
From: Brown, Emma [mailto:Emma.Brown@naturalengland.org.uk]

Sent: 08 February 2019 17:22

To: Hornsea Project Three

Subject: Hornsea Project Three Deadline 6 Submissions

Good Afternoon,

Please find Natural England's Written Submissions for Deadline 6 of the Hornsea Project Three Offshore Windfarm examination attached.

This includes our written summaries of the Offshore Ecology and DCO Issue Specific Hearings, along with several Annexes which are provided in response to requests made by the Examiner.

Please note Natural England are not providing a response to the Examiners' questions relating to Markham's Triangle MCZ within this submission.

Natural England has reviewed the relevant documents in consultation with JNCC and have prepared a response but we have subsequently received an email from the Applicant offering further clarification. Unfortunately it has not been possible for us to consider this new information in time for today's deadline, but we intend to give this further consideration and provide a response in due course.

Kind regards,

Emma

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Please note I currently work Monday - Thursday

<http://www.gov.uk/naturalengland>

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THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

HORNSEA PROJECT THREE OFFSHORE WIND FARM

Planning Inspectorate Reference: EN010080



NATURAL ENGLAND

WRITTEN SUBMISSION FOR DEADLINE 6

**ISH 5 Annex B: Natural England's comments on REP5 – 010 Preliminary
Trenching Assessment (PTA)**

Dated 7th February 2019

Natural England's comments on REP5 – 010: Preliminary Trenching Assessment (PTA)

Summary

1. Whilst these comments are provided in the spirit of trying to find common ground; it should be noted, that it may not be possible, even with the potential provision of further information, to satisfactorily address all of our nature conservation concerns and thus change our advice/position as set out in our Written Representations at Deadline 1. However, this is not to say that any further information and/or revisions wouldn't help inform any risk based decisions made by the competent authorities.
2. Natural England is in the process of seeking further advice from our geologist on the ground modelling outputs, but thought it would be helpful in the interim to provide our initial comments.
3. We believe that this document provides some of the necessary information to determine the likelihood of achieving cable burial, but as it stands it falls short of being able to change our position, as the burial assessment does not go far enough in considering the potential burial risks.
4. The document states there are various cable tools that could work in each soil type, but does not give an indication of what % change of burial it thinks this will lead to given the options. It would be helpful to gain a better understanding of this.
5. Whilst we think the lessons learnt are good; but they haven't been translated across sufficiently to look at analogous soil types in each section and whether the lessons learnt and proposed solutions (which are scant aside from gathering more data) will reduce risk of cables not being buried and by how much.
6. What we would like to see included is:
 - the % chance of burial evidenced in each section of the route through the MPAs using the geotechnical information and experience from other projects;
 - where the Applicant has high confidence that cables can be sufficiently buried evidenced and where it is realistically lower ;
 - Agreed, High, Med, Low risk of burial across sections of the cable route; and
 - The sections broken down into the sediment/habitat types/characteristics.
7. In addition there is no discussion on how the Applicant will ensure that the successful contractor will be able to deliver on the ground what is set out in this document– this is needs to also be considered in both the Cable Specification and Installation Plan (CSIP).

Detailed Comments

8. Section 1.2: This assessment is based on the Applicant's knowledge of the site, but because some of the geophysical data has not been available to Natural England we are unable to agree with all of the conclusions. Therefore we are still considering the confidence level of evidence presented and survey intensity and will provide further comments in due course.
9. Section 3.1: It should be noted that the whole of the MPAs are designated features and therefore we query why are only parts of the designated sites being considered?
10. Section 4.1: This section makes assumptions in relation to our concerns and doesn't acknowledge mixed sediment. With further input from our geologist we hope that we might be able to be clearer on where we think there may be more of an issue.
11. Section 4.1: Ground modelling – we are still in the process of considering how much confidence we have in the modelling. But it would be helpful to understand how similar it is to modelling undertaken for other projects that have already constructed. At 4.3 it is stated that ground modelling is iterative and is effectively only as good as the data available which then begs the question - how much more is needed to ensure the conclusions are sufficiently robust.
12. Section 4.1: Whilst we welcome the further work The Applicant has undertaken we will need further information before we will be able to provide clear advice if it is sufficient to allay our concerns or not.
13. Table 4.1: We haven't seen the detailed output from the geotechnical surveys undertaken in 2018 within The W&NNC.
14. Figure 4.1: There seems to be more focus on geotechnical investigations along the dog leg outside of The W&NNC SAC/ Cromer Shoal MCZ and question whether there is a reason for this. We note that the geotechnical surveys are away from the near shore and where EIFCA found suspected cobble reef, which is more likely to be a challenging area for cable burial.
15. Table 4.2: JNCC is not aware of Edmond Ground being referenced in NNSSR. It would be good to get confirmation as to whether the Applicant would expect to encounter that formation either (a) on the surface (presumably not) or (b) when clearing sand waves, i.e. is there any way in which that formation will end up on the surface? We advise that Botney Cut and Bolders Bank are much more familiar and their description seem consistent with everything else previously noted for the site.
16. Bolders Bank is the still till that would be the most difficult to trench through. JNCC is currently checking to see if they have further information on the formations and their stiffness / trench-ability. We believe that the Bolders Bank formation is about 5-10m down, so that would suggest there may be some interaction.
17. Figure 4.2: We are concerned about the consolidated mixed sediment/geogenic

reef that we saw on the DDV data within the NNS SAC (close to the Dalek arm). That area could potentially be a more difficult area to install cables and one where rock armouring would be a concern.

18. Section 4.4: It would be helpful if the geophysical survey data for W&NNC were presented
19. Section 4.5: In the Applicant's opinion, how would the structure-less chalk likely behave when trenching occurs? If it is structure-less, but still consolidated like mixed sediment we would highlight that this particular substrate is likely to be difficult to install cables in.
20. Section 4.8: There is an issue about visibility of base layer in the geophys. layer which adds uncertainty, but it is unclear how much. Could the Applicant provide more clarity?
21. Section 4.33: It would be useful to understand how this chalk differs from parameters for Thanet chalk where inter-array cables could not be buried. Is the applicant's view that it is softer?
22. Section 5.1: A cable burial risk assessment would also take into account the risk posed to the cables if insufficiently buried. This will be different depending on the sediment type and the activities occurring in particular areas. For instance there may be limited activities so lower risk, or lower likelihood of bigger vessel with larger anchors in shallow water due to limited vessel draft.
23. Section 6.2: We would welcome evidence that Sheringham and Dudgeon cables are in similar sediment/ geology types. Statements in this section are not supported by evidence. Also Sheringham used a cutting tool to cut a groove in the chalk which provided natural protection around the cables. Exit pits seem to be a problem on several projects and it would be useful to understand why, and if something can be done to minimise the impacts and need to protect. Also for Sheringham and Dudgeon there is limited survey data prior to construction and afterwards to compare against as there wasn't an MCZ at the time of agreement on the scope of monitoring and the pre-construction survey data for Sheringham was considered unusable by Natural England.
24. Race bank lessons learnt: This section is very useful and characterises the issues encountered, but does not state how they will be resolved or increase chances of burial for Hornsea Project 3 cable aside from gathering more information. We need to understand whether gathering more information will just yield more understanding of where burial is likely to be a problem pre installation, or whether it will increase the chances of burial because something can be changed or done differently. It also doesn't evidence how analogous soil types on Hornsea Project 3 cable route are compared to Race Bank.
25. Section 6.4: Natural England queries if there is a solution. Would a different tool have achieved burial, or is there always likely to be less burial in this sediment type? What is bearing capacity and what effect does it have? More detail is

required in this section.

26. Section 6.5: As above – understanding is good, but will this actually increase chances of burial or are burial chances reduced in this soil type?
27. Section 6.6: How do we make sure that there is sufficient slack in the cables to ensure there is contingency to avoid cable protection in designated sites?
28. Rampion lessons learnt: This gives some confidence that Rampion found tools which sufficiently buried their cables in harder chalk rock. However, it should be noted that there has been no monitoring of the impacts of cable installation in chalk. Natural England's assumption would be that there is scarring along the cable corridor the width of the plough track in chalk unless it is covered with mobile surface sediments.
29. Section 8.3 '*...this does not mean that cable burial can be guaranteed and negate the requirement for remedial burial and/or protection. External factors outside the applicant's control should be considered such as adverse weather conditions, unforeseen ground conditions and mechanical breakdown*' As this is a cover-all statement can the Applicant provide a realistic worst case scenario or is it a case that the position remains unchanged in relation 10% cable protection?