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Subject: Natural England Deadline Three Submission for Hornsea Project Three
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Attachments: [EN_10080_NE_Hornsea_Project_three_Deadline_3_Submission_-_ISH_4.pdf](#)
[EN_10080_NE_Hornsea_Project_three_Deadline_3_Submission_-_ISH_1_\(002\).pdf](#)
[EN_10080_NE_Hornsea_Project_Three_Deadline_3_Submission_-_ISH_2_PART_1_-_Ornithology.pdf](#)
[HP00066_101_HOW03_HiDef_Method_statement_20160401.pdf](#)
[EN_10080_NE_Hornsea_Project_Three_Deadline_3_Submission_-_ISH_2_PART_2_-_Benthic.pdf](#)
[EN_10080_NE_Hornsea_Project_Three_Deadline_3_Submission_-_ISH_2_PART_2_-_Benthic_Annex_2.2B_Response_on_REP2-004.pdf](#)
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Hello,

Please find attached Natural England's Deadline Three Submission.

This includes the following documents:

- EN 10080 NE Hornsea Project Three Deadline 3 Submission - ISH 1
- EN 10080 NE Hornsea Project Three Deadline 3 Submission - ISH 2 PART A – Ornithology
- HP00066_101_HOW03_HiDef_Method_statement_20160401 (Submitted as appendix 5 of ISH 2 Part 1)
- EN 10080 NE Hornsea Project Three Deadline 3 Submission - ISH 2 PART 2 – Benthic
- EN 10080 NE Hornsea Project Three Deadline 3 Submission – ISH 2 PART 2 – Benthic Annex 2.2A – Review of Applicant's response to IP response to ExA Questions – Benthic Ecology
- EN 10080 NE Hornsea Project Three Deadline 3 Submission – ISH 2 PART 2 – Benthic Annex 2.2B – Response on REP2-004
- EN 10080 NE Hornsea Project Three Deadline 3 Submission - ISH 3
- EN 10080 NE Hornsea Project Three Deadline 3 Submission - ISH 4

Kind regards,

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Please note I currently work Monday - Thursday

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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 3 – Issue Specific Hearing 2
Part 2: Benthic

Dated 14th December 2018

Contents

1. INTRODUCTION 3
2. WRITTEN SUBMISSION OF THE ORAL ANSWERS PROVIDED TO QUESTIONS AT THE ISSUE SPECIFIC HEARING 2 ON WEDNESDAY 4TH DECEMBER 2018 4
3. ANNEX 2.2A RESPONSE ON THE APPLICANTS RESPONSE TO OTHER PARTIES RESPONSE TO EXAMINERS QUESTIONS ON BENTHIC ECOLOGY
4. ANNEX 2.2B NATURAL ENGLAND AND JNCC RESPONSES TO APPLICANT'S RESPONSES TO NATURAL ENGLAND WR IN RELATION TO BENTHIC ECOLOGY

1. INTRODUCTION

1.1 This submission follows the 2nd Issue Specific Hearing (ISH) on Agenda Item 5: Benthic Ecology for Hornsea Project 3 which took place at Mercure hotel Norwich, on the 5th December 2018 and details the oral responses to questions asked of Natural England during that hearing.

1.2 This submission consists of responses from Natural England to questions raised at the Issue Specific Hearing on Wednesday 5th December 2018 in relation to benthic ecology. In addition we have provided further written clarification in relation to our view on the Applicants response to other parties' responses to the Examiners first set of written questions on benthic ecology and updates on requested evidence to support Natural England's position

2. WRITTEN SUBMISSION OF THE ORAL ANSWERS PROVIDED TO QUESTIONS AT THE ISSUE SPECIFIC HEARING ON WEDNESDAY 5th DECEMBER 2018.

Representing Natural England: Louise Burton, Charles Forrest and Emma Brown

Agenda Item 5 - Benthic Ecology

a) Baseline Characterisation

The Examiner: Q 1.2.13 why didn't you (Applicant) take grab samples when you did inshore reroute.

1. Natural England has fundamental concerns over the Applicants' written representation and Environmental Statement. Natural England does not find the explanation of grab-sampling and extrapolation is sufficient. Therefore, our position that there is reasonable scientific doubt that there is a high risk of adverse effects on the integrity of the Wash and North Norfolk Coast SAC remain unchanged.
2. Natural England refer the Examiner to Annex D 7 2.2.1 – 2.2.4 that states that the grab samples and geophysical information is insufficient to support the application. The further Drop Down Video (DDV) data presented in a further clarification provided by the applicant at Deadline 1 (REP1-140) does provide sufficient confidence in the biotope mapping for Environmental Impact Assessment, but does not allay out concerns on the potential impacts to the designated site features and the Habitats Regulations Assessment undertaken.

The Examiner: Reference to Q1.1.40 and 1.1.22 Natural England have "residual concerns" over cable burial in SAC. Equipment and schedules, for instance.

3. Natural England notes that the Applicant has provided a cable protection clarification note (REP1–138) and agrees that overall the 10% protection seemed reasonable along the length of the cables, but we not believe that this is acceptable within designated sites. The main issue is the loss of Annex I habitat which does not meet the requirements of the 'maintain' conservation objectives for the site and because unable to remove at the time of decommissioning would be a permanent impact. There was not sufficient evidence presented to agree with the Applicant and our experience of cable installation within the Wash and North Norfolk Coast is that cables where unable to be installed to the optimum burial depth in similar stable coarse and mixed habitats.
4. Natural England advises that the "mixed sediment" and also coarse sediment habitat are sub features of the Annex I Sandbanks slightly covered by water all of the time and that currently the conservation advice package doesn't stipulate that the Annex I Large Shallow Inlet and Bay feature and associated sub-features only applied to The Wash. Therefore Large Shallow Inlet and Bay conservation objectives apply to the whole site including the North Norfolk Coast.
5. Natural England considers that the Rank Bank cable installation is relevant to the Hornsea Project three project. And further geotechnical evidence would be need to be submitted to demonstrate that the installation tools would work for Hornsea three Project when they have failed for Race Bank.

The Examiner asked the Applicant to submit chalk consistency analyses for the cable corridor.

6. The Applicant agreed, but cited issues of confidentiality. Natural England noted that this is the first time we were aware of the evidence. Therefore at this time our advice provided in our Written Representations in Appendix D1 and D5 remains unchanged

b) *Designated Features*

The Examiner: Natural England say potential adverse effects cannot be ruled out for sandbanks and reefs (North Norfolk and Sandbanks and Saturn Reef SAC).

7. Natural England confirms this to be correct.

The Examiner: How should impacts to impacts to MCZs be assessed.

8. Natural England highlights that consideration of impacts to MCZs is new to offshore windfarm NSIPs. Both Hornsea Project 3 and Thanet Extension have the potential to impact upon MCZs. Because there is no precedence from previous examinations, we recommend that MMO guidance is followed as this will enable join up between consenting assessments and those that would need to be undertaken by the MMO post consent to discharge DML conditions.
9. The MMO undertook an MCZ assessment for recent Hornsea Project 3 geotechnical investigations and we would support an assessment following a similar format assessing the impacts against the conservation objectives for the MCZ.
10. Natural England confirms that Cromer Shoal Chalk Bed MCZ is designated and has a complete Conservation Advice package. However, Natural England is advising Eastern Inshore Fisheries Conservation Agency (EIFCA) on byelaws within the MCZ to manage fishing activities.
11. Markham's Triangle is now a recommend MCZ listed by DEFRA as currently under consideration for designation. As such there are higher level conservation objectives for the three interest features for the site. Both Natural England and JNCC believe that there is sufficient information within those objectives to complete an assessment of the impacts to future proof the project, especially as these features are the same as those within Cromer Shoal Chalk Beds MCZ and others.

Further information presented by Natural England at ISH

12. Natural highlights that the higher level conservation objectives for the designated site also have a 'maintain' or 'restore' objective relating the favourable condition status of the feature/site. Please note that North Norfolk Sand Banks and Saturn Reef SAC is already in unfavourable condition, thus any human activities which can cause pressures resulting in changes to substratum or biological communities may present further risk to the site's restoration and hinder the conservation objectives for the site
13. In addition Natural England has undertaken a recent condition assessment on The Wash and North Norfolk Coast SAC which is not yet published. Race Bank and Lincs OWFs have routed cable through this site and these areas will be labelled as unfavorable due to cabling.
14. Subsequent to the ISH Natural England can confirm that the condition assessment will be published prior to the next set of ISH for Hornsea Project Three.

Examiner asked if these sites were favorable prior to cabling.

15. Natural England confirmed that the reason for the unfavorable declining status is because of the ongoing cable installation activities and because there is no management/restoration plan in place as allowing natural processes to occur it cannot be considered at recovering at this time.

Examiner Q1.2.100 Cable installation risk to North Norfolk Coast – originally directed as written question to the applicant

16. Natural England doesn't agree with the applicant that sufficient empirical evidence has been presented to allay our concerns that there is *'high risk of significant impacts to designate features of The Wash and North Norfolk Coast Special Area of Conservation from cable installation and associated activities and that the Worst Case Scenario (WCS) is inadequate.'*
17. Since the relevant representation three clarification notes: (i) Sandwave Levelling (REP1-183); (ii) Cable Protection (REP1-138); and (iii) Dropdown Video data (REP1-140) sets have been provided to NE and submitted by Applicant at Deadline 1. Taking each one in time we can summarise as follows:
- i. Sandwave Levelling: Evidence from Race Bank OWF suggests that there is the potential for recovery in areas where sandwave levelling has occurred. But the level of recovery is not yet to same degree as that of the surrounding habitat and different between sites. In addition there is no indication as to which areas would need to be levelled and where the deposits would be placed. Significant concerns remain as to the Annex 1 sandbanks, as well as other Annex I habitat that may be smothered. In addition, any sediment that leaves the site is classified as "removal". Please see **Natural England Written Rep Appendix D2** and our response to Applications response to interested Parties response to examiners questions submitted at **Annex 2.2A to this response**
 - ii. Cable Protection: Natural England notes that some good evidence has been submitted in their cable protection paper (REP1-138) to support the proposed 10% of the cable requiring protection outside of designated sites, but not within. This is because it would result in habitat loss and outstanding questions in relation to the ability to a) installation cables due to out cropping rock and/or the effectiveness sandwave levelling to remove the need for further cable protection.
 - iii. Additional survey data within alternative cable route: The further information submitted at Deadline 1 by the Applicant is sufficient for classification purposes, but not to allay our concerns in relation ability to install cables and feasibility to micro-site. Please see Natural England's WR Appendix D1. Further evidence from recent EIFCA survey supports Natural England view that there is a high risk to geogenic features in this area. It is hoped that this data can be submitted during the examination process to inform any Appropriate Assessment.
18. In terms of the applicants assessment of "long-term temporary" we've stipulated for cable protection to be considered as such it must be removed. However, evidence from other projects have demonstrated this is not possible. We also note that the Applicant only considers cable protection permanent at the decommission stage.
19. Further to the ISH Natural England clarifies that under the Habitat Regulations we advise that based on best available evidence at this time i.e. cable protection won't be

removed, when cable protection is placed on the seabed during the construction phase it should be considered as permanent and not at the time of decommissioning.

20. In addition it should be noted whilst the developer has included the most appropriate cable installation tools in the application there is still no evidence provided to support level of success. To date within the same SAC for the Race Bank project installation even with all the same tools has not gone to plan and impacts have still been detrimental to the environment as a consequence. In addition, there was considerable cost to all parties concerned. These situations in relation to cable installation are becoming more frequent and deflects Natural England away from more environmentally-sound projects. Please see Natural England cable installation paper provided at Deadline 1. We don't wish to criticise specific projects, but it's a pertinent observation.

The Examiner: The Applicant cannot respond due to lack of specificity of the 'other projects' within Natural England cables paper provided at Deadline 1

21. Natural England commented that irrespective of the project the impacts have happened. Natural England are simply trying to learn from those situations and make sure issues are dealt with up front and not during installation when time is constrained and impacts to sites and features are then unavoidable. It is not for comparison with Hornsea Project 3.
22. Natural England reiterates that from the survey data received Natural England cannot say without reasonable scientific doubt there won't be adverse effects. Natural England also needs information on feasibility for micro-siting and routing. From Natural England's extensive experience we have serious concerns regarding the cable installations. The installation may be satisfactory, but decommissioning remains an issue and dredging is also a concern. There will either be loss of habitat by leaving the cable protection in-situ or from the removal if dredging is used as proposed for Race Bank.

The Examiner queried if there be sufficient data due to ephemeral nature of reefs to inform micro-siting.

23. For clarity Natural England highlights just because reef habitat was absent during the Applicant's survey and has not previously be recorded in that particular survey area; it doesn't prove beyond reasonable scientific doubt that it hasn't been there previously or be there in the future. It is often the case as with parts of the W&NNC SAC and Saturn Reef that particular survey campaigns have not targeted all areas of the site. This is mostly due to the size of the site, how recently it was designated and costs of such surveys.

The Examiner: Where will you put the sediment?

24. The Applicant stated that the whole cable corridor will be used for sandwave clearance; but we won't remove material from SAC. Natural England has concerns with this and will follow up with the MMO and the Applicant prior to the next ISH

The Examiner: Queried the recoverability of Annex 1 sandbanks.

25. Natural England stated that based on the evidence from Race Bank sandwave levelling The Wash and North Norfolk has the potential to recover, but Natural England doesn't have evidence of full recovery and what they may look like. Some locations of

sandwave levelling for Race Bank showed some signs of recovery, but other areas have shown limited recovery. There is also impact on the surrounding areas that needs to be taken into consideration. Natural England have focused on evidence for their written representation in Appendix D2 and we believe uncertainty on the impacts with designated site remain.

The Examiner in reference to PQ 1.2.98 asked for a definitive list of sub-features of SACs.

26. Please see tables below

Overarching site:	The Wash & North Norfolk Coast European Marine Site
Site name:	The Wash and North Norfolk Coast SAC
Designation type:	SAC
Site identification:	UK0017075
Qualifying features (click to see site specific description):	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) Coastal lagoons Harbour (common) seal (<i>Phoca vitulina</i>) Large shallow inlets and bays Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>) Mudflats and sandflats not covered by seawater at low tide Otter (<i>Lutra lutra</i>) Reefs Salicornia and other annuals colonising mud and sand Sandbanks which are slightly covered by sea water all the time
Designated area (ha):	107761.28
Component Sites of Special Scientific Interest (SSSI):	Gibraltar Point SSSI North Norfolk Coast SSSI The Wash SSSI

Site name:	North Norfolk Sandbanks and Saturn Reef SAC
Designation type:	SAC
Site identification:	UK0030358
Qualifying features (click to see site specific description):	<p>Reefs</p> <p>Sandbanks which are slightly covered by seawater all of the time.</p>
Designated area (km²):	3,603

Component Sites of Special Scientific Interest (SSSI):	N/A
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c) *Benthic Sample Size*

The Examiner: Sample proportion?

27. Whilst this is an action for the Applicant Natural England highlights that of the desked based data sets used only an additional 9 samples were included and were not within the revised cable corridor in The Wash and North Norfolk coast. The location of the sampling site is also important. The survey within the Cromer Shoal Chalk Beds MCZ was good, but the datasets referred to are some distance away that Natural England has limited confidence in the extrapolation especially in relation to reef features. Therefore we are unable to advice on the feasibility of any proposed micro-siting.

The Examiner queried if there are historic grab samples.

28. Natural England confirmed that there are historic grab samples which the applicant has used, but refers the examiner to our previous response

29. Whilst the Applicant stated that Cromer Shoals MCZ is chalk-based and immediately adjacent to The Wash and North Norfolk SAC and therefore it is a reasonable assumption that the habitats are similar. Natural England remains concerned the survey data that has been provided could be WCS predominantly geogenic reef or transitional habitat that is important part of the Annex I habitats

d) *Biotope Classification*

30. No Comment provided

e) *Cable Protection Measures*

The Examiner: What's the extent of the protection? Is there good evidence or do we need more detail to manage risk to the SACs?

31. Natural England needs more detail and evidence regarding cable protection and the risks to the SACs.

The Examiner: Risk assessment post-consent

32. Natural England provided cable assessment paper for Deadline 1 and concluded there was uncertainty around cable installation. The Cable risk assessment should be provided sooner rather than later. If not, as per Race Bank, there is an assumption that cables will be laid. As per the ES, we know there are implications, it is therefore more appropriate to consider at this time.

The Examiner asked does Natural England mean before the end of the examination period.

33. Natural England confirmed it would like the risk assessment for the cable protection before the end of the next examination period.

The Examiner commented that the hardness of chalk is a particular issue, but Hornsea 3 is weaker.

34. The Applicant argued that it is almost impossible to provide the location the rock armour will be placed, as requested by Natural England.
35. Natural England confirms that in relation to Race Bank OWF it would be useful to know how much of reburial works and proposed cable protection is within The Wash and Inner Dowsing, Race Bank and North Ridge SACs and on what habitats. This would help understanding in relation to the comparability of features that could be impacted. It should also be noted that some features are quite limited in a site, therefore damage to these are a significant impact.
36. Natural England also questions how much of the 6% from Race Bank lies within Marine Protection Areas. Natural England's concern is for the underlying rock. Natural England would appreciate further clarification as it's not a small amount of cable protection. The Wash amounted to 46,200 m², while the North Norfolk Sand Banks and Saturn Reefs amounted to 497,800 m². It must be assessed against designated features rather than the whole site. This relates to our conservation objectives. If the feature is limited within the site then it amounts to a significant impact.

The Examiner: Rarity of interest feature?

37. It is Natural England advises that the extent of the impacts should be assessed against the interest features / conservation objectives of the site. The summary data was only point-data for half the cable route. There was no site specific geophysical information to inform the extent of the features affect. And extent is only one attribute.
38. Therefore micro siting may not be feasible and consideration should be given to other form of mitigation namely reducing the number of cables. In addition if cable procurement takes 3-5 years will there be sufficient additional cable length to micro-site considering the pre-construction survey to inform micro siting will take place 12 months prior to cable laying.

The Examiner: Q1.2.99 Three annexes refer to cable impacts elsewhere within the SAC.

39. These are confirmed as Annex D1 Looking at further detail form dropdown video; Annex D2: Review of Cable Protection and Annex D5: HRA. They also reference "sensitive protection" which Natural England has fundamental concerns with due to the use of Norwegian granite rather than locally sourced limestone. And the size of the particles. Natural England believes the smaller size of 'sensitive' cable protection means it's more likely to move. The smaller size is not viable as there are risks of it being caught by ship's anchors etc. We do not believe a berm made up of particle sizes above 100mm is sensitive i.e. characteristic of the surrounding grain size.

The Examiner queried if there is an issue with grain size and materials.

40. Natural England advises that the cable protection needs to be similar type and grain size to surrounding rock, but this is still Norwegian granite and not cobble. However limestone is probably not feasible. The cable protection, if permanent impact, should be assessed as such at the construction phase.

The Examiner: According to Natural England, what's gone wrong at Race Bank?

41. Before the end of examination Natural England intends to submit a lesson learnt document from Race Bank that fully explain the concerns surrounding that project and impacts to features.
42. However some information is included provided in our written representation Annex D1, D3, and D5

f) *Biogenic Reef Issues*

Q1.2.1.7 The Examiner questioned if micro-siting around biogenic reefs has been successful.

43. The Applicant explained that there are no peer-reviewed papers, but all offshore wind farms use the technique as a mitigation measure. However Natural England wishes to highlight that there have been few instances of micro routing cables in English waters and these have been outside of designated sites

The Examiner questioned if new data from JNCC reasonable to include.

44. Natural England explained that the data from JNCC included in our Written Rep Annex D4 provides a pictorial representation of the text (e.g. six cables through the SAC). But this builds on data that has been in the public domain since 2013.

The Examiner suggested it was a bit late in the process.

45. Natural England notes that the Applicant can and has scanned the picture in mapping tool to consider the implications.
46. For further clarification please see **Annex 2.2 B** of this response where further detail to this has been presented

The Examiner asked about the mitigation method.

47. Natural England recognized this however the Applicant must demonstrate that it is feasible. For instance, we don't believe it's possible to micro-route in the reef management area for Saturn Reef. Low quality reefs are still protected under the habitat regulations. Conservation objectives are in place to manage the area the cable corridor transects and reef. Therefore need to prove any micro-route is feasible. What happens if the project is consented and the micro-route is not feasible?

The Examiner asked if it still has impacts on microsite objectives (Annex 1 feature).

48. Further to the ISH Natural England and JNCC has review the applicant deadline 2 response to our Written Representations and has provided further clarity as **Annex 2.2 A & B** in relation to the management of reef areas with Saturn Reef SAC

The Examiner asked if there was confidence in the JNCC data.

49. Natural England explained that there is a fundamental misunderstanding of why the JNCC survey was undertaken. This is a large marine site where not many surveys have been undertaken and so the 500m buffer became a management tool to help restore the site from unfavourable condition. Restoration of the best areas became a conservation objective. Please see **Annex 2.2 A & B** which provide further clarity on this

The Examiner commented that it is very difficult to understand without documents. It seems for a different purpose.

50. Natural England explained that it is for the conservation objectives of the site. If cable goes through them then potential for the reef to establish is hindered. (e.g. Saturn Reef has existed previously.)

51. JNCC has confirmed that the survey data set will be available before the next set of ISHs

The Examiner: It seems there's no definite reef; arbitrary buffers; and data that isn't robust.

52. Subsequent to the ISH Natural England and JNCC has compiled a more detailed response that can be found at **Annex 2.2B** And the survey report relating to the survey will be provided prior to the next set of ISH hearings

The Examiner queried Metadata points.

53. During the ISH Natural England explained that buffers represent a standard approach for offshore site management. The report to support this approach is provided **Annex 2.2B**

g) Assessing Markham's Triangle

The Examiner: Views on applicants response to interest parties response to ExA written Questions

54. Please see Annex X

The Examiner: PMCZ assessment of variance?

55. We believe that there is sufficient information to undertake an MCZ assessment. But as it currently stands we do not agree with the ES MCZ assessment for Markham's Triangle due to errors. And we believe that significant impacts have been missed in the stage one Assessment for Cromer Shoal Chalk Beds MCZ. Please see our comments at WR Appendix D6 as yet further clarification documents have not been reviewed.

The Examiner: Statistical process around Markham's Triangle?

56. As previously stated we are not sure how the assessment for MCZ's will be undertaken. The Applicant spoke about Turbines, intervention percentages and other subjects. Habitat loss as suggested by JNCC and Natural England with a table (feature by feature). JNCC and Natural England also raised project lifeline effect on Markham's Triangle. Please see **Annex 2.2B** for further clarification

h) Cumulative Effect Scoping

The Examiner: Cromer Shoals Chalk Bed MCZ and further advice provided. If there are significant effects on MCZs then we need the right evidence.

57. Natural England will provide further advice post Deadline 3 when information is submitted by the applicant