in the Walney area (data from Sarah Dalrymple at Cumbria Wildlife Trust, <i>pers comm</i>). These show a range of productivity values from 0.002 to 0.047 pairs/m². 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.</p>
3.12	4.4.3/69 and Appendix I	<p>We welcome the use of the 95% upper confidence limit value 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:</p> <ul style="list-style-type: none"> • <u>Productivity:</u> Whilst the average productivity quoted of 0.5/pair (in para 69) 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. • <u>Dispersal/philopatry:</u> average natal dispersal according to Horswill & Robinson (2015) is 0.47, half the assumption for recruitment used here. The recruitment of first-time breeders and returning adults is also likely to depend on the colony being a productive one, which does not seem to be the case at present. <p>Accordingly, the proposed target population size of 60 nesting pairs needs to be treated with some caution. See also the comments above regarding the recent BTO recommended avoidance rate for this species.</p>

3.13	4.4.3/70	<p>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.</p>
3.14	4.4.3/71	<p>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 4.4.3/69 and 4.4.3/70 above, which indicate that the calculations in Appendix 1 are unduly optimistic.</p> <p>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 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.</p> <p>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 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.</p>
3.15	4.4.3/72	<p>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.</p> <p>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.</p>

3.16	4.4.3/74	<p>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. Therefore, we advise that 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. However, we are concerned that to date there is no landowner agreement in place for a specific (or indeed general) location.</p> <p>We welcome the commitment to working closely with the AONB partnership to ensure that impacts on the landscape are minimised, but based on recent NSIP consultations there is a high probability that this still might not be sufficient to allay all concerns. Therefore, we advise that an open and transparent process as possible is necessary for any compensation measures relating to this site.</p>
3.17	4.4.3/76	<p>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.</p>
3.18	4.4.3/77	<p>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. But we also advise that there are challenges in modifying the Alde-Ore Estuary SPA as there are overlapping SAC habitats which are sensitive to disturbance/damage.</p>
3.19	4.4.3/81	<p>Natural England supports the principles for siting the proposed fencing brought forward here.</p>
3.20	4.4.4/83	<p>We note that <i>'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'</i>. Natural England is concerned that to date a suitable location with at least in-principle landowner agreement has not been identified and considers that this lack of security presents a real risk to the delivery of this compensatory measure. This to our mind reinforces the requirement to secure the installation of the compensatory measure prior to the impacts occurring. In addition to this, before any</p>

		compensation measures could be installed the site would need to be managed and/or in favourable condition for LBBG, which may take several years to achieve.
3.21	4.4.5/88	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 Boreas project, unless otherwise agreed with Natural England.
3.22	4.4.5/89	We agree that an adaptive approach to ongoing vegetation management will be an important component of ensuring the compensatory measure continue to deliver over the lifetime of the project/s.
3.23	4.6/97	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. Already challenges have been identified in relation locations within the SPA including: the number of similar proposals currently on the table, impacts on overlapping SAC habitats, and potential landscape impacts on the AONB. Some of which may have been resolved had there been sufficient time to further develop a DEFRA led strategic project. In addition, even if an appropriate location is identified there would need to be landowner agreement and where that is not achievable it may be necessary for the Applicant to progress with acquiring the land which is a lengthy and drawn out process that must have public scrutiny.
3.24	4.6.1.1/102	Natural England is concerned that the Project's DCO/dML only requires them to submit a compensation strategy to the Secretary of State 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 for more detail.
3.25	4.6.2/103	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 clarity on all these matters is needed prior to determination.
3.26	4.7/106	<p>Whilst we welcome the commitment to working collaboratively with Scottish Power Renewables, it is unclear how this will operate in practice. For example, how any increase will be allocated to the various projects.</p> <p>In addition collaboration with the sister project Norfolk Vanguard would also be required should the re-determination of that project result in compensatory measures being sought, given that this project also proposed to erect a predator exclusion fence if required. 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.</p>
3.27	4.8/107 and 108	We note that landowner support has not been secured. It should be noted that it will have taken 10 years for the Galloper S106 agreement to be implemented on the ground at this location, predominantly as a result of landowner agreement not being secured prior to consent.
3.28	4.9/109	Please see our comment on 4.6/97. 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.
3.29	Appendix I	<p>Please see our comments on 4.4.3/68 and 4.4.3/69 above. In addition, Natural England provides the following comment:</p> <ul style="list-style-type: none"> • <u>Annual colony growth</u>: the Applicant has considered scenarios of 20%, 10% and 5%. 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.

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