Hornsea Project Four

Written Summary of the Applicant's Oral Case at Issue Specific Hearing 11

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1 Introduction

1.1.1.1 Issue Specific Hearing 11 (ISH11) on marine and coastal ornithology matters for the Hornsea Project Four Offshore Wind Farm took place on 21 July 2022 at 09:30 am and was held virtually, with attendees attending via Microsoft Teams.

1.1.1.2 The ISH11 broadly followed the agenda published by the Examining Authority (the ExA) on 11 July 2022 (The Agenda). The ExA, the Applicant, and the stakeholders discussed the agenda items which broadly covered the areas outlined below:

- application of MRSea and baseline ornithological data characterisation;
- the Ornithological Assessment Sensitivity Report [REP5-065];
- indirect Effects of Forage Fish and Ornithology [REP5-085]; and
- updated conclusions on project and cumulative EIA effects.

Table 1: Summary of the Issue Specific Hearing 11

Item	ExA Question/Context for discussion	Applicant's Response
Agenda Item 1 - Welcome, introductions, arrangements for the hearing		
1	Welcome, introductions, arrangements	Applicant The members of the ExA introduced themselves. The representatives for the Applicant introduced themselves as follows: - Gary McGovern, Partner, Pinsent Masons LLP - Sean Sweeney, lead for offshore and intertidal assessments for Hornsea Four and Associate Director / Head of Ornithology Consultancy, APEM - Matthew Boa, senior ornithologist, APEM - Dr Julian Carolan, consent project manager for the Applicant
Agenda Item 2 – Application of MRSea and baseline ornithological data characterisation		
2	The ExA noted that matters relating to Habitat Regulations Assessments ("**HRA**") would be discussed in ISH12 and that ISH11 would therefore focus on matters relating to the Environmental Impact Assessment ("**EIA**"). The ExA noted that there had been an additional submission [AS-048] from Natural England two days before ISH11 which provided an update on certain topics to be discussed in ISH10, ISH11 and ISH12. The ExA asked if the Applicant had had chance to read the submissions and whether it would be happy to discuss them in the hearing today.	Gary McGovern confirmed that the Applicant's representatives had read the submission and would be happy to discuss it in the hearing. The ExA noted for the record that the acceptance of late submissions outside of deadlines should be on an exceptional basis only. The ExA asked the Applicant, when responding to this submission, to directly copy the RSPB for the sake of expediency.
2.1	The ExA asked the Applicant to confirm whether the results shown in the ornithology annex to the EIA and HRA (**REP5-078)** showed the results of the revised calculations.	Sean Sweeney on behalf of the Applicant confirmed and noted that the updated results showed the outputs from MRSea_v2 taking into account guidance from Natural England and CREEM. The ExA asked the Applicant to provide a summary of the second version of the MRSea version 2 report and whether there was a comparison with commentary as against the first version.

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		Mr Sweeney noted that the Applicant had re-run the MRSea model following the hearings held in April and requests from Natural England. The model had been re-run for four key species, these being gannet, kittiwake, guillemot and razorbill. The Applicant had also re-run design-based abundances for all key species, including those previously assessed using MRSea version 1. There was no material difference to the overall baseline characterisation as a result of using the updated models. The Applicant is very pleased with the results, as it believes this shows that the ExA can place confidence in the data submitted at the point of application with little change since the start of the examination. The differences in the annual predicted impacts between assessments within the DCO Application Offshore Ornithology chapter (**APP-017**) and the Ornithology EIA & HRA Annex (**REP05a-011**) (the "**Ornithology Annex**") are as follows based on the Applicant's approach to assessment: • Gannet collision risk modelling – 20.2 to 17.3, resulting in a reduction of 2.9 predicted mortalities per annum; • Gannet displacement analysis – 11.3-15.0 to 13.0-17.3, resulting in an increase of between 1.7 to 2.3 predicted mortalities per annum; • Kittiwake collision risk modelling – 93.3 to 80.6, resulting in a reduction of 12.7 predicted mortalities per annum; • Great black-backed gull collision risk modelling – 4.3 to 4.4, resulting in an increase of 0.1 predicted mortalities per annum; • Guillemot displacement analysis – 128.1 to 148.5, resulting in an increase of 20.4 predicted mortalities per annum, However, in this instance it is worth noting that at an EIA level the addition of 20 birds per annum would not alter the overall assessment when considering impacts annually are estimated against the BDMPS population of approximately. 2 million birds; • Razorbill displacement analysis – 23.6 to 28.0, resulting in an increase of 4.4 predicted mortalities per annum; and • Puffin Displacement analysis – 2.5 to 3.2, resulting in an increase of 0.7 predicted mortalities per annum In summary, the Applicant considers that these minor differences in predicted impacts do not materially affect the conclusions that a significant adverse effect can be ruled out for all ornithology receptors for the project alone.

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		The ExA asked whether the Applicant could submit this succinct summary of the differences between the original and updated results into the examination. Mr Sweeney confirmed that the Applicant would be happy to submit a summary- and will do so via a final Ornithology Position Paper to be submitted at Deadline 7. This will contain a final summary of the Applicant's position relating to the four key ornithology receptors. The ExA noted a comment from Natural England in the out-of-deadline submission (**AS-048**) that it did not consider it necessary to compare the outputs of the two sets of assessments (i.e. the original assessments submitted at the point of application and those using MRSea_V2 submitted during the examination). However, the ExA noted that it would be useful to have clarification from Natural England as to whether this meant they were now happy with the assessments or whether their original objections remain. Mr Sweeney noted that, without wishing to speak on behalf of Natural England, the Applicant believed that that Natural England did not have any further objections to the modelling. The ExA noted an action point for Natural England to confirm they had no further objections. The ExA asked the Applicant whether it had prepared a concise summary of the difference between its approach to modelling and Natural England's approach to modelling as outlined in full in the Ornithology EIA and HRA Annex (**REP5a-011).** Mr Sweeney confirmed that there is such a summary within the Ornithological Assessment Sensitivity Report (**REP5-065).** That summary contains the Applicant's preferred parameters, along with Natural England's preferred parameters, along with other industry-recognised approaches evidenced from recent post-construction monitoring research and wider reviews of seabird behaviour. The ExA noted that it had indeed seen the text the Applicant was referring to but what the ExA would be grateful for is a concise summary of the likely differences in those models on the significant effects and the consequent necessary mitigation. The ExA asked the Applicant whether it intended to update the Environmental Statement ("**ES**") as a result of the Ornithology EIA and HRA Annex (**REP5a-011).**

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		Mr McGovern advised that the Applicant did not intend to submit an updated ES. The Ornithology Annex contains all the relevant updated assessments. The ExA asked whether the Applicant would provide the Ornithology EIA and HRA Annex as part of the EIA. Mr McGovern confirmed that the Ornithology EIA and HRA Annex would be listed in Schedule 15 of the DCO as part of the list of certified documents. The ExA confirmed that would be helpful, along with a short summary to be submitted in writing as to why the ES itself doesn't need to be updated. These matters will be addressed in the Ornithology Position Paper. The ExA asked the Applicant to respond to comments by Natural England in its submission **AS-048.** The ExA believed there was now agreement on the updated baseline and that Natural England considers it fit for purpose. However, it seems from the submission that there are still outstanding concerns in relation to the density data for kittiwake and gannet as well as the collision risk modelling ("**CRM**") for gannet. Mr Sweeney confirmed that the Applicant had discussed these issues with Natural England following deadline 5 and the Applicant had confirmed to Natural England that the issues were administrative errors (a copy and paste fault). Mr Sweeney also explained that the administrative errors were not carried through into the CRM for any species and the ExA can be confident that the results of the updated CRM are correct. The administrative errors have since been rectified and a revised version will be updated at deadline 6. The ExA noted an action point for Natural England and the RSPB to confirm they were now satisfied with the baseline. The ExA noted from Natural England's submission at deadline 5a that an agreement on macro-avoidance seemed to have been reached. The ExA asked the Applicant for an update.

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		Mr Sweeney confirmed that the Applicant had originally presented a case for using the central point in the displacement range (i.e. 70% as the value between 60% and 80%), but the Applicant had since been requested by Natural England to present the results for a series of macro-avoidance rates applying multiple scenarios with the wider range of 60%, 65%, 70%, 75% and 80%. As can be seen within the updated EIA and HRA annex submitted at deadline 5a, applying these macro-avoidance rates has resulted in significant reductions in the CRM outputs. The ExA asked the Applicant to confirm whether the combined displacement and CRM assessments followed the BTO Cook (2021) approach. Mr Sweeney confirmed that the revisions to the CRM to account for macro avoidance were originally sourced from the recommendations in the Natural England commissioned study on avoidance rates completed by Cook (2021), though it should be noted that this report has since been withdrawn as some avoidance rates within it were mis-calculated. However, the application of macro avoidance to gannet seabird densities ahead of CRM is still advocated by Natural England. The ExA stated that at deadline 5a, Natural England had in fact noted a problem with their own PVA tool for kittiwake analyses. Mr Boa, for the Applicant, confirmed that the Applicant had been made aware of this issue on 4th July. It had since reviewed the PVA modelling and can confirm that only the outputs for kittiwake at the North Sea BDMPS, Biogeographic and FFC SPA population scales will have been potentially affected. Natural England provided the Applicant with solutions to work around this potential bug within the tool, which the Applicant has subsequently followed for the effected PVA runs. It should be noted that the revised modelling did not materially alter the results of the PVA modelling, the results of which provided outputs for a reduction in growth rate differing by less than 0.03%, which is well within the limits of natural variability expected within a stochastic model. The Applicant confirmed it would submit the revised PVA modelling at deadline 6 so that the ExA could see there were no material differences in the outputs. The ExA asked the Applicant to confirm there would therefore be no implications for the mitigation to be offered.

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		Mr Sweeney confirmed.
2.2	The ExA noted that most of Natural England's concerns on the MRSea and baseline ornithological data characterisation seemed to have been addressed. It asked whether the Applicant was expecting any further comments from the RSPB or Natural England.	Mr Sweeney advised that the Applicant was not expecting anything further from Natural England, but expected that RSPB would be making submissions at deadline 6.
2.3	The ExA asked the Applicant to explain the implications of the revised baseline for cumulative or project-alone assessments (noting this had been discussed in more detail under agenda item 2.1).	Mr Sweeney noted that as discussed under agenda item 2.1, the differences are minimal and not material. Some changes show a reduction in the impacts on seabirds. There are no implications for either the project-alone or cumulative assessments.
2.4	The ExA noted that it assumed the Applicant did not intend to do any further assessments or propose further monitoring or mitigation. It asked if the Applicant had any further comments on agenda item 2.	Mr Sweeney advised that the Applicant had no further comments.
Agenda Item 3- The Ornithological Assessment Sensitivity Report [REP5-065]		
3.1	The ExA asked if it was a fair characterisation of the Ornithological Assessment Sensitivity Report (**REP5-065)** (the "**Sensitivity Report**") to summarise that the purpose was to explore the tension in offshore windfarms between fairly balancing a precautionary approach with the need for a realistic data-led assessment.	Mr Sweeney confirmed. The ExA asked the Applicant to outline where the figures in the 'Sensitivity Report' had come from. Mr Sweeney advised that the data in relation to the Applicant's and our assumed approach for Natural England came from the Ornithology EIA and HRA Annex (**REP5a-011)**. The ExA asked if this was clearly stated in the Sensitivity Report itself. Mr Sweeney confirmed that there is a summary of data sources at the start of the 'Sensitivity Report' and throughout the report when introducing any parameters used for either CRM or displacement. The ExA asked the Applicant to review that and clarify in the written summary of the hearing if it deemed any clarification was necessary. The Applicant committed to reviewing the text in the

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		'Sensitivity Report' and add in some additional sign-posting, whilst also committing to providing a further explanation within the Ornithology Position Paper to be submitted at deadline 7. The ExA noted that Natural England had not yet been able to comment in full on the 'Sensitivity Report' pending the changes to the PVA modelling for kittiwake as discussed earlier in the hearing (which the Applicant will submit at deadline 6). The ExA asked whether there was anything else pending to allow NE to provide a full set of comments. Mr Sweeney advised that Natural England was not waiting for any further information from the Applicant. It was due to submit any outstanding comments at deadline 6. The Applicant would then review those comments and provide its responses. The ExA thanked the Applicant and asked if the Applicant could keep the RSPB copied in on its correspondence with Natural England for expediency.
3.2	On the subject on minor typographical errors, the ExA asked the Applicant if section 3.3.5.1 of the Sensitivity Report should read "-42%" rather than "42%".	Mr Sweeney confirmed. The ExA then asked whether figure 25 had been wrongly labelled and in fact referred to razorbill. Mr Sweeney confirmed and noted that the Applicant would ensure the relevant amendments were made.
3.3	In relation to CRM, the ExA noted that section 2 of the Sensitivity Report seems to demonstrate that one gets different outputs for different inputs. The ExA asked whether it provides any conclusion on what the outputs would be if not using the SNCB-recommend standards?	Mr Sweeney noted that there are a number of outputs which rely on outdated data. Section 2 shows how, when using overly precautionary, outdated data for a series of calculations, the excess on each set of calculations quickly builds up and ultimately can lead to an end figure which is heavily inflated when compared to reality. Mr Sweeney noted the particular example of flight speeds for kittiwake. If using more recent data for kittiwake flying through offshore wind farms (relying on evidence from the latest post-consent monitoring studies or literature), this would reduce mortalities at a cumulative level by over 250 mortalities per annum for projects in the North Sea. The ExA asked whether in essence the Applicant was saying that the parameters from Natural England are now outdated since the more recent monitoring evidence is proving that the older data is not as accurate as it could be.

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		Mr Sweeney confirmed that there is indeed evidence to support a more accurate view of CRM. The ExA turned to section 3.3.1.1 of the Sensitivity Report, where there is a discussion on gannet. This appeared to show the variability to be about 90% or more. The ExA asked the Applicant to confirm that was correct. Mr Sweeney confirmed and clarified that this difference was a result of using the higher avoidance rates. The ExA asked the Applicant to confirm that it was of the position, as stated in the Sensitivity Report, that applying precautionary values to all input parameters multiplies up into overly inflated CRM outputs. Mr Sweeney confirmed. The ExA noted that for that to be correct, the evidence used to demonstrate those precautionary values are wrong needs to be applicable to the situation in question. As such, the ExA asked the Applicant where it took the data from to conclude that the precautionary values were wrong. Mr Sweeney advised that the data for this section of the report was from the Crown Estate funded audit of projects through the Offshore Rewnewable Joint Industry Programme (ORJIP; Skov et al. 2018) project. The ORJIP project was undertaken for UK offshore wind farm projects. The ExA asked the Applicant if it believed the data was sufficiently robust for the statutory nature conservation body to revisit its values. Mr Sweeney confirmed and advised that it would be extremely valuable for all projects to be able to use this data. Consideration of the best models to be taken forward and used for future offshore wind farms would be very beneficial.
3.4 and 3.8	The ExA considered agenda items 3.4 and 3.8 together.	The Applicant undertook an in-depth review of all available research and monitoring results providing evidence on displacement and predicted mortality rates associated with seabird displacement from

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	The ExA advised it had seen the Sensitivity Report and Natural England's additional guidance on gannet and razorbill impacts. It wanted to clarify whether the Sensitivity Report compares the approach of the Applicant and Natural England as well as comparing this with the latest approaches in the industry for displacement rates.	offshore wind farms. This research was focussed on gannets (**REP2-045**) and auks, namely guillemot and razorbill (**REP1-069** and culminated in two substantial new pieces of literature providing the most up to date review of the evidence available for use in impact assessments. Mr Sweeney confirmed that the Applicant had consulted with RSPB and Natural England to identify how the Applicant would review the evidence from post-consent monitoring and would apply various proposals to Hornsea Project Four (e.g. how the Applicant would take account of factors such as the different size of turbines and array area spacing in other offshore windfarm developments compared to Hornsea Four). The Applicant believes it is a very thorough review of current evidence for gannet and auks as well as a practical review of the species' response to offshore wind farm projects. It is pleasing that for gannet, the report data has been incorporated in the macro avoidance guidance from Natural England. The ExA noted that Natural England had also outlined in its submission **AS-048** that there is a continuing disagreement over the core breeding season. The ExA noted this is only likely to affect the gannet displacement figures and that it was unlikely to make a material difference to impacts on site integrity. The ExA asked if the Applicant had any comment. Mr McGovern noted that this was another area where the written submissions were lagging behind progress being made outside of the Examination. The Applicant understands that Natural England's concerns on gannet displacement have now been resolved. The Applicant expects that Natural England will confirm this at deadline 6. The ExA noted an action point for Natural England to confirm whether there were any outstanding concerns in relation to gannet displacement. The ExA noted that there were also outstanding concerns in relation to the Applicant's weighted approach to seasonal mean peak abundance. Mr Sweeney advised that the Applicant's approach on this topic was not new. The Applicant had consulted Natural England on this approach before submitting its DCO application through the evidence plan process. However, potentially due to a change in case officers or a lack of available

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		resource, Natural England did not provide a written response. For a number of reasons, there is substantial practical and scientific reasons for using a weighted mean approach for guillemot for Hornsea Four and for not changing the Applicant's assessment of displacement to de-couple the current non-breeding season and breeding season approach. The evidence is clear for both guillemot and razorbill as well as other auk species that all offshore wind farm areas experience some increases post-breeding. Providing for a separate bio-season to then create three separate displacement matrices would produce an overly precautionary approach that would not be consistent with how similar post-breeding dispersal peaks have been dealt with for any other offshore wind farm assessment in the North Sea. The ExA asked if there was anything new in the approach to auk displacement. The ExA noted that Natural England strongly refute the suggestion that their recent advice to the Applicant represents a departure from SNCB guidance. The Applicant noted that Natural England themselves have said there can be departures from the established guidance. Nonetheless, the Applicant did agree to follow the SNCB guidance during expert topic group #9 and during that meeting, Natural England asked the Applicant not to take out and assess separately the months that they are now asking the Applicant to assess separately (August and September), as that would cause an over-inflation of potential impacts for this species. The ExA asked if the Applicant disagreed with Natural England that the area of sea off the Flamborough and Filey Coast SPA hosts larger numbers of auks in August and September. Mr Sweeney noted that there are higher pulses of birds through the array area but that these are short lived moments are not too dissimilar to pulses of bird activity across the Southern and Northern North Sea areas. The fluctuations are not so great that they justify a change in approach, as similar abundances and densities are experienced at other sites in the North Sea. The ExA asked what the impact would be on displacement figures for auks if Natural England's suggestion was followed. Mr Sweeney noted that there would be significant increases in the assessed impacts as essentially by splitting the non-breeding season the Applicant would be assessing potential impacts twice within the

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		same season, as would be two figures for predicted displacement mortality within the non-breeding season rather than one that would need to be considered. The original advice from Natural England was not to do that, since it would apply an extra layer to the EIA and would not be a wise course to take. The ExA asked whether that essentially meant that the data for August and September would be double-counted. Mr Sweeney confirmed. The assessment process when using the matrix approach relies upon the figures for the mean peak within each season. Following Natural England's approach, there would be three matrices instead of two – a breeding season matrix, a post-breeding season matrix and a non-breeding season matrix. This approach has not been applied on any other project for auks in the UK so far as we are aware. The ExA noted an action point for Natural England to provide an update on their position and to provide an opinion on the variance between their position and the Applicant's.
3.5	The ExA noted that the Applicant advocated a productivity rate of 0.800 rather than 0.580. The ExA asked whether the differences between these rates would make a material difference to the outputs.	Mr Boa for the Applicant advised that the difference in these productivity rates would not make a material difference to the outputs due to the model being density independent. In terms of validation, using 0.8 provides a better fit when compared against the actual population. The ExA noted an action point for Natural England and the RSPB to confirm their position on the use of these rates. The ExA also asked the Applicant to confirm the reasoning for using guillemot data for razorbill. Mr Boa noted that the razorbill data comes from the Horswill and Robinson (2015) study which states due to limited available data there is low confidence in the advocated razorbill demographic parameters. The Applicant thought it was reasonable to use data for guillemot which has a much greater level of confidence in it and is an ecologically similar species. As can be seen from the results in the PVA Validation section of the report, using guillemot data as a proxy provides a much better fit when compared to the actual population.

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		The ExA asked whether the Applicant had consulted with Natural England and the RSPB on this approach. Mr Boa explained that there was some discussion at expert topic group #15 and Natural England were agreeable to the idea. The ExA noted another action point for Natural England and the RSPB to comment on the use of guillemot data for razorbill analysis.
3.6	The ExA noted the Applicant's clear position that counterfactual population growth rate (**"CFPGR")** is the only factor which can be relied upon when running density independent viability analyses.	The ExA noted an action point for the RSPB to provide an update on their position on the use of RSPB to provide an updated position on CFPGR. The ExA also noted the same request for Natural England, with the caveat that the ExA had already seen its submission with reference **AS-048** which outlined that the counterfactual population size (**"CFPS")** should still be provided as has been done on other offshore windfarms to date. The ExA asked the Applicant if it had done an audit of other offshore windfarm DCO applications to assess whether CFPGR or CFPS was used on those projects. Mr Boa advised that the assessments for the Norfolk Boreas and Norfolk Vanguard projects do present the results of CFPS but state within their reports that the CFPS cannot be relied upon for the same methodological concerns as outlined by the Applicant. The ExA asked if the Applicant saw any merit in providing such an audit of previous offshore wind farms and how they approach CFPS and CFPGR. Mr Boa noted that the Applicant would review the submissions to date and would provide a short summary on that topic. The Applicant confirms the submission of an Ornithology Position Paper at Deadline 7.
3.7 and 3.10	The ExA asked the Applicant to confirm that the differences in the approach to breeding season definitions only related to gannet and guillemot.	Mr Sweeney clarified that the differences were in relation to gannet and kittiwake. The ExA outlined that the Ornithology Annex refers to a precedent being set for the approach to the breeding season for gannet being April to August by Hornsea Project Three. The Applicant says that breeding season definition was accepted by the Secretary of State in the appropriate assessment for

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		that decision. This relied in part on the tracking studies of Langston et al. (2013) and Cleasby et al. (2018). The ExA asked the Applicant if that was correct. Mr Sweeney confirmed and added that the Applicant had also used site-specific data and tracking studies, which supports the use of April to August for the breeding season. The ExA asked if the difference in opinion on the definition of breeding season essentially disappears now that there has been agreement on macro-avoidance. Mr Sweeney confirmed that it believed that Natural England had effectively confirmed the same. The ExA asked the Applicant to summarise the current position on the definition of breeding season for guillemot. Mr Sweeney advised that the Applicant has put forward its case in the Auk Displacement and Mortality Evidence Review (**REP1-069).** That document provides a thorough review of evidence to support the Applicant's definition. Mr Sweeney also outlined that there had been a slight misinterpretation from Natural England. The auk displacement rate was not a flat 50%, rather the range was 0-50% and the Applicant used the upper end of that range for simplicity and to provide a precautionary assessment. The Applicant believes that taking the highest limit of the range advocated by Natural England would over-inflate the impacts for the project alone and cumulatively. The ExA asked the Applicant what its comments were in relation to Natural England's submission with reference **REP5a-029.** Mr Sweeney advised that the Applicant had consulted with Natural England and followed the suggested guidance provided for calculation of breeding BDMPS populations. The Applicant has revised all assessments it has undertaken in relation to breeding BDMPS populations. The only slight difference the Applicant has noted is in relation to annual assessment. The Applicant has put forward an alternative which accounts for not only breeding birds, but also birds outside the breeding season to account for birds from non-UK breeding colonies, as quantified in Furness (2015). The ExA noted a further action point for Natural England to provide an update on their position in relation to breeding seasons.

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3.9	The ExA asked the Applicant whether the altered approach to macro avoidance has any implications for the cumulative assessment.	Mr Sweeney advised that the macro avoidance had not previously been accounted for in the CRM. If the revised macro avoidance results were to be applied, it would lead to lower impact results. The ExA asked about the energy penalties for the birds avoiding the turbines. Mr Sweeney indicated that he didn't believe there were any additional energy issues. Macro avoidance would be more of a barrier effect or displacement effect, both of which are accounted for already in the displacement analysis. The addition of macro avoidance in CRM simply looks at how the birds avoid flying into the array area themselves, so reduces the overall seabird densities included for assessment purposes. The ExA asked if Natural England and the RSPB were now happy with the approach proposed by the Applicant. Mr Sweeney confirmed that the Applicant had received communications from Natural England supporting and advocating the use of macro avoidance values from 60% to 80% for the project alone and cumulative figures, so the Applicant is in agreement with Natural England on these new values being used in CRM. The Applicant is yet to receive a response from the RSPB. The ExA noted action points for the RSPB and Natural England to indicate their views on including the macro avoidance risk factor.
3.11	The ExA noted that the Applicant had already covered most of agenda item 3.11 in earlier discussions. The ExA asked whether the Applicant thought it would be useful to coordinate a 3-way summary on the submissions from the RSPB, Natural England and the Applicant to date.	Mr McGovern advised that given the constraints of time, it was not realistic to prepare a joint statement from the parties. In any event, the Sensitivity Report already provides the parties' respective position on their preferred assessment parameters.
3.12	The ExA asked if the Applicant had provided a summary of the differences in various approaches highlighted by the Sensitivity Report in relation to the EIA.	Mr Sweeney noted that the Applicant's position, along with the Applicant's position on Natural England's approach and other research was already provided in the Sensitivity Report.

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		The ExA outlined that the Sensitivity Report says it aims to provide confidence that the Applicant's approach is reasonably precautionary and asked if that statement was still correct. Mr Sweeney confirmed. The Applicant has assessed where the precaution leads to overly inflated values but it has also put forward what it believes is a precautionary and realistic approach to impact assessments. The Applicant has also highlighted a number of alternative routes which are less precautionary which the Applicant has not adopted. The Sensitivity Report also includes the Applicant's opinion on whether some of these less precautionary approaches should be adopted in future. The ExA noted action points for the RSPB and Natural England in this regard.
Agenda Item 4 – Indirect Effects of Forage Fish and Ornithology [REP5-085]		
4.1	The ExA noted that it had the Applicant's clear position on the indirect effects of forage fish and ornithology. The document usefully links together various stages in the food chain.	The ExA noted that it still needed to receive feedback from the RSPB and Natural England on the Indirect Effects of Forage Fish and Ornithology report (**REP5-085).** The ExA asked if any other work was proposed to be undertaken by the Applicant. Mr McGovern confirmed it was not.
4.2	The ExA asked the Applicant to outline whether it had any intentions for further ornithological assessments.	Mr McGovern noted that apart from the updated PVA modelling which Mr Boa had referred to earlier in the hearing, along with any post-hearing clarifications in the written summaries, the Applicant was not envisaging any further submissions. The ExA asked the Applicant if it planned to submit an updated Examination Deliverables Summary (**REP5-060)** Mr McGovern noted that there was no intention to update the document as there were no new deliverables since the last time it was updated.
Agenda Item 5 – Updated conclusions on project and cumulative EIA effects		
5	The ExA noted that there was little to be gained from discussing agenda item 5 in the absence of the RSPB and Natural England.	The ExA read from Natural England's submission with reference **AS-048** and noted their comments that they were unable to rule out significant adverse impacts at an EIA scale on kittiwake, razorbill, guillemot. gannet and greater backed black gull. The ExA asked the Applicant if it had any comment.

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		Mr Sweeney on behalf of the Applicant noted that the Applicant had seen Natural England's position. The Applicant's position was still the same as it had been at the point of the DCO application. There are no significant effects as a result of Hornsea Project Four alone or cumulatively at an EIA level.
Agenda Item 6 – AOB		
'6.1	The ExA noted that in Natural England's risks and issues log submitted at deadline 5, Natural England highlight the lack of assessment for the extent and suitability of habitat for guillemot outside of the buffer area. The ExA asked if the Applicant thought this was a matter more relevant to EIA or HRA.	Mr Sweeney suggested the topic was more relevant to HRA and therefore would be better discussed in ISH12.
Agenda Item 7 – Action Points		
		See Table 2
Agenda Item 8 – Close of Hearing		
	11:31 am	

Table 2: Action Points from Issue Specific Hearing 11

Action	Description	Action by	Deadline	Applicant's Comments/where has the action been answered
1	When the Applicant is considering marine and coastal ornithology and responding to Natural England's (NE) additional submission [AS-048], to copy the Royal Society for the Protection of Birds (RSPB) directly (unless first submitted at D6 when they will be shared with everyone).	Applicant	Any time	The Applicant will ensure the RSPB is copied into any further correspondence between the Applicant and Natural England.
2	Provide a succinct summary and commentary on the comparison between outputs from MRSea_v1 versus MRSea_v2	Applicant	6	The Applicant has provided a summary of the differences at an EIA level when using MRSea_V1 versus MRSea_V2 or alternatively design-based abundances where agreed with Natural England in response to agenda item 2.1. These differences will also be captured within the Ornithology position paper which the Applicant will be submitting at Deadline 7.
3	NE to clarify its comment in the Additional Submission [AS-048] that, "As v2 of the baseline has been agreed and demonstrated to be a significant improvement against v1, we do not consider it appropriate and/or necessary to compare the outputs of the two."	Natural England	6	
4	Consider providing a succinct summary of the differences in significance of effect deriving from the outputs of MRSea_v1 and _v2, whether there is any need to revise mitigation requirements or the conclusions on residual effect. Give an explanation of why the Applicant believes that the Environmental Statement (ES) does not need to be updated as a result.	Applicant	6	As stated within item 2.1, the Applicant's position remains unchanged based on the minimal differences between MRSea_V1 and MRSea_V2. The Applicant will provide an Ornithology position paper at Deadline 7 which will summarise this position.
5	Review position, and if necessary, add the final versions of the Revised Ornithology Baseline and the Ornithology EIA and HRA Annex to Schedule 15 of the draft Development Consent Order to be secured as part of the final ES.	Applicant	7	As detailed in item 2.1 the Applicant confirmed the Revised Ornithology Baseline and the Ornithology EIA and HRA Annex would be listed within Schedule 15 of the DCO as part of the list of certified documents.
6	Submit revised modelling/ analysis for kittiwake following NE's advice [REP5a-029] in relation to a flaw that had been identified in the recommended Population Viability Analysis (PVA) tool.	Applicant	6	Updated PVA will be submitted at Deadline 6 based on the solution provided by Natural England in relation to the identified error within the Seabird PVA tool.
7	NE and RSPB to update their positions on the suitability of the revised ornithological baseline for use in the assessment.	Natural England and RSPB	6	

8	Review the Ornithological Assessment Sensitivity Report [REP5-065] to provide further clarification about which data set has been used.	Applicant	6	The Applicant has provided an update to the Ornithological Assessment Sensitivity Report at Deadline 6 addressing any typographical errors and inclusion of further signposting of input parameters for the Applicant's and Natural England's position.
9	Clarify in post-Hearing note that section 3.3.5.1 of the Ornithological Assessment Sensitivity Report [REP5-065] should refer to '-42%' and provide the correct title for Figure 25.	Applicant	6	The Applicant can confirm these are errors and an updated Ornithological Assessment Sensitivity Report has been submitted at Deadline 6.
10	In relation to the disagreement over the use of the core breeding season, and your comment in [AS-048] that "... ultimately, the difference is only likely to affect gannet displacement numbers and is unlikely to make a material difference to our conclusions relating to significance of impact/ impact to site integrity", please clarify if this is intended to mean that there is no longer a perceived problem in relation to gannets, or if your position in the most up-to-date risk and issues log [REP5-112] remains.	Natural England	6	
11	NE to update on its position on the assessment of guillemot and razorbill displacement impacts, including whether this changes in the light of the Applicant's Ornithological Assessment Sensitivity Report [REP5-065], and its opinion on the degree to which outputs from the assessment vary between its preferred approach and that used by the Applicant. Provide specific comment on the outputs of the Applicant's Ornithological Assessment Sensitivity Report [REP5-065] in relation to NE's advocated upper limit for displacement of auks.	Natural England	6	
12	NE and RSPB to confirm whether they accept the Applicant's analysis that a kittiwake productivity rate of 0.800 should be used instead of 0.580?	Natural England and RSPB	6	
13	NE and RSPB to confirm whether they accept the Applicant's suggestion that guillemot survival data should be used as a proxy for razorbill data in the additional razorbill PVA modelling?	Natural England and RSPB	6	
14	RSPB to provide an updated position on the need to use both counterfactuals (Counterfactual of Population Growth Rate and Counterfactual of Final Population Size) having seen the further revisions.	RSPB	6	

15	NE to provide a similar update to action point 14 for the RSPB but noting that in [AS-048], NE maintains both counterfactuals should be provided as has been done in "all recent OWF assessments"	Natural England	6	
16	Review and provide a summary of the reference made to, and the use made of, both counterfactuals in the last six relevant offshore wind farm Development Consent Order decisions. (Post-Hearing suggestion: this could include any recommendation or position taken by the Examining Authority (ExA) and Secretary of State in each case.)	Applicant	6	The Applicant will provide a summary of the use of PVA (with reference to the use of Counterfactuals) for the six most recent offshore wind farm Development Consent Order decisions within the Ornithology position paper which the Applicant will be submitting at Deadline 7.
17	NE to comment on or signpost its up to-date position on the use of the migration-free breeding season rather than the full breeding season, given the outputs from the Applicant's Sensitivity Report [REP5- 065], and noting its advice in its D5a letter [REP5a-029].	Natural England	6	
18	NE and RSPB to comment on the use of a 70% macro avoidance factor in the combined displacement and collision mortality assessment for gannet, noting that the Applicant does also provide a range around this central figure.	Natural England and RSPB	6	
19	Do NE and RSPB believe that the ExA and Secretary of State can now have full confidence in the marine ornithology environmental impact assessment, or is further work and commentary still needed before that stage is reached?	Natural England and RSPB	6	
20	NE and RSPB to comment on the Applicant's report into Indirect Effects of Forage Fish and Ornithology [REP5-085] and the extent to which they believe that the findings affect the overall ornithological assessment	Natural England and RSPB	6	
21	Update Statements of Common Ground with NE and RSPB so that the ExA can clearly identify any outstanding points of difference that may remain at the close of the Examination.	Applicant, Natural England and RSPB	7	The Applicant will ensure the Statements of Common Ground with Natural England and RSPB will be updated and submitted at Deadline 7.