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To Natural England
For information to all Interested Parties

Your Ref:

Our Ref: EN010080

Date: 6 March 2019

Dear Sir/Madam

Planning Act 2008 and the Infrastructure Planning (Examination Procedure) Rules 2010 – Rule 17

Application by Orsted Hornsea Project 3 (UK) Ltd for an Order granting Development Consent for the Proposed Hornsea Project 3 Offshore Wind Farm

Examining Authority's Request for Further Information

The questions set out below are directed to Natural England. However, this does not prevent an answer being provided to a question by a person to whom it is not directed, should the question be relevant to their interests.

Please respond by **Deadline 7 – Thursday 14 March 2019**.

Ref	Question/request for further information from Natural England
Statements of Common Ground	
F2.1	Written questions Q2.2.1 and Q2.2.37 requested the submission of agreed Statements of Common Ground for benthic ecology and offshore ornithology by D6. Please submit these statements using the required headings noting any areas where there will be no agreement.
General Benthic Issues	
F2.2	You submitted geographical data at D4 [REP4-131, REP4-132] and an associated report by Vanstaen & Whomersley (2015) [REP4-140]. Please submit a text document that contains the justification for assigning a 500m buffer to the reef layer.

Cable Specification Installation Plan	
F2.3	In your D6 submission [REP6-049] you state that the rock protection within MPAs would be 10% plus 25%. The ExA understands that 25% is the replenishment rate of the maximum design scenario where up to 10% of the cable route within MPAs would require protection during the lifetime of the project. If this is correct, how do you arrive at a figure of 35%? In paragraph 12 of your submission you seek clarification on the maximum design scenarios, can you explain your concerns more fully?
Cable Trenching Assessment	
F2.4	Please explain why you think that the trenching assessment [REP6-026] should consider more than the direct areas of overlap between the MPAs and the cable corridor as stated in paragraph 9 of your D6 submission [REP6-048].
F2.5	In paragraph 7 of your D6 submission [REP6-048] you raised questions about how the insights from the trenching assessment would be implemented and incorporated into the Cable Specification and Installation Plan (CSIP). However, the Applicant appears to have set out how this would occur through liaison with an Ecological Clerk of Works and ongoing dialogue. Please explain why you do not think that this would be adequate. What specific measures do you suggest?
F2.6	You note in paragraph 10 of your D6 submission [REP6-048] that the Applicant hasn't considered mixed sediments. The ExA notes that they are not listed in table 4.2. Do you have any further clarification from your geologist to be able to elaborate on this point? Do you have any further comments on the adequacy of the ground model?
F2.7	Please explain how seeing the detail of the geotechnical surveys undertaken in 2018 within the Wash and North Norfolk Coast Special Area of Conservation, as set out in paragraph 13 of your D6 submission [REP6-048], would inform your views and help the examination at this stage?
F2.8	Please elaborate on the point you made about Edmond Ground in paragraph 15 of your D6 submission [REP6-048]. How does this relate to potential impacts on site integrity.
F2.9	You have suggested in paragraph 16 of your D6 submission [REP6-048] that the Applicant might not be able to trench through Boulder's Bank because of the stiff clay. This contradicts the applicant's tool assessment which highlights two viable trenching options. What technical evidence or direct engineering experience have you drawn upon to suggest that either mechanical trenchers or cable ploughs would be unsuitable under these circumstances? What are JNCCs views and how are they informed by direct engineering knowledge of the equipment that would be used? If cable

	trenching has been unsuccessful elsewhere was the trenching equipment the same in all respects as the equipment that would be used in this project?
F2.10	You queried the consistency of the chalk in paragraphs 19 and 21 of your D6 submission [REP6-048]. What, if anything, do you infer from the fact that all of the sample cores readily penetrated the chalk up to a depth of 6m? If there was no impedance why would a mechanical trencher not work under these circumstances?
Cable Protection Decommissioning	
F2.11	The Rock Protection Decommissioning Report submitted at D6 [REP6-018] states that rock protection measures could be removed either with a Trailing Suction Hopper or a Backhoe Dredger. If up to 30cm of seabed was removed, would you still conclude that the removal of the rock protection would lead to the permanent loss of interest features? Would this conclusion apply equally to all features or would some have a greater potential for recovery? If so, which ones? Do you have any other comments to make regarding this report?
F2.12	The Applicant has highlighted the fact that some studies suggest a greater frequency of rocky habitats previously occurred in the North Sea and that significant infaunal and epifaunal communities, including sabbelariid reefs, can develop on rock berms [REP1-138]. What are your views? Could the rock protection lead to 'no net loss' of biodiversity in its broader sense? What would be the consequences of removing rock protection under those circumstances?
F2.13	In your D6 response [REP6-055] you state that you would welcome the inclusion of a commitment to remove rock protection in the dDCO but you then go on to state that it no longer provides mitigation and that you have significant concerns over its effectiveness. Why would a condition be justified if it would not provide the necessary mitigation?
North Norfolk Sandbanks and Saturn Reef Special Area of Conservation	
F2.14	You referred to a 'standard set of analyses' in your D6 response [REP6-47] to a D4 submission [REP4-097]. Please indicate where this standard has been established, whether it has been subject to peer review in an academic journal and the extent to which benthic researchers apply the analysis you favour in the peer reviewed literature. If there is more than one accepted way to analyse benthic data why is the approach used by the Applicant unacceptable?
F2.15	In your D6 response [REP6-47] you stated that the methodology used by the Applicant, which includes the techniques highlighted in Jenkins et al. (2015), was not 'scientifically rigorous'. Could you explain why you consider this to be the case and whether this was related to the sampling strategy,

	sample processing, measurements or the processing of the resulting data? In your view, what should have been done differently and why?
The Wash and North Norfolk Coast SAC	
F2.16	You raised a number of concerns in your D6 submission [REP6-051] in relation to the revised in combination assessment for this site [REP3-024]. You noted that the assessment did not include Race Bank or explicitly consider permanent loss from cable protection. Please explain these comments in more detail bearing in mind, among other things, the content of section 3 and table 3-1 of [REP3-024]. You have also noted a failure to consider the 'Large Shallow Inlet and Bay' feature. What did your own data from the MAGIC website show? If there was no overlap with the cable export corridor why should it be considered in the assessment?
Cromer Shoal Chalk Beds Marine Conservation Zone (MCZ)	
F2.17	In your D6 submission [REP6-050] you recommend further discussions with relevant parties over Measures of Equivalent Environmental Benefit (MEEB). Section 126(5) of the Marine & Coastal Access Act (2009) states that authorisation should not be granted where harm might be caused unless three tests are met which includes arrangements for MEEB. Section 126(9) requires an authority to attach conditions to an authorisation in order to secure MEEB. As a consequence, and given your unresolved concerns, is it the case that consent cannot be granted for the proposal unless MEEB are secured through the dDCO? If this is the case then what would be your advice to the SoS?
Markham's Triangle pMCZ	
F2.18	Do you consider that the proposed reduction in the maximum design envelope within Markham's Triangle and removal of cable/scour protection would reduce the risk of hindering the conservation objectives to an acceptable level at this site? If this is not the case, do you also advise that MEEB should be secured for this site?
F2.20	If Markham's Triangle is designated as an MCZ before the SoS determines the application, is it the case that consent cannot be granted for the proposal unless MEEB are secured through the dDCO? If this is the case then what would be your advice to the SoS?
F2.21	In your D4 response [REP1-131] you raised concerns over inconsistencies in biotope classification compared to Sotheran et al. (2017). Given that the majority of samples were in the eastern part of Markham's Triangle, away from the array area, how can this survey be considered representative and why do the inconsistencies matter? Whilst some samples indicated a different biotope in the western area, the Applicant considers that there would be no significant difference in recoverability given the similarity to what was identified in their own analysis [REP5-008]. How do you respond? Sotheran et al. (2017) states that 'biotope allocation can be subjective and dependent on the opinion of the analyst'. If there is no objective method of

	assigning biotopes could the differences not simply be the result of subjective similarity thresholds that were used in the cluster analysis?
F2.22	In your D4 response [REP1-131] you stated that the applicant has not undertaken MCZ assessments in a way that allows the best scientific understanding of the potential impacts. Can you be more specific about what, in your view, needs to be done to enable the impacts to be more clearly understood for both Markham's Triangle and Cromer Shoal Chalk Beds?
Cumulative Benthic Effects	
F2.23	In your D4 response [REP4-130] you stated that repetitive impacts on the same benthic footprints had not been adequately considered between different stages of installation and under a phased scenario. The Applicant disputes your position and has stated that no recovery was assumed between different phases of installation [REP1-178] and that the approach to assessing cumulative impacts was no different to other projects [ERP4-012]. In the light of these comments what are your outstanding concerns and are they sufficient to conclude that the cumulative impact assessments are flawed? If so, please suggest how this should be remedied..
Marine Mammal Site Integrity Plan	
F2.24	You stated at ISH5 [REP6-055] that you were awaiting general guidance on Site Integrity Plans (SIP) from BEIS and the MMO as part of the Review of Consents. Do you have any further information?
F2.25	You stated at ISH5 [REP6-055] that you required a mechanism to enable regulators to consider the impact of multiple SIPs occurring over varying timescales and that procedural elements need to be in place to ensure noise generating activities do not happen at once. Do you have any suggestions about how this could be achieved bearing in mind the legal scope of the dDCO?
Ornithological Collision Risk Model	
F2.26	The Applicant submitted a revised Collision Risk Model (CRM) analysis at D6 that includes your recommended parameters [REP6-043]. Leaving aside the baseline data issue, please can you indicate precisely which aspects of this analysis accord with your original recommendation and how any relevant results would alter the baseline mortality estimates for gannet and kittiwake, as set out in tables 7.13 and 7.17 of [APP-051] and tables 5.26 and 5.27 of [APP-065]. Please address whether the apportioning outside the core breeding season is realistic and give a reasoned justification for your conclusion. In your D1 submission [REP1-211] you recommend the use of Option 2 but do not specify which generic height data should be used. Please indicate your preferred choice. Please also submit a table showing what CRM parameters you feel should be applied to each species and the publications that justify each of your choices, these should include: proportion flying at risk height, windfarm latitude, nocturnal activity factor,

	flight speed (m/sec), wing span (m), bird length (m), flight style, proportion of upwind flights, avoidance rate for the basic model and avoidance rate for the extended model.
F2.27	In your D1 response [REP1-211] you use Johnston and Cook (2016) as one of the reasons for rejecting the use of boat-based observations of flight height from earlier Hornsea projects when used in conjunction with digital aerial survey data. Why does this matter when: a) the same study shows that there was only a significant overall difference in height estimation between the two methods for gannet and Sandwich tern; and b) a supplementary aerial survey [REP2-017] indicates that the flight heights recorded during boat-based surveys are representative of flight behaviour of birds in the array area when recorded by more accurate means.
F2.28	In your D3 response [REP3-075] you state that the flight height data in Skov et al. (2018) are not more widely applicable because the results relate to a single site outside the breeding season. Figure 3.4 of Skov et al. (2018) seems to suggest otherwise. Please explain the basis for your view that flight height measurements in this study did not occur during the breeding season. Given that Pennycuick 1987 relates to a single site why is it more acceptable to use this as the basis for gannet flight speed estimation in a CRM rather than Skov et al. (2018) which has a larger sample size? What evidence do you have to suggest that flight speed varies in a statistically significant manner between spatially distinct seabird populations?
F2.29	In your D6 submission [REP6-055] you stated that you were in the process of reviewing Bowgen and Cook (2018) and the implications it has for SNCB advice on collision risk modelling parameterisation. Please provide a summary of your conclusions in relation to this study. If the recommendations in JNCC (2014) have changed then please include any revised Apportioning Rate (AR) and flight height values and provide a view on the implications this has for the CRM analysis that informed the ES and RIAA.
F2.30	The following publication does not appear to be present in the examination library: JNCC et al. (2014) Joint Response from the Statutory Nature Conservation Bodies to the Marine Scotland Science Avoidance Rate Review, 25th November 2014. Please submit a copy.

Yours faithfully

David Prentis

Lead Member of the Panel of Examining Inspectors

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