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Appendix G5 to the Natural England Deadline 6 Submission

Natural England's End of Examination Position on the Applicant's Proposed Offshore Ornithology Compensatory Measures

For:

The construction and operation of the Outer Dowsing Offshore Wind Farm located approximately 54km east of the Lincolnshire Coast in the Southern North Sea

Planning Inspectorate Reference EN010130

4th April 2025

Appendix G5 - Natural England's End of Examination Position on the Applicant's Proposed Offshore Ornithology Compensatory Measures

In formulating Natural England's final position on the Applicant's Proposed Compensatory Measures for Offshore Ornithology, the following documents have been considered:

- [REP4-054] 7.1 Ornithology Compensation Strategy Revision 2
- [REP4-056] 7.7.1 Kittiwake Compensation Plan Revision 2
- [REP4-058] 7.7.2 Without Prejudice Guillemot Compensation Plan Revision 2
- [REP4-059] 7.7.3 Without Prejudice Razorbill Compensation Plan Revision 2
- [REP4-062] 7.7.4 Offshore Artificial Nesting Structure Evidence Base and Roadmap Revision 2
- [REP4-064] 7.7.5 Without prejudice Predator Control Evidence Base and Road Map Revision 3
- [APP-258] 7.7.5.1 Plémont Sea Bird Reserve Feasibility Study Report
- [REP5-112] 7.7.6 Without Prejudice Additional Measures for Guillemot and Razorbill Evidence and Road Map
- [REP5-144] 20.17 Guillemot and Razorbill Compensation Quanta Revision 3
- [REP4-105] 19.11 Lead-in Periods for Kittiwake Breeding on ANS Revision 2

1. Compensation Implementation and Monitoring Plans

At Relevant Representations [RR-045], Natural England advised that species-specific compensation implementation and monitoring plans (CIMPs) should be submitted into examination in a fully populated state rather than as 'skeleton' or outline documents. The outline CIMPs submitted at application have not been updated by the Applicant. Appropriate adaptive management measures are essential to ensure that compensation requirements can be delivered should primary measures fail. There remains considerable uncertainty around the ability of these measures to sufficiently compensate for the Projects' impacts, and as such, appropriate monitoring plans and adaptive management measures are necessary to ensure the effectiveness of the measures. Though some detail on implementation and monitoring of the proposed compensatory measures are outlined within the relevant species' Compensation Plans and the documents related to each proposed measure, the lack of populated CIMPs has contributed to reduced confidence that the measures can be considered secured.

2. Wider considerations

- **Connectivity to the National Site Network (NSN)**

The proposed measures are to be implemented remotely to the impacted sites, and the accrual of any material benefit to the national site network (NSN) remains uncertain. While Natural England are not opposed to the implementation of seabird compensation at a species bio-geographic population scale, the likely level of benefit to the national site network should be carefully considered in conjunction with uncertainty around method effectiveness and project impacts when appraising the proposed scale of the compensatory measures.

- **Calculation of the compensation requirement and scaling of compensatory measures**

Natural England currently considers the Hornsea 3 Part 2 ('H3pt2') method to be the most ecologically complete for compensatory measures where it is necessary to calculate the number of breeding pairs required to compensate for a specified mortality impact. It is of note that the H3pt2 method was conceived to inform the design parameters of artificial nesting structures (ANS) for black-legged kittiwake (kittiwake hereafter). The method is also, in principle, suitable for wider application to other measures and for other seabird species. However, in many cases the required demographic information may be limited, or poorly evidenced. Thus, it may not be possible to adequately populate the H3pt2 method. Following testing of the H3pt2 method for guillemot, razorbill, and lesser black-backed gull, it has become apparent that lower levels of natal dispersal, compounded by older recruitment ages and lower productivity can produce unrealistic and clearly disproportionate requirements for scaling compensatory measures for other seabird species. Furthermore, it is not clear that some of the demographic information is well evidenced, which can introduce significant uncertainty into any calculations reliant on those data.

In such cases and pending further refinement and updates to best practice advice, Natural England consider that given the current absence of a robust alternative option for these species, it is appropriate for the Hornsea 4 ('H4') method to be used, in conjunction with the other steps set out below. Nevertheless, depending on the species, proposed measure(s), and the location(s) they are to be deployed, we advise that the calculations may also need to take account of philopatry.

Natural England generally advises that the scale of implementation of seabird compensatory measures should be sufficient to address the 95% upper confidence limit (UCL) predicted impact value. The mean or central impact value should be used to inform and define success criteria, if appropriate.

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.

Natural England 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, or to identify an alternative method. Unfortunately the outputs of this project will not be finalised in time for proper consideration within this examination. Our case-specific advice on this topic set out below 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.

- **Collaborative and strategic approaches to compensation**

Collaborative approach to South-West measures

Having proposed this measure to several projects, Natural England are pleased to see that the proposed measures at South-West colonies are being considered as part of a wider strategic scheme. We understand the Applicant is currently in discussion with potential project partners to develop a collaborative approach to the proposed measures at auk colonies in the South-West. Natural England is strongly supportive of this concept and believe there are significant advantages to working collaboratively to deliver greater benefits.

Isles of Scilly predator eradication

Natural England is on the task and finish group referred to in the Applicant's submission (REP5-112] and can confirm that the submission accurately reflects progress with this strategic compensation measure.

Marine Recovery Fund

The Applicant has identified the upcoming Marine Recovery Fund (MRF) as a potential alternative mechanism for the provision of compensation for all three species for which compensation measures have been proposed (including without prejudice measures). The Department for Energy Security and Net Zero (DESNZ) interim guidance (*'Strategic compensation measures for offshore*

wind activities: Marine Recovery Fund interim guidance') provides advice to developers who are developing their own avian compensation packages on how to ensure that their consent documents include the option to switch to sourcing their compensation through the MRF when it is in place. The guidance sets out that Applicants wishing to use offshore Artificial Nesting Structures ('offANS') and predator reduction (which includes exclusion fencing) as a compensation measure ahead of the MRF being operational will need to deliver the measure themselves, as the Applicant is proposing. Nevertheless, the guidance also states that Applicant may also wish to include a provision allowing for a contribution to be made into the MRF in substitution for delivering the predator control compensation measure themselves, should the MRF have relevant measures available at that time.

Natural England's detailed position on the Applicant's proposed offshore ornithology compensatory measures is set out in Annex 1.

Annex 1: Detailed positions on the Applicant's proposed offshore ornithology compensatory measures

This Annex provides Natural England's final position on our confidence in each of the proposed offshore ornithology compensation measures. We have used the following criteria to assess each category in the summaries:

	NE has broad confidence in this aspect of the measure, though there may be some uncertainties that need addressing.
	There are significant concerns/uncertainties regarding this aspect of the measure, but they have the potential to be resolvable.
	Major uncertainties remain with this aspect of the measure, which if not resolved would make compensation undeliverable. NE cannot be confident at this stage that the measure is deliverable.

Natural England compensatory measures 'check list'

To assist developers and regulators, Natural England has developed a checklist of aspects that need to be described in detail in compensation submissions, to give confidence that the measures can be secured (see Annex 2, of this document). This checklist forms the basis of the summary table criteria.

Natural England's Advice and Recommendations

Summary

The Applicant has provided a without-prejudice package of compensatory measures for the guillemot and razorbill features of the Flamborough and Filey Coast (FFC) Special Protection Area (SPA) comprising the following: predator control on Jersey in the Channel Islands, additional measures to reduce disturbance at colonies in the South-West of England, with two partner organisations proposed, and the provision of up to two offshore Artificial Nesting Structures (offANS) with suitable nesting habitat for guillemot and razorbill.

Despite the merits of having multiple measures, we consider that the package as currently proposed is unlikely to provide the required level of benefit, as per Natural England's impact values, without significant further development of the measures. Our advice below sets out a series of improvements or details that would strengthen the measures and we urge the Applicant to progress these further. If these recommendations are fully adopted, this would increase the level of confidence the Secretary of State (SoS) could have that appropriate compensation can be secured.

In comparison, we consider that the proposed measure for the kittiwake feature of FFC SPA has reasonable prospects of delivering, despite some important details currently lacking from the

Applicant's Project-led proposals. Natural England also reiterate our previous advice that, where the draft Development Consent Order (DCO) allows for the provision of up to two offshore structures, reliance on a single structure carries substantial risks.

Table 1: Proposed compensatory measures for guillemot and razorbill (Flamborough and Filey Coast (FFC) Special Protection Area (SPA) and Farne Islands SPA)

Predator control on Jersey, Channel Islands		
Overall confidence in the measure		Natural England recognises that the proposed measure to establish a 'seabird reserve' via installation of a predator fence and eradication/control of non-native mammalian predators within it, has theoretical potential to increase the size of the razorbill colony and re-establish a breeding colony of guillemot on Jersey. It remains uncertain how these measures will demonstrably compensate for impacts to the colony at the FFC SPA, both in terms of the number of nest-sites the measures will make available (and therefore the number breeding adults produced) and the likelihood of these birds recruiting into the National Site Network, since connectivity will be very difficult to evidence. We also continue to have not insignificant doubts regarding the technical feasibility of the measure; these focus primarily on preventing incursions of predators once eradication has been confirmed, most likely via the intertidal zone. We consider that the reduction in the predator exclusion area from 32.3ha to 3.34ha plays a key role in limiting the potential of this measure to contribute to the package of measures proposed for guillemot in particular.
End of Examination Position		
Theoretical merit to deliver compensation		Natural England considers that, provided it could be significantly expanded in scale to better reflect the ambitions of the feasibility study, the measure has theoretical potential to increase the size of the razorbill colony at the chosen site in the Channel Islands. This in turn has the potential to increase the number of recruits into the National Site Network (NSN) for each species. However, the scale of benefit from the latter aspect may be hard to quantify due to uncertainties around the level of connectivity between the site and Flamborough and Filey Coast (FFC) Special Protection Area (SPA) and the rest of the NSN. Natural England has a number of concerns as to the uncertainty of success of the measure for guillemot in particular, which have not bred in Jersey in significant numbers since the 1950s. The reasons for the loss of, and therefore the suitability of the site for, this species remains uncertain. For both species, it is broadly assumed that predation is the primary pressure acting to prevent nesting, or limit the number of, birds nesting at the site and the potential impact of other pressures has not been considered in detail. Natural England considers that there is a high level of uncertainty that the removal or control of rats and other mammalian predators within the proposed fenced area will lead to colonisation of guillemot and/or an increase in the number of successfully breeding razorbill.

		Natural England continues to advise the Applicant attempts to further evidence and quantify the potential of the site for guillemot and razorbill, by conducting a more detailed analysis of the potential nesting habitat for these species that is currently accessible to rats and other predators. Without this, it is not possible to have confidence in the proposed scale of benefits from this measure (see below for more detail).
Technical feasibility		Our concerns around technical feasibility relate to the ability of the proposal to exclude predators from the fenced area on an ongoing basis. Natural England agrees that eradication of predators including rats has been shown to lead to notable increases in productivity and population size for species including guillemot and razorbill, but note that this is usually in relation to island-wide eradications, and that the success of this measure is substantially less proven at mainland sites where eradications are undertaken within a fenced area. Natural England continues to urge caution in relying on these case studies in evidencing the likely success of the proposed measure. The Applicant has outlined the process for predator eradication within the fenced area following construction of the fence within Annex 3 of REP4-064, and this is also included with the Feasibility Study (Annex 1, [REP4-064]), both of which outline three phases of live trapping, lethal traps and poisoned bait respectively. The proposals are relatively generic and lacking detail on site-specific considerations for implementation, such as the need for rope access in areas of steep/unsafe terrain, or the need to consider how vegetation clearance will be undertaken in tandem to the placement of traps/bait stations. The success of the measure relies not on only the successful eradication of target predators within the fenced area, but also the ongoing maintenance of the reserve through maintenance of the fence and sustained biosecurity measures to prevent and deal with reinvasion of predators. The proposed fence is a 'peninsula-style' fence rather than an enclosed fence, so the risk of reinvasions by predators is a significant concern; Natural England considers ongoing incursions by rats via the intertidal zone throughout the lifetime of the measure to be a strong possibility. The Applicant has proposed some measures to address this issue within the biosecurity plan outlined within Annex 3 (Plémont Seabird Sanctuary: Management Plan) of REP4-064, including the use of passive and active detection of predators at the ends of the fence (and at access gates). Nonetheless, it is yet unclear whether the proposed frequency of monitoring (fortnightly checks of monitoring stations) will be sufficient, as it has been shown that predator incursions, particularly by rates, can occur regularly with peninsula-style fences (Young & VanderWerf, 2024; Bell, 2014). In light of the above, Natural England advises that wider predator control measures to reduce predator numbers across the coastline adjacent to the whole Seabird Protection Zone, with particular focus on inhabited areas within an inland 'buffer zone' alongside the fence. This would reduce likelihood/frequency of incursions via intertidal and access gates. Furthermore, undertaking predator control in areas adjacent to the rest of the stretch of cliffs that won't be subject to fencing would increase the likelihood of razorbill and guillemot colonising these areas. Lastly, further information and/or consideration should be given regarding the locations of the ends of the fences, and how these have been selected with regard to topography of the cliffs and intertidal area and

		resulting likelihood of incursions, as this is not sufficiently detailed within the Design Statement (Annex 2 of REP4-064).
Agreed compensation level		The impact value against which the full package of measures should be scaled, as per Natural England's advised approach to the impact assessment, is 375.3 guillemot and 108.7 razorbill per annum. This is gauged against the 95% upper confidence limit prediction of the displacement analysis at 70% displacement and 2% mortality using model-based estimates for guillemot and design-based estimates for razorbill. The Applicant has presented compensation calculations using the above advice as well as their own preferred values, which is welcomed. This gives the decision-maker the opportunity to establish the necessary scale of compensation in line with Natural England advice. Using the Hornsea 4 method, this results in compensation requirements of 1,518 breeding pairs of guillemot and 630 breeding pairs of razorbill at a 1:1 ratio. Given the uncertainties associated with all three proposed measures, Natural England consider it appropriate to scale the measures at a ratio of 3:1. Note that this would be the equivalent of each measure delivering at a ratio of 1:1, or all three measures delivering together at a ratio of 3:1. At a ratio of 3:1, the estimated number of breeding pairs required is 4,554 breeding pairs of guillemot and 1,890 breeding pairs of razorbill.
Scale/extent of measure		The Applicant considers that for the compensation requirements stated above, a compensation ratio of up to 2.5:1 for guillemot and 1.4:1 for razorbill could be achieved across the package of measures as per REP5-144 (though Natural England understands that the Applicant is due to submit an updated version of this document at Deadline 6). The proposed contribution of this measure specifically is 200-245 breeding pairs of each species. Overall, Natural England consider the reduction in fence length and therefore the area within which predators will be eradicated/controlled (from 2,938m long protecting 32.3ha of land to 907m long protecting 3.34ha) to be a limiting factor in the potential of the measure. We note that the Feasibility Study and the potential benefits outlined within it refer to the original size of 32.3ha. The Applicant has argued that the new proposed area covers the locations of historical records of guillemot and significant proportion of the current breeding population of razorbill. Nonetheless, the Feasibility Study shows the former range for guillemot as being the entirety of the previously proposed area, and the locations of 'sporadic presence during the breeding season' i.e. locations where guillemot are currently observed during the breeding season on the water below the cliffs of their former colonies, as being outside of the newly proposed area. Recognising that there may be hard-to-resolve reasons associated with permissions/land ownership for reducing the length of fence, and thus the area protected, Natural England maintain that this has resulted in reduced confidence that the current proposed scale of the measure will deliver to the degree stated by the Applicant. The lack of any detailed analysis of the amount of suitable nesting habitat that could be made available within the fenced area following the eradication of predators further reduces the confidence in the potential of the measure. Natural England therefore continue to advise that the Applicant attempts to quantify this through either their own surveys or analysis of historic records if they are available. Estimates of the area of

		additional breeding habitat could be made by estimating the length and depth of ledges and multiplying this by species-specific breeding densities. We consider this is particularly pertinent to guillemot, for which the success of the measure relies on re-establishment of a breeding colony after almost 50 years of no confirmed breeding of this species on Jersey.
Timing: Deliverable before impact		At Relevant Representations [RR-045], Natural England raised concern regarding the short lead-in time of less than two years. This remains a significant concern, with the indicative timescales for establishment of the Reserve remaining unchanged except for a slight delay in the anticipated grant of planning permission for the predator exclusion fence. Furthermore, the Applicant's indicative timescale appears overly optimistic when viewed alongside the Schedule of Works outlined within section 2 of the Annex 3 Management Plan which recognises that predator eradication will be ongoing over many years until 2029, and the Project Targets in Section 3 which aims for predator-exclusion status after five years and an increase in the population of auks after 15 years. Natural England welcomes the proposal by the Applicant to deploy decoys and playback to encourage (re)colonisation of the site and agree that this should form part of the measure. Nonetheless, Natural England do not currently consider that the lead-in time of two years is enough to ensure that the measure is in place and effective before damage to a site occurs.
Location of measure		The Applicant has identified a location for the measure and has secured an exclusivity agreement with National Trust for Jersey with respect to the funding. A planning application for the establishment of the fence was submitted in November 2024, and landowner rights have been granted in principle for installation of the fence subject to planning approval. Nonetheless, Natural England maintains some concerns around the feasibility of undertaking sustained predator control at this chosen site due to the issues outlined above for 'Technical feasibility'.
Long term implementation		As outlined in the 'Technical feasibility' section above, there are some outstanding concerns with regards to the feasibility of successfully excluding predators from the fenced area long-term. Though the involvement of predator control experts in the design of the measure is reassuring, it is unclear what expertise and resource will be available in-situ long-term to ensure biosecurity measures continue to be implemented effectively. This may be an aspect that the Applicant can provide greater confidence on going forwards. The Applicant has acknowledged the need for monitoring of both targeted predators and relevant seabirds, i.e. guillemot and razorbill, following the implementation of the predator control programme and has committed to monitoring throughout the lifetime of the measure. This includes undertaking seabird censuses and monitoring of productivity at both the location where the measure is being carried out and at other local or regional colonies as appropriate. The Applicant has also acknowledged the potential need for adaptive management should the results of the monitoring show that the measure is not as successful as planned. However, the proposal is lacking detail on monitoring methods and the frequency of surveys. The Management Plan (Annex 3 of REP4-064)

		refers to methodology outlined in Plémont Seabird Sanctuary Project 2024 Biodiversity Report however this document is not included with REP4-064 and has not been shared with Natural England. Furthermore, only outline Compensation Implementation and Monitoring Plans (CIMPs) thus far being submitted into examination (see our general point on CIMPs in Section 1 of this document) with final details to be presented post-consent. Therefore, it is unclear whether robust and sufficiently developed monitoring plans are in place to provide confidence in the long-term implementation of the measure. Regarding sufficient costing of the ongoing implementation of the measure (need for ongoing biosecurity measures and maintenance of the fence), the Applicant has stated that the assumptions of cost outlined in REP4-064 have been drawn up based on detailed costings provided by National Trust for Jersey, but that these costings are commercially sensitive. Therefore Natural England are unable to comment on whether sufficient consideration has been given to the need for ongoing measures when costing the measure.
Success criteria/Ability to prove additionality		The core success criteria are an increase in razorbill abundance and for guillemot, the reestablishment of a breeding population at the site, to the target number or higher. Monitoring of productivity for both species could also help gauge the success of the measure, though baseline productivity will need to be measured for razorbill prior to implementation since this data is not currently available. Although it will not be possible to determine with certainty that any increase in numbers can be solely attributed to the implemented measure, the Applicants proposal to monitor numbers and productivity at other local or regional colonies will provide some context to any changes in abundance for both species, and changes in productivity for razorbill. The secondary measures of success, and one which has the potential to trigger the need for adaptive management in the early stages of implementation of the measure, is a reduction/removal of predators within the fenced area. The Applicant's proposals for monitoring/surveillance of predators as detailed within the Biosecurity section of the Management Plan [Appendix 3 of REP4-064] are detailed and well thought-out, which provides reassurance that it will be possible to measure the effectiveness of the fence at excluding predators.
Suitable as sole measure for target species		With an estimated potential of 200-245 additional breeding pairs, this measure cannot currently be considered suitable as a sole measure for either guillemot or razorbill.

Table 2: Flamborough and Filey Coast (FFC) Special Protection Area guillemot and razorbill: additional measures at colonies in South-West England

FFC SPA Guillemot and Razorbill: additional measures		
Overall confidence in the measure		Natural England consider there is a reasonable prospect of the measures described making a meaningful contribution to the required compensation for Razorbill and Guillemot, particularly if the measures are pursued, as is proposed, as part of a collaborative approach with other developers. Natural England consider it will be crucial to undertake sufficient monitoring pre-and post-implementation of the measures in order to evidence success. Given the issues with the Channel Island proposals, we consider this measure should be considered alongside, or in place of, the predator control measure in the Channel Islands as the Applicant's primary measure.
End of examination position		
Theoretical merit to deliver compensation		Natural England considers the additional measures, which focus on disturbance reduction but which may also include habitat management and predator control where appropriate, to have theoretical merit in benefitting guillemot and razorbill breeding in the South-West of England by increasing breeding numbers and/or improving productivity. We highlight that it is unlikely to be possible to evidence that any reduction in these pressures is directly resulting in an increase in abundance and/or productivity at the colonies. Therefore, the reduction of relevant pressures may need to be used as a proxy for success. For this reason, it will be critical to establish a baseline of the pressure e.g. current levels of disturbance, predation, etc. against which to measure any improvements. Natural England also recognises that some of the measures, such as the proposed education and engagement programme, has the potential to have wider benefits to seabirds and other marine life outside of the short-listed sites.
Technical feasibility		Natural England consider the reduction in disturbance at selected colonies to be technically feasible, though it will rely on close collaboration with site managers and statutory bodies to be implemented effectively. The Applicant has identified anthropogenic disturbance (primarily from vessels) as the primary pressure at most of the short-listed sites, and has also identified several pathways through which reductions in disturbance could be achieved, including enforcement of the Area of Special Protection at Berry Head, coordinated education/awareness raising, restrictions on boat approach distance and statutory measures such as seasonal closures, though it is unclear if the feasibility of implementing the latter at the sites in question has been discussed with all the relevant statutory bodies. As identified by the Applicant, anthropogenic disturbance from land is unlikely to be acting as a significant pressure on these colonies. Therefore, efforts should focus on reducing disturbance from the sea, and this would require significant presence on the water to be effective. This could be undertaken collaboratively with other developers (i.e. shared resource across sites that are in close proximity to each other) and should also be considered alongside the need for monitoring, which as the Applicant has highlighted, may also need to be done from the

		water where access to vantage points are limited. Consideration should be given to the potential for technologies to facilitate monitoring, such as the use of drones or remote cameras.
Agreed compensation level		The impact value against which the full package of measures should be scaled, as per Natural England's advised approach to the impact assessment, is 375.3 guillemot and 108.7 razorbill per annum. This is gauged against the 95% upper confidence limit prediction of the displacement analysis at 70% displacement and 2% mortality using model-based estimates for guillemot and design-based estimates for razorbill. The Applicant has presented compensation calculations using the above advice as well as their own preferred values, which is welcomed. This gives the decision-maker the opportunity to establish the necessary scale of compensation in line with Natural England advice. Using the Hornsea 4 method, this results in compensation requirements of 1,518 breeding pairs of guillemot and 630 breeding pairs of razorbill at a 1:1 ratio. Given the uncertainties associated with all three proposed measures, Natural England consider it appropriate to scale the measures at a ratio of 3:1. Note that this would be the equivalent of each measure delivering at a ratio of 1:1, or all three measures delivering together at a ratio of 3:1. At a ratio of 3:1, the estimated number of breeding pairs required is 4,554 breeding pairs of guillemot and 1,890 breeding pairs of razorbill.
Scale/extent of measure		The Applicant considers that for the compensation requirements stated above, a compensation ratio of up to 2.5:1 for guillemot and 1.4:1 for razorbill could be achieved across the package of measures as per REP5-144 (though Natural England understand that the Applicant is due to submit an updated version of this document at Deadline 6). The proposed contribution of this measure at the short-listed sites (see below) specifically is 768 – 1,887 additional fledglings of guillemot and 114 – 255 breeding pairs of razorbill. However, Natural England have some reservations with the method used to estimate this measure's contribution. The Applicant calculated a theoretical increase in productivity based on current productivity rates at the colonies and theoretical increase in productivity based on a regional 'expected' productivity. Current productivity rates were calculated from the 2024 surveys, but these had a number of limitations that mean that the calculated mean and maximum productivity rates of monitored sites 0.08 and 0.11 are highly likely to be an underestimate. Furthermore, the 'expected' productivity of 0.82 for guillemot and 0.64 for razorbill may not reflect the likely productivity at these sites, which are much smaller and in decline in comparison to those colonies from which the regional productivity rate is obtained. Overall, Natural England consider it will be difficult to quantitatively measure the success of this measure based on the production of additional recruits, and that success will likely need to measured via a reduction in disturbance at the colonies (see below section on success criteria). For this reason, we judge it important to be ambitious with the scaling of this measure if it is to be relied upon to contribute in a meaningful way to the overall package of measures. Notwithstanding the above, the Applicant has stated that though a number of sites (six to eight) have been short-listed for project-lead

		delivery, the scale and location of this measure is anticipated to be expanded via a collaborative approach facilitated by a local delivery partner, and that this will likely mean that the measures are expanded to other sites. Natural England consider one aspect that could be improved is the period during which a reduction in disturbance will be targeted, with the Applicant defining this 'active' period as May to August. We consider that this does not take into account pre-laying attendance at colonies, when reducing disturbance is likely to have the greatest benefit due to birds being less attached to nest sites (and therefore more likely to be flushed), and due to the importance of cyclic pre-lay colony attendance for egg-laying synchrony (Wilhelm & Storey, 2002), which in turn contributes to predator defence by increasing the nesting density of individuals (Birkhead, 1977; Hatchwell, 1991; Murphy and Schauer, 1996). Therefore, we consider that the active period should be extended to include March and April, noting that this would mean that the Easter holidays when disturbance is likely to be high are included.
Timing: Deliverable before impact		The proposed lead-in time is less than one year, with measures being implemented at colonies in 2027, the same year construction is due to begin (though the indicative schedule in REP5-144 has turbine installation beginning in 2028, it is understood from the Applicant's other documents that construction will begin in 2027). A lead-in time of less than one year increases the likelihood that the measure will not be delivering compensation at the scale required before impacts occur and Natural England are concerned that this would not afford the Secretary of State sufficient confidence that the compensation would be delivering prior to impact occurring. Though we recognise that the disturbance reduction measures have potential to begin benefitting auks almost immediately if implemented effectively, there will likely be a 'test phase' during which the effectiveness of the measures will need to be tested and adapted accordingly, and this may result in a delay to benefits being felt at the colonies. Natural England recommends that the Applicant considers the need for a longer lead-in time to account for this, though we also acknowledge the importance of getting an accurate measure of the baseline (see below) and that the Applicant plans on carrying out further surveys this summer. Accordingly we have set the RAG to amber rather than red.
Location of measure		The Applicant has carried out a considerable body of additional work since Application regarding this measure, both in terms of site-specific disturbance and ornithology surveys at the short-listed sites in 2024, and liaison with local organisations and potential 'host' or delivery partners. Natural England agree that the Applicant's preferred approach of delivering this measure in partnership with local/regional groups or bodies is the right one. The details of these conversations are not currently available for Natural England to review (due to being commercially sensitive), and the feasibility of implementing the proposed measures have not been fully evidenced, but it appears that the appropriate stakeholders are being consulted. By nature, auk colonies are difficult to monitor and access (Walsh et al., 1995), and Natural England consider there are some limitations to the

		surveys undertaken in 2024 due to the lack of good vantage points from which to undertake surveys, particularly at those sites that are not on the mainland. We therefore urge the Applicant to explore other methods of monitoring such as boat-based surveys or the use of technologies such as drones. Natural England highlights that, dependent on the outcome of the monitoring it may be necessary to undertake adaptive management and that this may include adjusting or expanding the scope of the measure to other/additional sites beyond those currently short-listed if logistical constraints are identified or the measures are not shown to be as effective as hoped.
Long term implementation		There is limited detail on how monitoring and adaptive management will be undertaken for this measure, with only outline Compensation Implementation and Monitoring Plans (CIMPs) thus far being submitted into examination (see our general point on CIMPs in Section 1) with final details to be presented post-consent. Notwithstanding this, and the issues identified below with regards to measuring the success of the measure, we consider there to be a good chance that this measure can be successfully implemented long-term if it is delivered with the full support of local delivery partners and statutory bodies, and particularly if delivered collaboratively with other developers in a joined-up way. The Applicant has received two costed proposals from potential delivery partners that would help implement the reduction in recreational disturbance, and is currently in active discussion with one. Further detail is provided on the exact measures to be implemented, which include the use of buoys to reduce disturbance to colonies from the water, and monitoring of these areas. Natural England agree that the proposed measures are appropriate. Lastly, Natural England recognises that some of the measures, such as the proposed education and engagement programme, has the potential to have wider and far-reaching benefits to seabirds and other marine life outside of the short-listed sites and consider this to be a strength of this measure.
Success criteria/Ability to prove additionality		As stated above, we consider it unlikely that the Applicant will be able to evidence a direct causal link between the reduction in identified pressures and any subsequent increase in abundance/productivity, due to both the difficulty in surveying the sites and the presence of confounding variables. Therefore, the reduction of relevant pressures may need to be used as a proxy for success. For this reason, it will be critical to establish a baseline of the pressure e.g. current levels of disturbance, predation, etc, against which to measure any improvements. We consider that the data from the 2024 surveys, whilst welcome, is not enough to establish a baseline of disturbance caused by recreational activity, or a baseline level of productivity at these sites due to the issues outlined above. We are aware that the Applicant plans further monitoring this summer, but note with some concern the statement within [REP5-144] that "*Monitoring methodologies will mirror those implemented during the 2024 breeding season…*", highlighting that as the Applicant has themselves acknowledged, several of the short-listed sites, including Gulland Rock and Ore Stone, could not be effectively monitored for productivity in 2024 due to the lack of, or distance from, suitable vantage

		points. We also consider that the proposed three visits each breeding season will not be sufficient to accurately measure productivity, noting that Walsh et al. 1995, suggests visits every 1-2 days and monitoring of guillemot and razorbill productivity at Flamborough & Filey Coast SPA involves visiting plots 'every third day'. We therefore urge the Applicant to revisit the monitoring methods employed during 2024, undertake a full review of Walsh et al. 1995, and consider the potential for the use of boat-based surveys and/or alternative methods such as drones. Natural England welcomes the commitment by the Applicant to monitor control colonies in order to contextualise any changes in abundance and/or productivity at the targeted sites.
Suitable as sole measure for target species		Due to the issues outlined above with accurately quantifying the level of benefit, this measure cannot currently be considered suitable as a sole measure for either guillemot or razorbill. As noted above though, there are grounds for now considering this to be the Applicant's primary measure, reflecting the Applicant's efforts to develop the measure.

Table 3: Flamborough and Filey Coast (FFC) Special Protection Area guillemot and razorbill: offshore artificial nesting structures (offANS)

FFC SPA guillemot and razorbill: offANS		
Overall confidence in the measure		Natural England recognise the provision of offANS designed specifically for guillemot and razorbill could provide additional nesting spaces for guillemot and razorbill and therefore contribute new recruits into the FFC SPA population or the National Site Network. However, we consider the viability of this measure largely untested for guillemot and razorbill in comparison to kittiwake, with significant gaps in our understanding of the optimal design of an offANS for auks, and there would therefore be significant risk associated with relying on this measure alone to satisfy the required compensation requirement for guillemot and razorbill. Nonetheless, Natural England consider that given the evidence provided by the Applicant regarding both guillemot and razorbill nesting on offshore oil and gas structures, alongside other anecdotal reports, that there is merit in pursuing this measure as part of a package of wider measures. However, the proposed lead in time of three years (potentially reducing to two) prior to turbine operation are highly unlikely to be sufficient to enable the measure to be in place prior to the onset of impacts to these species.
End of examination position		
Theoretical merit to deliver compensation		Natural England considers that offshore artificial nesting structures (offANS) have the potential to deliver some level of compensation for auks if individuals can be attracted to purpose-built structures and are shown to breed successfully. However, there are significant uncertainties around this method, which is as yet unproven. Although there is evidence, as presented by the Applicant, of auks nesting on offshore structures, this is in very low numbers in comparison with kittiwake and the productivity of these offshore breeders is currently unknown. Natural England advises that there is significant uncertainty around this measure for auks, and that there is significant risk associated with relying on this measure alone in order to satisfy the required compensation requirement.

Technical feasibility		Technically viable options are likely to be available for providing new structures and/or repurposing existing structures offshore. The most appropriate design of these structures for auks is uncertain and carries a high level of uncertainty with regards to how successful it will be. The Applicant has provided an overview of species specific design requirements with regards to ledge width, ledge surface, wall angle and overhangs, and nest site orientation, and how these differ between guillemot and razorbill due to nest site preferences. As above, Natural England's view is that for auks, this is an experimental, unproven measure with high degrees of uncertainty around viability, though one worth exploring, particularly as it may inform the design of future ANS for auks. For this reason, ample consideration should be given to the need for adaptive management should monitoring of colonisation rates indicate that the design of the nesting spaces are undesirable/inappropriate for auks. In reference to the ANS concept design, the Applicant has stated that "*different sized and shaped ledges, that would allow for a testing of the species' preferences and provide resilience to the measure, will be considered"* [REP4-113]. Natural England agree that providing a range of different sizes and shaped ledges would provide resilience and also has the potential to provide value in the form of testing the effectiveness of different designs in order to inform the application of ANS for this species as a whole. However, without having seen any designs (concept or detailed), Natural England's confidence in the technical feasibility of the measure is inevitably somewhat limited.
Agreed compensation level		The impact value against which the full package of measures should be scaled, as per Natural England's advised approach to the impact assessment, is 375.3 guillemot and 108.7 razorbill per annum. This is gauged against the 95% upper confidence limit prediction of the displacement analysis at 70% displacement and 2% mortality using model-based estimates for guillemot and design-based estimates for razorbill. The Applicant has presented compensation calculations using the above advice as well as their own preferred values, which is welcomed. This gives the decision-maker the opportunity to establish the necessary scale of compensation in line with Natural England advice. Using the Hornsea 4 method, this results in compensation requirements of 1,518 breeding pairs of guillemot and 630 breeding pairs of razorbill at a 1:1 ratio. Given the uncertainties associated with all three proposed measures, Natural England consider it appropriate to scale the measures at a ratio of 3:1. Note that this would be the equivalent of each measure delivering at a ratio of 1:1, or all three measures delivering together at a ratio of 3:1. At a ratio of 3:1, the estimated number of breeding pairs required is 4,554 breeding pairs of guillemot and 1,890 breeding pairs of razorbill.
Scale/extent of measure		The Applicant considers that for the compensation requirements stated above, a compensation ratio of up to 2.5:1 for guillemot and 1.4:1 for razorbill could be achieved across the package of measures as per REP5-144 (though Natural England understand that the Applicant is due to submit an updated version of this document at Deadline 6).

		The proposed contribution of this measure specifically is 400 nesting spaces for razorbill and 1,635 nesting spaces for guillemot for a single ANS, with the provision of up to two ANS. Without a concept design being presented, it is not possible for Natural England to fully comment on whether or not the estimate of the potential output of each ANS is appropriate, and there remains some confusion over the nesting density used to calculate the number of pairs per nesting unit (with the Applicant stating in PD1-071 that it is 20 per nesting unit of 1m x 1m, but Table 4.1 in REP4-062 showing 20 pairs per nesting unit of 1m x 30cm). Furthermore, the potential of this measure to contribute to the overall package of measures is dependent on the final decision regarding the number of ANS. Whilst acknowledging the significant costs associated with the measure, Natural England reiterate our position at Relevant Representation [RR-045] that provision of two offANS (or at least the Applicant having a stake in a further, shared offANS) would provide resilience against the possibility of a single site not being colonised, or underperforming, due to location-specific issues.
Timing: Deliverable before impact		The lead in time for offshore ANS is presented and considered in reference to kittiwake only. A lead-in time of three years prior to the operation of turbines (in 2030) does not account for the fact that impacts to guillemot and razorbill are likely to begin when or shortly after construction starts (currently planned for 2027). Until the target population/productivity is met, a mortality debt will accumulate. A decreased lead in time therefore increases the likelihood that the measure will not be delivering compensation at the scale required before impacts occur. Furthermore, the Applicant has submitted a Change Request to reduce the lead-in time from three full breeding seasons to two. Natural England has provided our view on this proposed change within Appendix G4 of our Deadline 6 submission.
Location of measure		The Applicant has undertaken a detailed spatial mapping process which included a high level consideration of both the ecological suitability and feasibility of different locations, for guillemot and razorbill. This process has identified two potential regions or Areas of Search (AOS) as being suitable for the installation of ANS. However, at this stage, the specific proposed locations have not yet been identified. Note that this advice is provided in the context of the proposed project led measures and does not reflect other proposed strategic solutions.
Long term implementation		There is limited detail on the proposed monitoring, adaptive management and reporting for this measure in the event of the ANS being delivered as a project-led measure, as the Applicant has stated this will be developed post-consent and populated CIMPs have not been submitted into the examination (see our overarching comment above regarding the need for more detail with the CIMPs). More detail on proposed monitoring methods is provided within the Strategic Kittiwake Compensation Plan regarding monitoring of the offANS, however this has been developed with kittiwake in mind and would need to be adapted specifically for auks. Any consideration of options for remote sensing would need to be done with guillemot and razorbill in mind.
Success criteria/Ability to prove additionality		The success of the measure is set out as the number of breeding pairs successfully colonising the ANS. We highlight that it will be important to monitor productivity as well as the number of breeding pairs to ensure that the colony is healthy and self-sustaining and not simply acting as an ecological sink. This may present some challenges offshore for guillemot and razorbill in particular, which require substantial effort to monitor for

		productivity, even on land where access is easier. It will also be necessary to include colour ringing or tagging if the aim is to quantify benefits to FFC SPA or indeed other sites in the national site network (NSN).
Suitable as sole measure for target species		See section above re. scale/extent of measure. Due to the predicted contribution of this measure and the uncertainties around success of ANS for guillemot and razorbill, this measure would be unsuitable as a sole measure.

Table 4: Flamborough and Filey Coast (FFC) Special Protection Area kittiwake: offshore artificial nesting structures (offANS)

FFC SPA kittiwake: offANS		
Overall confidence in the measure		Natural England agree that the provision of offANS designed specifically for kittiwake could would likely increase the number of kittiwake entering into the biogeographic population and therefore contribute new recruits into the FFC SPA population or the National Site Network. We also agree that offANS would be suitable as a sole compensatory measure for kittiwake. We reiterate our position at Relevant Representations [RR-045] that the provision of two ANS would provide resilience against one structure not performing as expected. Furthermore, the proposed lead in time of three years (potentially reducing to two) prior to turbine operation may not be sufficient to enable the measure to be in place and compensating effectively prior to the onset of impacts.
End of examination position		
Theoretical merit to deliver compensation		Natural England considers that offshore artificial nesting structures (ANS) have the potential to increase the number of recruits into the wider kittiwake population, although the scale of benefit to the impacted site and National Site Network will be indirect and is likely to be unquantifiable.
Technical feasibility		Technically viable options are likely to be available for providing new structures and/or repurposing existing structures offshore. The Applicant has provided an overview of species-specific design requirements with regards to ledge width, ledge surface, wall angle and overhangs, and nest site orientation and these appear broadly suitable for kittiwake. However, without any designs (concept or detailed) being submitted into the Examination, Natural England confidence in the technical feasibility of the measure is inevitably somewhat limited.
Agreed compensation level		The impact value against which the full package of measures should be scaled, as per Natural England's advised approach to the impact assessment, is 41 kittiwake per annum. This is gauged against the 95% upper confidence limit prediction for collision mortality. The Applicant has presented compensation calculations using the above advice as well as their own preferred values, which is welcomed. This gives the decision-maker the opportunity to establish the necessary scale of compensation in line with Natural England's advice. Using the Hornsea 3 part 2 (H3pt2) method, as considered appropriate by Natural England [REP5-167] and in line with the Kittiwake Strategic Compensation Plan (KSCP) [APP-260], this results in a compensation requirement of 271 breeding pairs of kittiwake at a 1:1 ratio. Given the uncertainties associated with the proposed measures, and the potential for the lead-in time to reduce from three breeding seasons to two breeding seasons (see below) Natural England advise it would be necessary to scale the measures at a ratio of a minimum of 2:1 (542 breeding pairs), and that

		there would be good justification for using a 3:1 if the lead-in time was indeed reduced.
Scale/extent of measure		The Applicant considers that for the compensation requirement stated above, the offANS for the Project could be designed to deliver all of this requirement range, but does not provide further detail on how this would be achieved. Whilst acknowledging the significant costs associated with the measure, Natural England reiterate our position at Relevant Representation [RR-045] that provision of two offANS (or at least the Applicant having a stake in a further, shared offANS) would provide resilience against the possibility of a single site not being colonised, or underperforming, due to location-specific issues.
Timing: Deliverable before impact		The Applicant initially proposed a lead in-time of three breeding seasons prior to the operation of turbines, which equates to the start of impacts to kittiwake. Natural England's general advice is that compensatory measures for kittiwake be in place four full breeding seasons in advance of impacts arising. The prospect of non-colonisation or slow colonisation needs to be considered, given that some ANS have not been colonised in years one and two (and some older, non-OWF ANS have not been colonised at all). It is therefore Natural England's view that at least one offANS should be in place four breeding seasons prior to operation, even if there is a delay in provision of a second structure. Furthermore, the Applicant has submitted a Change Consultation Request to reduce the lead-in time from three full breeding seasons to two [REP4-124]. Natural England has provided our view on this proposed change within Appendix G4 of our Deadline 6 submission.
Location of measure		The Applicant has undertaken a detailed spatial mapping process which considered both the ecological suitability and feasibility of different locations for kittiwake. This process has identified two potential regions or Areas of Search (AOS) as being suitable for the installation of ANS. However, at this stage, the specific proposed locations have not yet been identified. Note that this advice is provided in the context of the proposed project specific measures and does not reflect other proposed strategic solutions.
Long term implementation		There is limited detail on the proposed monitoring, adaptive management and reporting for this measure in the event of the ANS being delivered as a project-led measure, as the Applicant has stated this will be developed post-consent and populated CIMPs have not been submitted into the examination (see our overarching comment above regarding the need for more detail with the CIMPs). More detail on proposed monitoring methods and adaptive management is provided within the Kittiwake Strategic Compensation Plan (KSCP) and Natural England would urge the Applicant to ensure that these elements of the Project-led measure are as robust and sufficiently developed as they are within the KSCP, whilst also echoing the message within the KSCP regarding the importance of designing the offANS with the requirements for monitoring in mind.
Success criteria/Ability to prove additionality		The success of the measure is set out as the number of breeding pairs successfully colonising the ANS. We highlight that it will be important to monitor productivity as well as the number of breeding pairs to ensure that the colony is healthy and self-sustaining and not simply acting as an ecological sink. It will also be necessary to include colour ringing or tagging

		if the aim is to quantify benefits to FFC SPA or indeed other sites in the national site network (NSN).
Suitable as sole measure for target species		Natural England agree that, if designed and scaled appropriately, offANS would be suitable as a sole compensatory measure for kittiwake.

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Annex 2: Natural England check list for compensatory measure submissions

Natural England has developed a checklist of those aspects of compensatory measures that need to be described in detail when developers are submitting or updating applications where impacts on Marine Protected Areas (MPAs) are anticipated. Whilst not exhaustive, it lists key areas where sufficient detail is needed to provide the Secretary of State with appropriate confidence that compensatory measures can be secured.

a) What, where, when: clear and detailed statements regarding the location and design of the proposal.

b) Why and how: ecological evidence to demonstrate compensation for the impacted site feature is deliverable in the proposed locations

c) For measures on land, demonstrate that on ground construction deliverability is secured and not just the requirement to deliver in the Development Consent Order (DCO) e.g. landowner agreement is in place. For measures at sea, demonstrate that measures have been secured e.g. agreements with other sea or seabed users.

d) Policy/legislative mechanism for delivering the compensation (where needed)

e) Agreed DCO/Deemed Marine Licence (DML) conditions

f) Clear aims and objectives of the compensation

g) Mechanism for further commitments if the original compensation objectives are not met – i.e. adaptive management

h) Clear governance proposals for the post-consent phase – we do not consider simply proposing a steering group is sufficient

i) Ensure development of compensatory measures is open and transparent as a matter of public interest, including how information on the compensation would be publicly available

j) Timescales for implementation especially where compensation is part of a strategic project, including how timescales relate to the ecological impacts from the development

k) Commitments to ongoing monitoring of measure performance against specified success criteria

l) Proposals for ongoing ‘sign off’ procedure for implementing compensation measures throughout the lifetime of the project, including implementing feedback loops from monitoring.

m) Continued annual management of the compensation area including to ensure other factors are not hindering the success of the compensation e.g. changes in habitat, increased disturbance as a result of subsequent plans/projects.