Date: 28 March 2019
Our ref: 276870
Your ref: EN010084

National Infrastructure Planning
Temple Quay House
2 The Square
Bristol, BS1 6PN

BY EMAIL ONLY

4th Floor Eastleigh
House Upper
Market Street
Eastleigh
Hampshire SO50
9YN

Dear Sirs

Thanet Extension Offshore Windfarm – Natural England's Deadline 4 response

1. The following constitutes Natural England's formal statutory response. We have provided comments on the following documents submitted by the Applicant at Deadline 3:

- Appendix 38 to Deadline 3 Submission: In Principle Offshore Ornithology Monitoring Plan
- Appendix 39 to Deadline 3 Submission: Clarification Note on Collision Risk Modelling Parameters and Thanet Extension's Contribution to Cumulative and In-Combination Totals
- Appendix 32 to Deadline 3: Schedule of Mitigation
- Appendix 48 to Deadline 3 Submission ISH3 Action point 13 – Schedule of Monitoring
- Annex A to Appendix 1 to Deadline 3 Submission: project Description Transcription into the Application
- Annex B to Appendix 1 to Deadline 3 Submission: MCZ Chart Illustrating Goodwin Sands with Relevant Projects

2. Offshore Ornithological Comments at Deadline 4

2.1. Appendix 38 to Deadline 3 Submission: In Principle Offshore Ornithology Monitoring Plan

2.1.1. Natural England welcomes the submission of an in principle Offshore Ornithology Monitoring Plan (OOMP). We note that the primary aims of the OOMP are to identify relevant offshore monitoring as required by the conditions of the draft Deemed Marine Licence (DML).

2.1.2. *Paragraph 8* - Natural England questions why no monitoring approaches are outlined for the construction phase. If the focus is validating assumptions around red throated diver displacement, then monitoring will need to cover pre-construction, construction and post-construction.

2.1.3. *Paragraph 10* - The first part of the opening sentence should state "Whilst no significant effects have been predicted **alone**..."

2.1.4. *Paragraph 12* – Natural England note the Applicant's concern that a study of displacement may

have poor statistical power. However, we do not accept that an un-defined strategic study would be a reasonable alternative to a site specific study designed to validate the assumptions made by the applicant. Namely, the Applicant's assumption that there is no displacement of red throated diver beyond the boundary of the wind farm.

2.1.5. *Paragraph 13* - Natural England's view is that only site specific studies focussed on determining the potential extent of red-throated diver displacement rates from Thanet Extension is appropriate to consider in fulfilling the requirements of the DML. The last three bullet points suggesting contributions to other studies will not address one of the key areas of uncertainty which is the levels of displacement from Thanet Extension OWF. Also it is not clear how a wider strategic study will be secured, as there appears to be no mechanism available to the MMO currently to facilitate contributions to wider studies as part of the DML.

2.1.6. Natural England advise that the focus should be on a site specific study. To address the concern about having enough power to detect changes, we advise that a power analysis is carried out to determine what level of survey is required to detect a displacement effect. As mentioned at previous meetings, Natural England accept that the design will not be a standard buffer all around the wind farm. Instead we advise looking up to 10 km from the Array into the Outer Thames Estuary SPA, where greater densities of diver will occur.

2.1.7. Whilst we would of course encourage and welcome the applicant to contribute to wider studies to increase our collective knowledge of red throated diver and windfarm interactions, we advise that the focus of this OOMP should focus on what can be delivered through the DML.

2.2. **Appendix 39 to Deadline 3 Submission: Clarification Note on Collision Risk Modelling Parameters and Thanet Extension's Contribution to Cumulative and In-Combination Totals**

2.2.1. Natural England welcomes the submission of updated collision risk estimates. We have made a number of comments below.

2.2.2. *Paragraph 4* - Natural England did suggest that the Applicant could use the Marine Scotland Science (MSS) stochastic Collision Risk Modelling (CRM) tool for Thanet Extension using the Natural England recommended input parameters. This tool has been tested by the steering group, and as part of that testing when producing outputs with variability, the outputs were identical to the Band deterministic model.

2.2.3. *Paragraph 5* **-** As stated above the MSS stochastic CRM tool is not untested. Natural England advised that the stochastic tool is used to ensure the variance around the NE recommended input parameters is fully captured. However, we subsequently agreed that outputs from the deterministic model (with upper and lower confidence intervals) would be accepted.

2.2.4. *Paragraph 6* - It is noted that variation in the generic flight height was presented in the Development Application within the CRM Appendix to the ES Chapter (PINS Ref APP-080/ Application Ref 6.4.4.4; Title: ES Vol 6 Chapter 4 Annex 4-4: Collision Risk Modelling Report). However, this was not based on the recommended input parameters, and therefore the appropriate figure is not included either in the main body of the environmental statement.

2.2.5. *Paragraph 8* – Natural England do not accept that using the avoidance rates from Bowgen & Cook (2018) provides evidence that the outputs from Thanet Extension CRM were

precautionary in nature. This is because, if the Potential Collision Height (PCH) is used from the same report then there is a significant increase in the predicted number of collisions.

2.2.6. Table 1 includes cumulative mortality rates submitted by Norfolk Vanguard which are lower than that presented at East Anglia 3 due to some of the figures for other projects being re-calculated, but not agreed with Natural England. We note that Norfolk Vanguard's CRM will be recalculated and submitted at the next deadline for that project. The recalculated CRM for Norfolk Vanguard will include:

- deterministic/Band Option 2 outputs using mean bird densities (and upper and lower 95% confidence intervals),
- Avoidance rates of 98.9% for gannet and kittiwake and 99.5% for large gulls,
- and nocturnal activity rates of 2 (or 25%) for gannet and 3 (or 50%) for kittiwake and large gulls.

These are the figures that Natural England advise that the assessment is made on, although we note that the Applicant will also present their preferred figures.

2.2.7. *Paragraph 15* – Natural England note the RIAA is based on the assumption that the maximum mortality from collisions is 14.74 for Kittiwake. However, the upper level presented in Table 3 of this document is 23 collisions. Further still, it is also misleading to state that Table 3 uses “more precautionary” Natural England parameters, as these are based on generic flight height distributions, rather than site specific flight heights. However, we acknowledge that using the upper range of mortality will not change the overall conclusions, although we advise that the higher figures are used for the assessment.

2.2.8. *Paragraph 36* – Natural England agree, that even with using our recommended CRM parameters, the conclusion that there is no adverse effect on integrity (AEoI) to the gannet or kittiwake features of the Flamborough and Filey Coast SPA in relation to collision risk effects from Thanet Extension **alone** is correct.

2.2.9. *Paragraph 37* - We note that the Applicant seeks to agree common ground with Natural England in respect of gannet and kittiwake populations from Flamborough and Filey Coast SPA. Our position is set out in the latest Ornithological Statement of Common Ground between the Applicant and Natural England, which has been submitted at this deadline for your consideration.

3. Schedule of Mitigation and Monitoring

3.1. Appendix 32 to Deadline 3: Schedule of Mitigation

3.1.1. *Mitigation Reference 2.4* - The installation of cable protection is not necessarily the best mitigation from a physical processes perspective. From a physical processes perspective it may be better mitigation to leave a cable buried to a shallow depth and this should be considered. If the intention is to protect the cable from external impacts then this should be clearly stated.

3.1.2. *Mitigation Reference 2.5* – Natural England do not agree that scour protection should be installed around turbine foundations if its primary aim is to reduce turbidity and changes to seabed habitat as stated here. Installation of scour protection will in itself lead to changes to the seabed habitat and therefore from an ecological perspective we would wish to see further

consideration of what the best option would be, whether that would be to install scour protection or not. We suggest that scour protection would in fact primarily be installed to ensure foundation integrity and therefore this text is currently misleading.

3.1.3. *Mitigation Reference 3.5* – Natural England echo our comments above in relation to mitigation reference 2.4. If the intention is to protect the cable from external impacts then this should be clearly stated.

3.1.4. *Mitigation Reference 3.6* - Natural England echo our comments above in relation to mitigation reference 2.5. Installation of scour protection will in itself lead to changes to the seabed habitat and therefore from an ecological perspective we would wish to see further consideration of what the best option would be, whether that would be to install scour protection or not. We suggest that scour protection would in fact primarily be installed to ensure foundation integrity and therefore this text is currently misleading.

3.1.5. *Mitigation Reference 5.2* – Minor point, however it could be argued that the biogenic reef plan is not embedded mitigation. The plan has been developed throughout the evidence plan process and is to avoid a specific impact.

3.1.6. *Mitigation Reference 5.5* – Natural England do not agree that use of cable protection is mitigation for benthic and subtidal ecology unless the applicant is specifically referring to Electro-magnetic Fields (EMF) which is not clear here. As stated previously we do not agree that cable protection should be used as default to mitigate EMF impacts as it may greater associated impacts.

3.1.7. *Mitigation Reference 8.4 – 8.6* – Minor point, however as stated above, it could be argued these are not embedded mitigation as these are plans which have developed throughout the evidence plan process to avoid a specific impact.

3.2. **Appendix 48 to Deadline 3 Submission ISH3 Action point 13 – Schedule of Monitoring**

3.2.1. **Geophysical and Benthic Monitoring**

3.2.1.1. Overall Natural England welcome some of the clarification this document provides in emphasising what monitoring will take place throughout the Red Line Boundary (RLB) both pre and post construction. As we have highlighted previously many of Natural England's concerns in relation to benthic monitoring are in relation to the proposed Goodwin Sands pMCZ and the potential impact upon it's designated features. Comments are provided below in relation to the biogenic reef plan and geophysical and benthic monitoring pre and post-construction. This is in light of some of the information provided in the schedule of monitoring and changes to the DCO (revision C).

3.2.1.2. ***Biogenic Reef Mitigation Plan (BRMP) -*** Within the schedule of monitoring it is clear that the geophysical surveys will be ground truthed to inform the biogenic reef plan and any subsequent micrositing around areas of core reef. This is welcomed, however this ground truthing needs to be explicitly stated to be for post-construction also, to validate the success of any micrositing. We understand from the applicant that this is the intention following previous conversations, however this should be explicitly highlighted within the schedule of monitoring and the certified BRMP.

3.2.1.3. ***Geophysical and Benthic Monitoring Associated with Goodwin Sands pMCZ –*** Natural England welcomes the addition within revision C of the DCO within Schedule 12, Part 4, Condition 15 highlighting "*In the event that cable protection is installed within the Goodwin Sands rMCZ, the undertaker must conduct epifaunal monitoring and carry out ground-truthed geophysical surveys for a total period of three years, which is capable of being undertaken continuously or in one or more stages*."

3.2.1.4. This covers the effects proposed by cable protection, however we are still concerned by any potential impacts caused by sandwave clearance within the pMCZ. Sandwave clearance will not be ubiquitous to areas where cable protection will be, therefore there needs to be a widening of these post-construction, ground truthed, geophysical surveys to cover the areas impacted by sandwave clearance within the pMCZ. These surveys should include DDV and grab samples to adequately define the habitat / biotope type. This should be captured within the schedule of monitoring or within the DCO. There is some attempt to capture this in the schedule of monitoring but we consider this needs expanding and clarifying to be relied upon post consent.

3.2.1.5. To effectively determine the impact and recovery of sandwave clearance and cable protection post-construction, there needs to be adequate pre-construction data. We acknowledge and welcome that pre-construction geophysical surveys and DDV surveys will be carried out specifically for biogenic reef within the RLB of the pMCZ. However, there needs to be a widening of any ground truthing surveys to confirm the features and biotope types that could be affected by sandwave clearance and cable protection. This will provide a robust baseline to measure impacts post-construction against, in particular, will areas with rock protection become covered with sediment as stated in the MCZ assessment.

3.2.1.6. Much like the biogenic reef plan which clearly outlines the relevant requirements for monitoring, the monitoring associated with the pMCZ needs to be more clearly outlined and be in much greater detail than what has been currently presented. We acknowledge that progress has been made, but to remove any ambiguity and confusion around the objectives and methods of any monitoring it needs to be much clearer in the schedule.

3.3. Annex A to Appendix 1 to Deadline 3 Submission: project Description Transcription into the Application

3.3.1. *Paragraph 70* – It states that "This value refers to the space required for the cofferdam in the intertidal area, including the seawall extension." It is Natural England's understanding that due to the removal of Option 2 form the project envelope that there would be no seawall extension. This requires clarification from the Applicant.

3.3.2. *Paragraph 107 (Bullet Point 2)* – The total Inter-array cable O&M cable works equal 2,985,000 m^3 of disturbed sediment. This is more than three times the volume of disturbed sediment from inter-array and cable installation (948,000 m^3) during construction. Natural England understand this is the worst case scenario and repairs may be unlikely to occur at this scale. However, to gain consent for such a large volume of disturbance without sufficient impact assessment at the time of any O&M works would be worrying. We therefore encourage the applicant to successfully bury any cable sufficiently in the first instance, drawing on the vast array of evidence from the original Thanet cable and the recent NEMO cable installation. Additionally, it would be welcomed if the number of O&M inter-array cables repairs and thus the disturbance volume, could be refined further.

3.4. **Annex B to Appendix 1 to Deadline 3 Submission: MCZ Chart Illustrating Goodwin Sands with Relevant Projects**

3.4.1. Natural England welcome the inclusion of the this figure highlighting the proximity of the Dover Harbour Board (DHB) dredge area and the Applicant's red line boundary. However, as raised within our response at Deadline 3 the area of impacted habitat from both this application and the DHB dredge area should be considered in combination in the MCZ assessment. We acknowledge that both projects will occur at different times, but within the environmental impact assessment (EIA) for the DHB dredge, it states recovery upon subtidal sand would take 5 years. Therefore, the applicant needs to acknowledge and demonstrate that 'x' amount of habitat (and MCZ features) will be in an impacted state, due to both the cable installation for Thanet Extension and the DHB dredge and demonstrate recovery is feasible despite both projects occurring.

For any queries relating to the content of this letter please contact me using the details provided below.

Yours sincerely,

Will Hutchinson

Marine Lead Adviser – Major Casework
E-mail: william.hutchinson@naturalengland.org.uk
Telephone: 0208 22 56002