



THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES  
2010

FIVE ESTUARIES OFFSHORE WIND FARM

**Appendix C7 to Natural England's Deadline 7 Submission  
Natural England's Offshore Ornithology Advice on the Applicant's Deadline 5  
Documents**

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

03 March 2025

## **Appendix C7 Natural England's Offshore Ornithology Advice on the Applicant's Deadline 5 Documents**

- In formulating these comments, the following documents have been considered:
- [REP5-012] 5.4.3 HRA Screening Matrices – Revision B
- [REP5-016] 5.5.3 Lesser Black Backed Gull Compensation – Evidence, Site Selection and Roadmap – Revision C (Tracked)
- [REP5-018] 5.5.4 Kittiwake – Evidence, Site Selection and Roadmap – Revision C (Tracked)
- [REP5-020] 5.5.5 Guillemot and Razorbill – Evidence, Site Selection and Roadmap – Revision C (Tracked)
- [REP5-022] 5.5.6 Lesser Black Backed Gull Implementation and Monitoring Plans – Revision C (Tracked)
- [REP5-024] 5.5.7 Kittiwake Implementation and Monitoring Plans – Revision C (Tracked)
- [REP5-026] 5.5.8 Guillemot and Razorbill Implementation and Monitoring Plans – Revision C (Tracked)

## 1. Detailed comments

**Table 1: Natural England's Advice On: HRA Screening Matrices – Offshore Ornithology**

<b>Document reviewed: REP5-012 Five Estuaries 5.4.3 HRA Screening Matrices – Revision B</b>			
<b>NE Ref</b>	<b>Section</b>	<b>Key Concern and/or Update</b>	<b>Natural England's Advice to Resolve Issue</b>
1	Matrix 25 -pg. 61	For the Alde Ore Estuary Special Protection Area (SPA), Marsh harrier have been screened out of migratory Collision Risk Modelling (CRM) on the assumption migratory movements would always be directed south of the AOE SPA.	The evidence from ringing and tracking studies does not support this assumption. Natural England consider it better to assume birds could arrive from any sector south of the site's latitude. Post-breeding dispersal of adults and juveniles can also be in any direction (BTO 2025, Strandberg et al. 2008). Natural England recommends that this species should be included in the migratory CRM.
2	Matrix 27 (pg 63 and 66)	For the Minsmere-Walberswick SPA, both marsh harrier and nightjar have been screened out of the migratory CRM on the assumption no migratory/dispersal movements will be directed to and from the east. Yet the SPA lies to the north of the Project Development Area (PDA) and very much along a southward migratory route to and from it. The Applicant's reasoning also contradicts their conclusions for the Minsmere-Walberswick Ramsar site – for example, the suggestion that marsh harrier from the Ramsar site is at risk of collision but not from the SPA. If this is not an error, then we advise the SPA population should be treated the same as the over-lapping Ramsar site's population in the assessment.	See comment above, but Natural England also note this SPA lies further to the North than the AOE SPA and not west of the PDA as stated by the Applicant. Therefore, by the Applicant's own reasoning, both these species should be screened into the migratory CRM. On this basis, we recommend both species should be screened into the assessment. However, we recognise that the Applicant takes a different view and give this is not a high-risk issue, Natural England is content to 'agree to disagree'.
3	Matrix 43 (pg 85)	Evidence supporting the conclusions for direct displacement and disturbance of auks is not shown.	Provide relevant supporting evidence.

4	Matrix 59 (pg 103)	The table does not include all the Isles of Scilly SPA qualifying features (only two species from the designated breeding seabird assemblage, fulmar and manx shearwater). Evidence for disregarding the other qualifying species is absent. If this is because the foraging ranges of the disregarded species do not extend to the PDA then this information should be shown.	The Applicant needs to indicate which other qualifying features are designated at the SPA and state why they would be screened in or not – as is shown for other the other SPAs.
5	Matrix 103 ()	The Stour and Orwell SPA waterbird assemblage has not been screened into the migratory CRM	In the non-breeding season this SPA supports important numbers of migratory waterfowl that may migrate across the PDA from breeding grounds on the continent (BTO 2025). Natural England recommends that these species should be screened into the assessment.
6	Matrix 104 ()	Abberton Reservoir SPA waterbird assemblage has not been screened into the migratory CRM	In the non-breeding season this SPA supports important numbers of migratory waterfowl that may migrate across the PDA from breeding grounds on the continent (BTO 2025). Natural England recommends that these species should be screened into the assessment.

**Table 2: Natural England’s Advice On: [REP5-016] 5.5.3 LBBG Compensation – Evidence, Site Selection and Roadmap – Rev C**

<b>Document reviewed: [REP5-016] Five Estuaries 5.5.3 LBBG Compensation – Evidence, Site Selection and Roadmap – Revision C</b>			
<b>NE Ref</b>	<b>Section</b>	<b>Key Concern and/or Update</b>	<b>Natural England’s Advice to Resolve Issue</b>
1	Sections 1.1.18-23 (pgs 21-22)	The figures cited in sections 1.1.21 and 1.1.22 under ‘ <i>Natural England’s preferred approach</i> ’ do not wholly match those presented in Table 1.3. As a result, it is unclear if the compensation requirement for the mean/central impact value is 53.5 birds or 42.2 birds.	We advise that the Applicant should clarify the compensation requirement for the mean/central impact value calculated using Natural England’s preferred approach.
2	Section 1.1.24 (pg 22)	The Applicant has used the Hornsea Four (HOW4) method to calculate the Compensation Quantum (CQ) but has not applied an adjustment to consider natal dispersal and philopatry.	The Applicant has used the HOW4 method to calculate the CQ but without including an adjustment to take into account natal dispersal/philopatry. Natural England generally consider it appropriate to apply the natal dispersal rate presented by Horswill and Robinson (2015) to the CQ calculation. This is because it is unlikely all fledged young that survive to adulthood will recruit to the AOE SPA population. For the

			<p>Orfordness site, within the AOE SPA, some dispersal of fledged young into breeding colonies outside the SPA is likely. Conversely, for Outer Trial Bank, located outside the AOE SPA, a proportion of fledged young will choose to remain at the site to breed and not disperse elsewhere and potentially into the SPA.</p> <p>However, noting that the proposed measures at 'VE2' are taking place within the SPA, thereby accruing conservation benefits directly to it, were the Applicant to progress both the 'VE2' and Outer Trial Bank sites, Natural England is minded not to pursue an additional step factoring in philopatry for Alde-Ore Estuary SPA in this particular instance.</p> <p>As noted in our cover letter, identifying a robust and proportionate approach to quantifying the compensation requirements for offshore windfarms impacting seabird SPAs has proved challenging. Natural England is working to address this issue with its partners. We will provide more detailed advice on this matter at Deadline 8/8a, but in the meantime, please see REP5-095 for Natural England's over-arching advice on this matter in the meantime.</p>
3	Table 1.3	We note the estimated CQ cited in this table for the mean impact value calculated using the Natural England preferred approach (42.4 pairs) does not match the CQ cited in sections 1.1.21 and 1.1.22 (53.5 pairs). It is therefore unclear what CQ based on the central impact value (and Natural England's preferred approach) the Applicant should be aiming to achieve.	Clarify the correct CQ calculated using the mean impact value derived using Natural England's preferred approach - see comment in Appendix C4 [REP4-058].
4	Section 1.1.25 (pg 22)	The Applicant's plan to bring forward one compensation site at Orfordness does not consider significant uncertainty in the likely occupancy rate and risks failing to achieve its target without appropriate adaptive management or the addition of a suitable alternative site.	Natural England note that if, as the Applicant anticipates, the LBBG nesting densities (400 pairs/Ha) are achieved at the 6 hectare Orfordness site and occupancy at OTB can reach historic high counts (approximately 1500 pairs more than present, c.f. Section 4.1.18, and [REP5-022] Sections 3.2.3 and 3.3.2), then either site could theoretically provide enough nesting space alone to cover the Upper Confidence Interval (UCI) impact requirements estimated by either the Applicant's or

			<p>Natural England's approach to the CQ calculation and scaled 3:1 (see Table 1.3).</p> <p>However, importantly, there are major uncertainties regarding the ability of each site to deliver such increases. Therefore, retaining a two-site option continues to have merit (c.f. Appendix C4, REP4-058), for the following reasons:</p> <ul style="list-style-type: none"><li>• The scale of compensation sought after (see comments below regarding the calculation of the compensation quantum) would be more easily accommodated and likely delivered from two sites even though either site has the potential to reach the compensation target alone. This is because some uncertainty remains in the Applicant's CQ calculations. The Applicant has adopted the HOW4 method to calculate the CQ which does not take into account natal philopatry or natural losses and the need to maintain the new colony without reducing the meta-population. Therefore, more pairs may be needed than shown and the larger number of nest spaces delivered from two sites could help buffer this uncertainty.</li><li>• Operating two compensation sites offers a ready alternative should one site fail or under-achieve. The Applicant's preferred compensation site at Orfordness has been designed based on the assumption that its enhanced habitat will attract high nesting densities (400pairs/Ha or 0.04 nest/m<sup>2</sup>), but this occupancy rate is far from guaranteed. Evidence from the RSPB management of Havergate Island suggests that densities of 200 nests per hectare are more realistic in good habitat (c.f. North Falls HRA derogation: Provision of evidence, Annex 1A HRA compensation consultation, doc. 7.2.1.1) <a href="#">[APP-046]</a> and could be as few as 20 nests per hectare, particularly in mixed habitat.</li><li>• Furthermore, whilst Gull densities can be high in optimal locations (both in terms of the nesting site and in terms of surrounding</li></ul>
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			<p>conditions such as food supply), this may not be achievable in a location where LBBG have undergone a significant decline. As part of our advice into the Norfolk Vanguard pre-determination (<a href="#">EN010079-004448-EN010079 374820 Norfolk Vanguard Annex 3 NE advice on AOE SPA in principle compensation measures.pdf</a>), Natural England estimated nesting densities from four sub-colonies colonies in the Walney area (data from Sarah Dalrymple at Cumbria Wildlife Trust, <i>pers comm</i>). These showed a range of density values of 0.002 to 0.047 pairs/m<sup>2</sup>. 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. Therefore, failure to occupy or lower than expected occupancy rates are a risk and must remain a consideration. We highlight that the nearby Norfolk OWFs projects' compensation site has had zero-occupancy after two breeding seasons and has yet to prove successful, despite the design and management being supported by the compensation steering group, which includes Natural England. Progressing an additional site such as OTB could therefore provide essential concurrent 'adaptive management' should the key site within the SPA fail to deliver or nesting densities at that site remain too low to reach the compensation target.</p> <p>The work proposed at OTB will likely benefit its nesting gull population. However, how much the birds will benefit remains unclear. The actual impact the rats have on the birds is unknown and so it can only be assumed their clearance will boost productivity and attract more nesting pairs over time. But this is to some degree uncertain as other unknown factors such as local food abundance could be the main driver of current trends in numbers at the site.</p>
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			<ul style="list-style-type: none"> <li>The establishment of two compensatory sites has the potential to minimise the lead in time required to achieve the compensation target population. The two-site option presents less risk should substantial mortality debt accrue through delayed or inadequate occupancy at either site or complete failure at one site. Moreover, if the Applicant implements the compensation measure only 3 years prior to operations, as proposed, a mortality debt will be incurred anyway. (c.f. REP5 -024 Doc 5.5.6, section 5.5.3)</li> <li>Establishing a two-site option, in collaboration with North Falls OWF, would assist both developers in the delivery of their LBBG compensation compared to establishing one site each. The costs to the Applicant of managing both sites or sharing one alternative site such as OTB, could also be reduced if the costs were spread between each developer.</li> </ul> <p>Natural England, therefore, consider a ‘two sites, two projects’ approach to delivering LBBG compensation to be the most appropriate option.</p>
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**Table 3: Natural England’s Advice On: [REP5-018] 5.5.4 Kittiwake – Evidence, Site Selection and Roadmap – Rev C**

<b>Document reviewed: [REP5-018] Five Estuaries 5.5.4 Kittiwake – Evidence, Site Selection and Roadmap – Revision C</b>			
<b>NE Ref</b>	<b>Section</b>	<b>Key Concern and/or Update</b>	<b>Natural England’s Advice to Resolve Issue</b>
1	Table 1.2 checklist (pg 13)	Clear governance proposals for the post-consent phase are not yet prepared and will be left to develop with stake-holders post-consent. This presents a theoretical risk, should no agreement be reached with stakeholders.	Written documentation has been provided to show that an appropriate agreement will be negotiable with DBS OWF post-consent, but an appropriate outcome has not yet been secured.
2	Sections 1.2.1-4, Table 1.3	The Applicant’s presented impact (0.82 birds) was calculated using a nocturnal activity factor (NAF) that is no longer appropriate. Therefore, the compensation quanta (CQ) requirements	In line with previous advice from Natural England, the Applicant applied both a lower (25%) and upper (50%) nocturnal activity factor (NAF) to their CRMs for kittiwake. However, the Applicant has used the impact estimated using the lower (25%) NAF (0.82 birds) to calculate the CQ.



		calculated using this impact are likely to be inadequate.	<p>However, based on new evidence, Natural England advice has changed. We now recommend a 40% NAF should be applied to CRM for kittiwake rather than an upper and lower percentage (JNCC, 2024). Therefore, we recommend the predicted collision impact on kittiwake be revised by applying the new NAF percentage to the CRM or, the impact estimated using the more similar 50% NAF (i.e. 1.1 birds) should be used to estimate the compensation quanta instead.</p> <p>Also, Natural England recommend the Applicant scales their CQ (calculated using the HOW3 stage 2 approach) to enable compensation of the number of pairs needed for the UCI impact value at a ratio of 2:1 or 3:1 with the aim of achieving the central impact value at a ratio of 1:1. For example, using the Applicant's results presented for the HOW3 stage 2 method in Table 1.3, to compensate the UCI impact at a ratio of 3:1 would require a project capable of delivering 46 pairs with the aim of achieving a target of 6 pairs (based on the central impact value). We highlight that the Applicant is attempting to secure approximately 48 nesting spaces on the Dogger Bank South kittiwake tower [REP5-018].</p> <p>For a more detailed rationale for Natural England's approach, please see REP5-095.</p>
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**Table 4: Natural England's Advice On: [REP5-020] 5.5.5 Guillemot and Razorbill – Evidence, Site Selection and Roadmap – Rev C**

<b>Document reviewed: [REP5-020] Five Estuaries 5.5.5 Guillemot and Razorbill – Evidence, Site Selection and Roadmap – Revision C.</b>			
<b>NE Ref</b>	<b>Section</b>	<b>Key Concern and/or Update</b>	<b>Natural England's Advice to Resolve Issue</b>
1	Sections 1.2.2-5, Tables 3+4.	The Applicant has used the HOW4 approach to calculate the CQ. Natural England recommends the HOW3 stage 2 method which it regards as more ecological appropriate.	Natural England recommends the HOW3 stage 2 approach to CQ calculation but appreciate that in some circumstances, notably for species with low natal dispersal rates such as razorbill, it can yield excessively large CQ requirements, particularly when scaled at ratios higher than 1:1. We note that the compensation requirement reported by the Applicant for guillemot (GU) and razorbill (RA) are very large compared to their impacts, although the figures we have calculated have not matched the Applicant's findings.

			Natural England has no intention of seeking unrealistic/unachievable compensation targets and is seeking to resolve this issue with the Applicant and other partners.
2	Section 8.1.10-15 + Tables 3 + 9.	The Applicant suggests 39 adult guillemots would be required to return the current populations to their historic high counts at the three chosen compensation sites. The Applicant also states that the delivery of this number of adults would be shared with Rampion 2 OWF but, according to the CQ calculations presented in Table 3, 39 adults would only adequately cover the CQ required by the Applicant (if based on the UCI impact value and scaled at 3:1).	Whilst some uncertainty remains regarding the best approach to the auk CQ calculation, the scale of compensation presented so far appears sufficient only for the Applicant's impacts on FFC SPA. We advise that further, more ambitious compensation should be brought forward if Five Estuaries intend to deliver their derogation case in collaboration with Rampion 2 OWF. In addition, as set out in our response to the RIES (Appendix P7), we advise that the Applicant consider the inclusion of their Farne Islands SPA guillemot impacts within the compensation proposals, given the potential for in-combination effects.

**Table 5: Natural England's Advice On: [REP5-022] 5.5.6 Lesser Black Backed Gull Implementation and Monitoring Plans – Rev C**

<b>Document reviewed: [REP5-022] Five Estuaries 5.5.6 LBBG Implementation and Monitoring Plans – Revision C</b>			
<b>NE Ref</b>	<b>Section</b>	<b>Key Concern and/or Update</b>	<b>Natural England's Advice to Resolve Issue</b>
1	Section 3.3.5	The Applicant has applied the HOW4 method to calculate the CQ but not included an adjustment for natal philopatry and dispersal (c.f. comment NE ref for doc 5.5.3 above). This is important because it is unlikely all fledged young that survive to adulthood will recruit to the AOE SPA population. For the Orfordness site, within the AOE SPA, some dispersal of fledged young into breeding colonies outside the SPA is likely, particularly given the preponderance of LBBG switching to urban nesting habitats (Burnell, 2023). Conversely, for the OTB site, outside the AOE SPA, a proportion of fledged young will	Natural England generally consider it would be appropriate to apply the natal dispersal rate presented by Horswill and Robinson (2015) to the CQ calculation. However, see comment above NE ref. 2 [REP5-016]

		choose to remain at the site to breed and not disperse elsewhere and potentially into the SPA.	
2	Section 3.3.5	<p>In determining an appropriate CQ to target, the Applicant has scaled the CQs derived from the central impact value. Natural England advise scaling compensation based on the UCI impact with the aim of achieving a target CQ based on the central/mean impact value (without scaling). Please see REP5-095 for Natural England's full advice on this matter.</p> <p>Following this advice and referring to the CQ figures presented in Table 3.1, using the scaling chosen by the Applicant for each compensation site, the compensation measure at Orfordness (scaled at 2:1) would require capacity for 399 pairs and the compensation measure at Outer Trial Bank (scaled at 3:1) would require capacity for 598 pairs. Both with the joint objective of achieving the central impact value of 42.4 pairs (or 53.5 pairs – referring to note below on a discrepancy in the presented figures in Table 3.1, c.f. NE ref. 3).</p>	<p>Natural England generally advises that seabird compensatory measures are scaled against the 95% upper confidence limit (UCI) predicted impact value, rather than the central impact value.</p> <p>Natural England highlight that the CQ figures presented by the Applicant do not consider natal dispersal rates (see comment 2 above). Nevertheless, the target CQ figures proposed so far by the Applicant for either the Natural England's or Applicant's preferred approaches are not dissimilar. What is of primary concern is the scale of compensation (based on the UCI impact value) and whether the site at Orfordness is sufficient to cater for this requirement (see comment above NE ref. 4 [REP5-016]).</p>
3	Table 3.1.	We note the estimated CQ cited in this table for the mean impact value calculated using the Natural England preferred approach (42.4 pairs) does not match the CQ cited in Sections 1.1.21 and 1.1.22 [ REP5 – 016] (53.5 pairs). It is therefore unclear what CQ based on the central impact value (and our preferred approach) the Applicant should be aiming to achieve.	Clarify the correct CQ calculated using the mean impact value derived using Natural England's preferred approach – see NE ref 2 [REP5-016]

4	Sections 4.1.5-6	<p>Whilst the Applicant plans to work with the Norfolk projects compensation site to help deliver their compensation, which we welcome. We note that this collaboration does not include North Falls OWF. Natural England consider collaboration with North Falls OWF will be important as both projects would be better placed to achieve their compensation requirements by working together to deliver their own measures in the AOE SPA and jointly at Outer Trial Bank.</p>	<p>Natural England advise the Applicant to share relevant information, and coordinate works with North Falls OWF. This could help both projects achieve their aims whilst minimising disturbance to the establishing LBBG population. We also encourage the Applicant to work in partnership with North Falls to deliver additional compensation at Outer Trial Bank.</p>
5	Section 5.3.1	<p>The Applicant proposes implementing the compensation measure 3 years before operations and, in so doing, risks, accruing mortality debt as the benefits will not arise until after the project's impacts commence. We re-iterate that in so doing the Applicant risks accruing additional mortality debt unless they extend this period to 4 years. This is because LBBG typically do not start to breed until their 5<sup>th</sup> year (Horswill and Robinson 2015). Therefore, any chicks fledged from the compensation site and surviving to adulthood will need a minimum of 4 years to recruit to the SPA breeding population.</p> <p>More generally, where it is unavoidable that the benefits of a compensatory measure are not predicted to arise until after the impacts commence, guidance indicates that this should be factored into the design of the measures e.g. multiple interventions, increased level of provision (c.f. [Rep5-016] comment NE ref. 4 - on the inclusion of Outer Trial Bank as appropriate recompense in this case).</p>	<p>Natural England advises that the compensation measures should be implemented 4 years prior to operations commencing.</p>

6	Sections 5.4.2 & 5.4.5	Fence checks form part of the maintenance plan to ensure it remains predator proof.	Natural England welcomes that these important tasks lie within the IMP.
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**Table 6: Natural England’s Advice On: [REP5-023] 5.5.7 Kittiwake Implementation and Monitoring Plans – Rev C**

Document reviewed: [REP5-023] Five Estuaries 5.5.7 Kittiwake Implementation and Monitoring Plans – Revision C			
NE Ref	Section	Key Concern and/or Update	Natural England’s Advice to Resolve Issue
1	Section 4.2.1(pg 11)	The compensation requirements have been based on an inappropriate impact figure.	Natural England recommends that the collision impacts for kittiwake are revised by applying a 40% NAF to the CRM or the CQ should be re-calculated instead using the impact that was estimated at 50% NAF (i.e. 1.1 birds). We regard the current impact figure (0.82 birds) less reliable as it is based on a CRM derived with the 25% NAF which is supported less by current evidence (i.e. 0.82 birds). See comment to doc. 5.5.4.(NE ref. 2).
2	Section 4.2.2 (pg 11)	<p>The Applicant has misinterpreted Natural England's general advice regarding the impact values to be used to calculate the CQ.</p> <p>Natural England generally advises that seabird compensatory measures are scaled against the 95&amp; Upper Confidence Limit (UCL) predicted value, rather than the central impact value.</p> <p>We see this as necessary to ensure that, given the uncertainty regarding OWF impacts, the decision-maker can still have confidence that the compensatory measures can provide sufficient benefit should the impacts exceed those of the central prediction.</p> <p>Please see REP5-095 for Natural England’s full advice on this matter.</p>	<p>Natural England generally advises that seabird compensatory measures are scaled against the 95% upper confidence limit (UCL) predicted impact value, rather than the central impact value – For NE over-arching advice on this matter - see [REP5 095]. .</p> <p>We advise that using Natural England’s preferred approach and the data presented by the Applicant so far (noting our position on that data stated above), to compensate the UCL impact at a ratio of 3:1 would require a project scaled with sufficient space for 46 pairs with the aim of achieving the central impact value of 6 pairs. Although, as advised above, we highlight that the Applicant is attempting to secure approximately 48 nesting spaces on the Dogger Bank South kittiwake tower [REP5-018].</p>

3	Section 4.2.3 (pg11)	The Applicant has applied the HOW4 method to calculate the kittiwake CQ requirement. Natural England guidelines advise using the HOW3 stage 2 method is more appropriate. Please see REP5-095 for the rationale behind Natural England's preferred approach.	Natural England's current position is to recommend CQs for kittiwake are calculated using the HOW3 stage 2 approach and not the HOW4 method preferred by the Applicant. This is because Natural England considers the Hornsea 3 stage 2 method the most ecologically realistic.
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**Table 7: Natural England's Advice On: [REP5-024] 5.5.6 Guillemot and Razorbill Implementation and Monitoring Plans – Rev C**

<b>Document reviewed: [REP5-024] Five Estuaries 5.5.8 Guillemot and Razorbill Implementation and Monitoring Plans – Revision C</b>			
<b>NE Ref</b>	<b>Section</b>	<b>Key Concern and/or Update</b>	<b>Natural England's Advice to Resolve Issue</b>
1	Section 4.3 (pg 12)	Stakeholder participation has not been fully secured and remains under negotiation, although Natural England welcomes the Applicant's ongoing discussions with Cornwall Council, Cornwall Wildlife Trust and the Seal Research Unit. Natural England also welcomes the collaboration between VE and other OWF developments seeking similar auk compensation in the region.	In addition to these discussions, we advise that participation by local businesses and stakeholders will be key to the success of this measure and to bring about the behavioural change sought. The Applicant was looking to form links with the Cornwall Marine and Coastal Partnership, however, it is unknown what, if any progress has been made. We would welcome any update on this before the Examination closes.
2	Section 5.2.1 (pg 13)	The Applicant proposes implementing the compensation measure 3 years before operations and, in so doing, risks, accruing mortality debt as the benefits will not arise until after the project's impacts commence. For guillemot and razorbill, the age of first breeding typically occurs in their 6 <sup>th</sup> and 5 <sup>th</sup> year, respectively. Therefore, any benefits on productivity from a compensation measure will not likely result in an increase in the local breeding auk population until 4 or 5 years after it begins. If compensation measures are implemented just 3 years prior to OWF operations	To limit mortality debt Natural England advises the Applicant should implement the compensation measure at least 4 years prior to operations.  More generally, where it is unavoidable that the benefits of a compensatory measure are not predicted to arise until after the impacts commence, guidance indicates that this should be factored into the design of the measures e.g. multiple interventions and an increased level of provision.

		beginning, then the project will accrue mortality debt.	
3	Section 5.4.2-4	<p>The approach to bird monitoring has been given in broad terms (i.e. following seabird monitoring programme guidelines) and will be finalised through discussion at OoEG meetings post-consent. It is unclear if camera/drone use would be necessary and, if so, whether it would be feasible.</p> <p>Natural England agree the approach to monitoring should follow Seabird Monitoring Programme (SMP) guidelines but are concerned the planned observations from vantage points may provide insufficient views to adequately monitor some sites.</p> <p>Where this occurs the use of adaptive or innovative measures such as drones or cameras may be necessary to collect all data necessary. At present it is unclear if such techniques/equipment will be needed/used.</p> <p>We note the use of remote cameras may be beneficial for monitoring boat-based and other anthropogenic activity near colonies (assuming no legal restrictions in doing so) but no description of how these activities would be monitored is given.</p>	<p>Natural England advises that the Applicant needs to provide further details of the proposed monitoring techniques. We also advise that they may need to consider the use of adaptive or innovative techniques such as drones/cameras for monitoring. Remote cameras may be beneficial for monitoring boat-related or other anthropogenic activities near colonies.</p>
4	Section 5.4.7	<p>The Applicant states lower productivity would result in higher recruitment, but the converse would be more likely. If the colonies have lower productivity rates, then the number of adults delivered into the regional population would</p>	<p>The Applicant should consider the alternative scenario described by Natural England.</p>

		decrease (not increase) and the compensation may take longer to raise the population to historic highs. Adaptive measures may also need to put in place.	
5	Section 5.4.8	The Applicant seeks to use change in human behaviour as a measure of success but does not describe how they would measure this in the IMP.	Natural England recommend success be measured by seeking to see positive changes in bird numbers and/or productivity as well as changes in human behaviour. A comprehensive monitoring programme that includes human activity will be needed to identify these changes when they may occur.

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