THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010

HORNSEA PROJECT THREE OFFSHORE WIND FARM

Planning Inspectorate Reference: EN10080

Annex D5: NE and JNCC comments on the Benthic sections of the HRA revised in light of further information

7 November 2018

1. Introduction

1.1. These comments have been formulated after reviewing the additional technical notes supplied by the Applicant. Please also refer to Annexes D1, D2, D3, D4, & D7 for further details to inform the REIS.

2. General

2.1. Natural England and JNCC note that there is no direct link to conservation advice packages for the sites; including an assessment against operations likely damage listed on Natural England's designated Sites System and the Supplementary Advice on Conservation Objectives for the Wash and North Norfolk Coast (W&NNC) SAC.

2.2. In addition we also question why 'long term temporary' has been determined when the impacts are likely to be persistent over the life time of the project and removal at decommissioning is highly unlikely.

2.3. Natural England and JNCC do not agree with the determination of 'insignificant' which is an EIA term. In relation to the habitat regulations we advise that there is a likely significant effect and that there is a risk that the impacts will hinder the conservation objectives for the site.

2.4. In relation to the Annex I sandbanks it should be noted that the documents do not differentiate between the habitats/ sediments and hydrodynamics of nearshore sandbanks of the W&NNC SAC compared to those of the offshore sites such as Inner Dowsing, Race Bank and North Ridge, Haisborough Hammond and Winterton SAC and North Norfolk Sandbanks SAC

3. The Wash and North Norfolk Coast SAC

3.1. **On account of limited survey data for each of the features there is uncertainty in relation to the scale of the impacts. Consequently we are unable to agree with the conclusions.**

<u>In combination Assessment</u>

3.2. It is Natural England's view that in order to undertake a comprehensive in-combination assessment the marine licence variation request, the O&M licence and the marine licence application for the Race Bank project which are also proposed within the W&NNC SAC are included in the assessment.

<u>Absence of Annex I reef</u>

3.3. Natural England notes that no Annex I geogenic or biogenic reef has been found in the areas of search. However, having considered the Drop Down Video (DDV) stills Natural England wishes to highlight the following:

3.3.1. There is some interesting subtidal coarse and mixed sediment with epifauna and some slightly longer lived species that you would expect to find in more stable sediment conditions, which would indicate that at these locations limited natural backfill would occur should dredging take place.

3.3.2. It should also be recognised that subtidal coarse and mixed sediment are sub-features of both Annex I Large shallow inlet and bays and Sandbanks slightly covered by seawater all of the time and are part of the complex features of the site. Under Natural England's advice on operations for cabling (including protection) both of these sub-features are deemed to be sensitive to many of the pressures resulting from cable activities. This will need to be considered further when considering the conservation objectives for the site and supplementary

advice on conservation objectives which states *'Maintain the existing distribution of sediment composition across the feature.'*

3.3.3. Whilst the conservation objective for the extent and distribution of reef features of the W&NNC SAC is to 'Maintain' the features in their current condition; the 'Maintain' target does not preclude the need for management, now or in the future, to avoid a significant risk of damage or deterioration to the feature. The supporting and/or explanatory notes in the SACOs set out why the target was chosen and any relevant site based supporting information. This is based on the best available information, including that gathered during monitoring of the feature's current condition. Hence the current requirement for extending the EIFCA byelaw areas. The regulator will need to take into account the placement of rock armouring in these locations as it will effect and/or invalidate the management of other activities within the site and the conservation objectives.

3.3.4. It should be noted that *Sabellaria spinulosa* reef follow different life stages therefore whilst it may only be encrusting currently there is no evidence to show that it won't develop into reef in the future and the presence of rock armouring would hinder its development. Due to significantly different characteristics, Natural England do not agree with the applicant that because rocky reefs are protected the presence of rock protection can be considered a positive effect. We therefore advise that this position would not protect the features the site is designated for and therefore would not be compliant with the Habitats Regulations.

3.4. NB: Some of the comments in relation to reef features may also be pertinent for other offshore designated sites

4. North Norfolk Sandbanks and Saturn Reef SAC

4.1. **We do not believe that The Applicant has either provided enough evidence for, or assessment of, impact to protected features or site integrity for the North Norfolk Sandbanks and Saturn Reef (NNSSR) SAC. As such, we cannot agree that the project is unlikely to have any 'significant effect' on designated features or Adverse Effect on the Integrity (AEoI) of the site.**

<u>Adverse effect on integrity of Annex I Sandbanks.</u>

4.2. Within **Annex D4** JNCC and Natural England raise detailed concerns in relation to the current favourable condition of the Annex I sandbanks features of North Norfolk Sandbanks SAC. In particular to the introduction of further rock armouring to the site from cable protection and sandwave levelling and the ability of the features to recover.

4.3. JNCC suggests that there are a number of ways that the Applicant could discuss how the proposed operations could aid in restoration of the sandbank feature and the site and deliver net gain. Ongoing and new activities must look to minimise, as far as is technically practicable, changes in substratum and the biological assemblages within the site to minimise further impact on feature extent and distribution, demonstrating the risk levels that proposed operations will present to the restoration of the extent and distribution of the sandbank feature.

4.4. While neither Natural England nor JNCC would want the Applicant to include a large amount of comparative assessment within their application, it may prove helpful to provide a tabular summary of major mitigation actions that ameliorate impact on seabed. Examples of mitigation measures undertaken by other activities in NNSSR include reduction of footprint associated with vessel stabilisation through use of alternative work vessels, provision of evidence to quantify footprint of rock dump needed for works and reuse of existing stabilisation material footprints. Further project

design modification may also prove essential to minimise the impacts - **please see Annex D3.**

Avoidance of Annex I *Sabellaria spinulosa* Reef

4.5. The primary mitigation for impact to *Sabellaria* reef in the application is "where possible" avoidance of reef area. We note that if the suggested mitigation is successful, we would agree with the assessment of magnitude. However, we advise that it is necessary to look at this primary mitigation with a degree of precaution, given the overlap demonstrated in **Annex D4** Figure 2 with Saturn Reef.

4.6. Given the above, the Applicant's survey data and the recent JNCC survey data Natural England and JNCC believe that there is a high probability that *Sabellaria spinulosa* area to be managed as reef could continue to straddle the Saturn reef area of the cable route (post consent) for there to be insufficient space to micro-route around the reef feature. Therefore, whilst we continue to advocate that the standard mitigation measure/marine licence conditioned to avoid reef features is included in the Projects DML it may not be feasible to do so. To address this the Applicant has included the caveat 'where possible', but Natural England and JNCC have concerns about the increased level of risk to the integrity of the site such a caveat would endorse as there are no parameters to assess and agree what is "possible".

4.7. We do not consider the Applicant's consideration of routing through 'lower quality' reef to be acceptable in terms of restoration of conservation objectives as the 'lower quality' reef mentioned by the applicant is still contained within area to be managed as reef, with the protection provided by Annex I status.

4.8. In addition the evidence presented in the HRA to support conclusions on recoverability relates only to individuals/abundance, but not to reef. Accordingly we have limited confidence in the ability of reef to recover from cable installation activities and we further advocate that the standard mitigation measure of avoidance is adhered to.

4.9. Furthermore whether reef is avoided or not during installation there does remain a risk during O&M cable remediation activities that reef could establish across the cable corridor or nearby areas where remediation activities needed to occur. Accordingly, every effort should be made, with input from the MMO and Natural England, to minimise the impacts at the time of undertaking the works.

5. Detailed comments

Point	Chapter section	Comment
5.1.	General Comment – covers more than HRA e.g. benthic clarification notes (as well as other sites)	When working on other Ørsted projects where the initial burial was unsuccessful, the subsequent reburial attempts and eventual placement of rock armouring was considered to be part of the construction phase and taken forward by the construction team. The rock armouring that has been put forward of the O&M over the lifetime of the project is assessed not to have an impact as will be replenishment of rock in existing areas of rock armouring. This is currently difficult to understand in terms of overall impact. We also question why is O&M only considered temporary when rock armouring is persistent.

5.2.	2.3.5.3	Please note that there is a more up to date version of HRGN1 than the 1997 version used. Natural England can provide the December 2017 version if required.
5.3.	2.3.5.3	"An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to FCS as it did at the time of designation" – this definition is incorrect and needs amending.
5.4.	Table 3.2	Benthic impacts from the cable route prep not included such as grapnel run, UXO clearance, boulder clearance and sandwave clearance.
5.5.	Table 3.2	We note that understanding positive or negative impacts associated with the colonisation of hard structures is constrained when within sediment MPAs. While hard substrate may lead to localised increases in biodiversity, this will generally not have any positive impact on protected features in a site.
5.6.	Table 3.10	Benthic – needs to be clear that Reefs include geogenic as well as biogenic.
5.7.	Table 4.1 - Construction	(See point 5.1. above for general comment about the consideration of Rock armouring). Ground clearance isn't just about prep for gravity bases. Boulder Clearance, UXO clearance, grapnel runs, sandwave levelling should all be considered. Nowhere in any of the documents is location for depositing dredge material from sandwave levelling from within in the Wash & North Norfolk Coast considered and impacts to the interest features assessed. We question why only coarse dredged material is being placed in the offshore cable corridor area.
5.8.	Table 4.1 - Operation	Long term loss of sea bed habitat including from cable protection - without removal at decommissioning the impacts are likely to persist and depending on the location may hinder the conservation objectives of the designated sites. Currently there is no guarantee of removal. The documents provided for the current Race Bank marine licence application includes two options for rock armouring removal that involve dredging up the material. The document provided was purely a method statement and didn't take into consideration the feasibility and confidence of being able to decommission in similar environments; including the associated impacts. For example the two options presented involve dredging to no lower than 30cm below seabed, and in undertaking this activity there would almost certainly be disturbance to, or removal of, the interest features of the site. Where there is cobble/stony reef present, or *Sabellaria* reef, there would be habitat loss. We suggest that there needs to be some evidence presented where rock armouring has been decommissioned, in similar sediment types, and monitoring provided of the associated impacts. To date all the evidence presented to Natural England from OWF developers is that rock armouring cannot currently be feasibly removed. A good example of this issue is within Thanet OWF,

		where a section of cable under rock armouring needed to be replaced. It was determined that removing that hard substrate to access the cable wasn't feasible, so a new cable section was spliced in around the existing cable leaving the original section with protection in situ. See Natural England's 10 years of cable experience paper.
5.9.	Table 4.1 - Operation	Is there any guarantee that the O&M rock placement will only occur where it has been placed previously? Experience from similar projects is that further marine licence applications are submitted to address these concerns, but at that time unless the conservation objectives of the site were negatively impacted it is unlikely that such a request would be refused and therefore there is cumulative EIA impact occurring from further placement of rock armouring in the marine environment.
5.10.	Table 4.1 - operations	See comments in Annex D2 on Cable protection clarification note. Whilst the information presented provides a robust argument for WCS presented as being 10% of cable to be rock armoured within a designated site. It does not take into account site conditions with the Wash and North Norfolk coast and the presence of the rocky outcrop. It also does not take into account any secondary scouring that may happen.
5.11.	Table 4.1 - Operation	No distinction about the location of the O&M repairs and how much will be within designated sites
5.12.	Table 4.5	Avoidance of reef- the wording here does not tie in with the DML, which includes 'where possible'. This is not mitigation and uncertainty over the feasibility is not Habitat Regulations compliant. In Natural England relevant rep. for Norfolk Vanguard we highlighted the ability to micro site around any Annex I reef as a key concern and many of the points are relevant to this application too.
5.13.	Table 4.5 and general comments	Lower quality reef is still reef and is therefore protected under the Habitat Regulations. Bisecting the periphery is still impact on reef feature and therefore recovery will need to be taken into consideration. This is particularly true of Cobble/stony reef. Even transitional areas are important to the ecosystem of geogenic reef. This is not considered at all in the justification
5.14.	Table 4.5 and General Comment	We question what is meant by 'sensitive cable and scour protection' and why cable mattressing was so strongly dismissed. Cable protection and scour prevention should be assessed as part of the application as similar work has been done for Race Bank. Natural England and JNCC disagrees that the EWG discussed and agreed the different types of protection. It is equally not clear why EMF is being flagged to support the proposals when the preferred option for EMF is for burial to optimum depth
5.15.	Table 5.1	Repeat of early comments in relation to the duration of the impacts from the placement of cable protection and what should be considered as construction vs operation in relation to the installation of the cables.
5.16.	Table 5.1	Maintain conversation objectives: there is currently a condition assessment underway for the W&NNC SAC and whilst the current

		conservation objective is down as maintain the impacts from the cable installation for RB and Lincs OWF is likely to change the favourable condition status of the site and therefore will have implications for the conservation objectives for the site.
5.17.	5.4.2.3, 5.4.3 and 5.4.4	Please see Natural England position paper on the data requirement for sustainable development within designated sites.
5.18.	Table 5.4	As discussed in the MCZ Evidence Plan Working group – Natural England has concerns in relation to the reliance of the data sets from Sheringham Shoal OWF. The characterisation surveys to identify biotopes was undertaken in 2006 and since then there may be have been changes and there was limited overlap with the Hornsea Project 3 cable corridor and the boundary of the W&NNC SAC. In addition to this Natural England and CEFAS never support the preconstruction survey data as the ground truthing was completed during/after a winter storm and therefore there were no clear the DDV data that could be used to support the present/absence of habitats of ecological importance. Again we also reiterate the Dudgeon OWF data sets similarly were dated 2009 and do not cover the boundary of the W&NNC SAC. But we do recognise the potential usefulness of the Dudgeon and Sheringham datasets for EIA for the offshore areas.
5.19.	Table 5.5	Natural England acknowledges it does include information specific to the W&NNC SAC.
5.20.	Figure 5.2	The HRA assessment does not include site specific characterisation data for last 6km-11km of the site heading out to sea. However, the clarification note provided on 9th October confirms that the biotope classifications used are correct. However, the surveys do not allay concerns about the ability to bury the cables to the optimum depth.
5.21.	5.4.5	It should be noted that the data sets presented on MAGIC are some distance from the HP3 cable corridor and have limited data points. Please see the points raised in our relevant representation – August 2018.
5.22.	Figure 5.6	Please note that Natural England did not suggest the core reef approach that was included within the ES. We suggest looking at realistic WCS that demonstrated what the outcome would be should reef develop across part or all of the cable corridor with the NNS SAC. Please see Natural England position paper on Assessment on reef.
5.23.	Table 5.6	We seek clarification as to where all the levelled material be deposited within the designated sites and in particular the W&NNC SAC. Please note that the nearshore sandbanks of the W&NNC SAC are not as mobile as those within the offshore sites and therefore recovery is likely to be very different. However, there has been no differentiation between the sandbank attributes and ability to recover. If the material is removed from the site then the maintain extent conservation object and potentially those relating to the form and function of the designated feature could be hindered.

		In addition impacts will need to be considered in combination with boulder clearance, grapnel, UXO clearance, rock placement and depositing of material.
5.24.	5.5.1.3	Natural England agrees that the surveys to date indicate that no Annex reef features have been confirmed as present, but equally have not been confirmed as absent either. The location and detail of the surveys means that reef could not be determined from them. Therefore it is not appropriate to infer that reef has never been present.
5.25.	5.5.1.4	Natural England notes that the corridor width keeps changing between 25m -30m, and request that this is clarified. We also note that boulder clearance is mentioned but on quantified.
5.26.	5.5.1.6	We are unclear as to whether mixed sediment or sandy gravel are present in this location.
5.27.	5.5.1.8.	Evidence of export cable trenches at Sheringham Shoal, Dudgeon, Race Bank and Lincs which indicates that sediment is not infilling trenches as expected in the nearshore areas.
5.28.	5.5.1.10	Natural England notes that there is no differentiation between the offshore sandbanks at North Norfolk Sandbanks and those in the inshore that have very different characteristics.
5.29.	5.5.24	Survey data are not included in the assessment to support conclusions made.
5.30.	5.5.2.5	Natural England notes that the assessment of the impacts is again in relation to the whole site rather that specific interest features. WCS if all protection on one feature or another what would the impact be? This would help determine the level of risk to particular interest features. Natural England advises an assessment against the interest features of the site rather than the whole site The information presented also conflicts with the evidence being presented for Race Bank OWF marine licence variation and marine licence re the type of protection that can be used as similar grain size has been discounted as could be moved during a storm and does not provide sufficient protection again anchors and fisheries (Ref. WSP Remedial Burial Assessment – SJ20180628115546973). Equally we are concerned about the longevity/duration of the impact and recoverability depending on the interest feature of the site.
5.31.	5.5.2.6	Natural England notes that there is no distinction between sandbanks slightly covered by water all of the time in the offshore and those found within the nearshore.
5.32.	5.5.2.7	Natural England notes that there is no direct link to Natural England's conservation advice package for the site including an assessment against operations likely damage listed on our Designated Sites System and the Supplementary Advice on Conservation Objectives. Limited survey data for each of the features so unable to agree with the conclusions and it is unclear why impacts have been determined to be long term temporary when the impacts are likely to be persistent and removal at decommissioning is highly unlikely. The DDV data at the 5 locations

		included in the clarification note shows that 4-5 locations are more consolidated and therefore less mobile than other areas and have epifauna present.
5.33.	5.5.2.28	Natural England does not agree with the determination of insignificant which is an EIA term. In relation to the habitat regulations the impacts are likely to in hinder the conservation objectives for the site hence the LSE test and the undertaking of the Appropriate Assessment to determine if the impacts are adverse or not. Also need to consider the marine licence variation request, the O&M licence and the marine licence application for the Race Bank project that are also proposed within the W&NNC SAC.
5.34.	5.5.2.32	Natural England advises that there is insufficient detail presented in the HRA to demonstrate that coastal processes will not be impacted.
5.35.	5.6.1.3	Only the sandbanks feature is present across the whole site
5.36.	Table 5.7	Previously the figure given for temporary habitat loss for pre-construction sandwave clearance disposal activities was 2,880,000m2. It is unclear how this figure relates to the 1,239,400m2 in the table. It is also unclear whether sandwave clearance is likely to be to similar depths along the cable corridor, or if this will vary and why the dredged material is to be laid to a 0.5m thickness.
5.37.		We would like further information on where the boulders are likely placed – i.e. within the cable corridor or further away.
5.38.		We would like further information on whether anchor placements will be on both sides of the cable laying operations; how far out will they be, and how that relates to the temporary working area. (
5.39.	5.6.1.5	Pre-construction sandwave clearance in NNS SAC – RIAA 5.7 – 2,880.000m^2. The Marine Processes chapter states that the total volume that could be affected by sandwave clearance is presently estimated to be up to 1,202,956 m^3 within the Hornsea Three offshore cable corridor, (based on the Hornsea Three offshore cable corridor geophysical survey data combined with cable installation design specifications). Of this total volume from the Hornsea Three offshore cable corridor, up to 619,689 m^3 will be excavated from within the North Norfolk Sandbanks and Saturn Reef SAC. The Marine Processes chapter also states –that the volume of sediment in sandwaves to be cleared for installation of export cables in the Hornsea Three offshore cable corridor 979,090 m^3. Total mass of sediment to clear from sandwaves in the Hornsea Three offshore cable corridor 1,556,753,100kg 979,090 m^3 x 2,650 kg/m^3 x 0.6 If dredging, only a fraction of this material will be released as dredge over-spill. The remainder will be deposited to the seabed nearby.
5.40.		The Applicant will need to ensure that possible outcomes are consistent with the natural processes and bedform configurations that are already present in the site and would not adversely affect

		the onward form and function of the individual bedform features, or the sandbank system as a whole [confidence: high confidence that the seabed will recover to a new natural equilibrium state within a timescale of months to years. However, any predictions of the actual local timescales of change, as well as the form of the 'new' features would have low-medium confidence].
5.41.	5.6.1.9	We refer the Applicant to Natural England's small scale effects report on site features (Chapman & Tyldesley, 2016).
5.42.	5.6.1.4, 5.6.2.7	With a restore objective, precluding the recovery of reef should not be considered acceptable nor the preclusion of establishment of sandbanks.
5.43.	5.6.1.17	"When considering that this is inevitably an overestimate" – this is incorrect and needs to be changed. Impact will not be an overestimate on sandbanks.
5.44.	5.6.2.11	Some of the conclusions are not evidenced and therefore cannot be advised upon.
5.45.	5.6.2.30	We are pleased that The Applicant has considered JNCC (2017) and also provided details about sediment movement over cable protection.
5.46.	5.6.2.35	Natural England seek further clarification as to whether the differences in mobility among sandbanks will be accounted for in the cable protection plan.
5.47.	5.6.2.41	We are unsure of the assumption here – that percentage of cable protection will equal percentage of the route within NNS. Presumably a larger proportion of mobile elements are in the site than outwith it. We suggest that The Applicant provide a range of values here for the percentage of total loss.
5.48.	5.6.2.43	We advise against considering different stages of life span alone. It is important that impacts are assessed holistically.
5.49.	5.7.3.3	O&M impacts cannot be lost from in-combination analysis.
5.50.	Table 5.12	Area 483 is now operational.
5.51.	5.8	In-combination impacts need to include Race Bank marine licence variation, O&M licence and marine licence application.
5.52.	5.9.2	Long term loss seems to have been excluded here. This needs correcting.
5.53.	Table 5.13	Area 483 and 484 should be considered permanent loss given loss of sediment from the system.
5.54.	5.10	Natural England can agree with the conclusions on p 111.
5.55.	Table 5.15	Natural England is unable to agree with the conclusions.
5.56.	General Comment	There is no consideration of the energy and exposure and the potential considerable reduction in water depth if rock armouring is used. It would be useful to understand this in more detail.