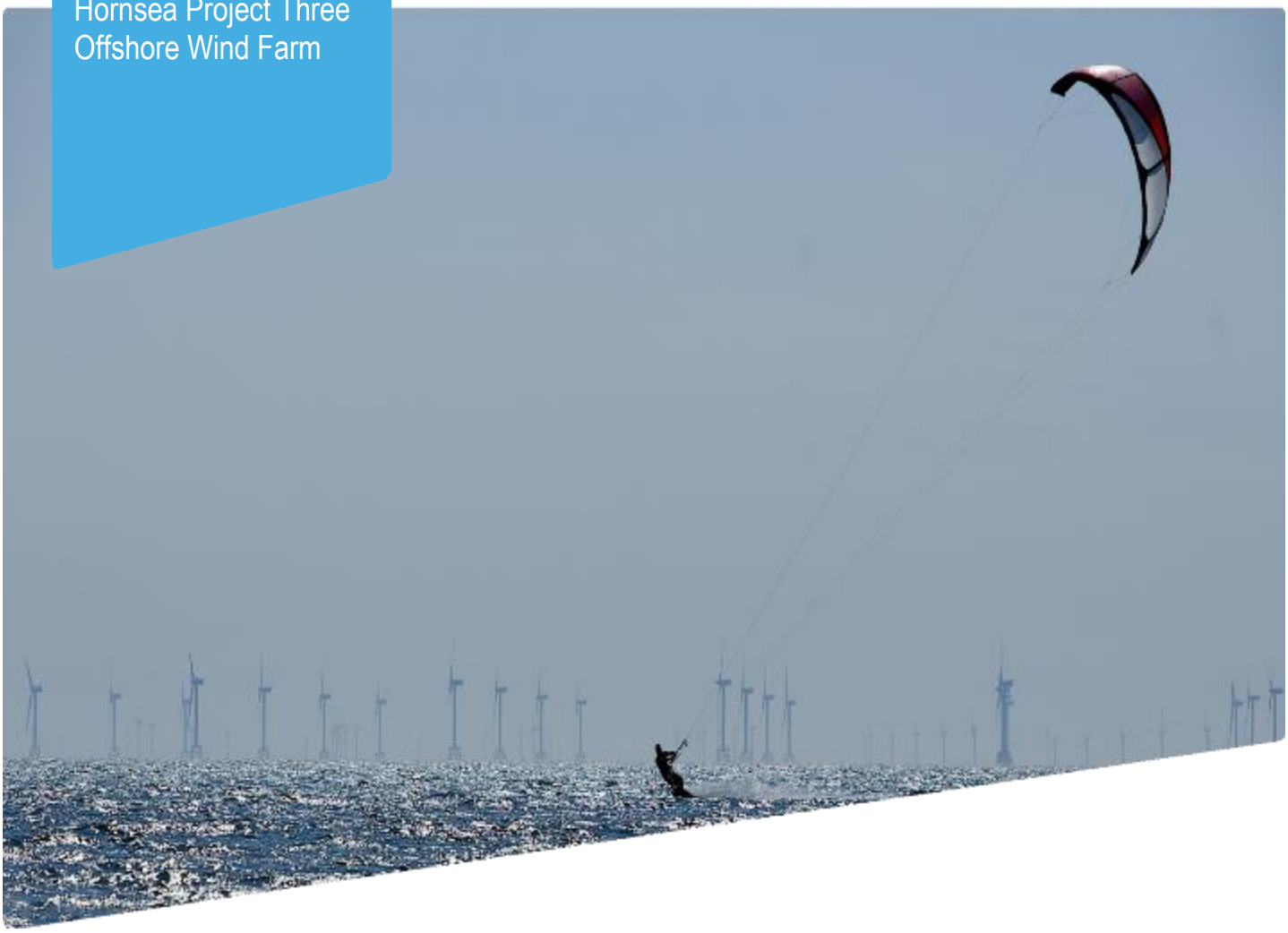
Hornsea Project Three
Offshore Wind Farm



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Offshore Wind Farm

Offshore Ecology Matters Closing Legal Submission on behalf of the Applicant

Date: 01st April 2019

Hornsea 3
Offshore Wind Farm

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Document Control			
Document Properties			
Organisation	Ørsted Hornsea Project Three		
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Approved by	Andrew Guyton		
Title	Offshore Ecology Matters Closing Legal Submission on behalf of the Applicant		
PINS Document Number	n/a		
Version History			
Date	Version	Status	Description / Changes
01/04/2019	A	Final	Submitted at Deadline 10 (1st April 2019)

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Front cover picture: Kite surfer near a UK offshore wind farm © Ørsted Hornsea Project Three (UK) Ltd., 2019.

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List of key abbreviations

2008 Act – Planning Act 2008
AA – appropriate assessment
AEOI – adverse effect on integrity
CRM – collision risk modelling
DAS – digital aerial survey
DCO – development consent order
ES – Environmental Statement
ECJ – Court of Justice of the European Union
ExA – Examining Authority
FFC SPA – Flamborough and Filey Coast SPA
HDD – Horizontal Directional Drilling
HRA – Habitats Regulations Assessment
IP – Interested Party
ISH – Issue Specific Hearing
IROPI – imperative reasons of overriding public interest
MCAA – Marine and Coastal Access Act 2009
MCZ – Marine Conservation Zone
MEEB – measures of equivalent environmental benefit
MMO – Marine Management Organisation
NE – Natural England
NNSSR SAC – North Norfolk Sandbanks and Saturn Reef SAC
NPS EN-1 – Overarching National Policy Statement for Energy
NPS EN-3 – National Policy Statement for Renewable Energy
OWF – Offshore Wind Farm
PTA – Preliminary Trenching Assessment
PVA – population viability analysis
RIAA – Report to Inform Appropriate Assessment
SAC – Special Area of Conservation
SNCB – Statutory Nature Conservation Bodies
SPA – Special Protection Area
WNNC SAC – the Wash and North Norfolk Coast SAC

This closing legal submission focusses on some key legal matters which are important to how certain offshore ecology matters are approached and should be read in conjunction with the Applicant's Statement of Case, submitted at deadline 10, which sets out the Applicant's closing position across all topic areas.

1. INTRODUCTION

1.1 The Applicant seeks development consent for a major offshore wind farm generating station which may comprises a maximum of 300 wind turbine generators together with associated offshore and onshore infrastructure. Hornsea Three is a Nationally Significant Infrastructure Development. The full Project Description is provided in volume 1, chapter 3: Project Description of the ES [**APP-058**] and remains unchanged save to the extent identified in section 2 of the Applicant's Statement of Case.

1.2 The National Policy Statements ("**NPS**") for Energy and Renewable Energy (EN-1 and EN-3) establish a presumption in favour of offshore wind development, which is only displaced in the event of conflict with detailed provisions of the relevant NPS and the legal tests in the Planning Act 2008 (the "**2008 Act**").

1.3 The ultimate capacity of Hornsea Project Three (hereinafter referred to as "**Hornsea Three**") will be determined based on available technology and other factors but is currently expected to be in the order of 2.4 GW. On any measure, it is a major infrastructure project which would give rise to major economic benefits in addition to sizeable contributions to renewable energy / carbon emission reduction targets. The case for Hornsea Three is thus strongly supported in policy and that has been comprehensively evidenced by the Applicant in the Development Consent Order ("**DCO**") application, and through other submissions in the examination process, and is not materially disputed in any representation. That case is summarised in the Applicant's Statement of Case and is not repeated here.

1.4 During examination of the DCO application, submissions have been made which question or dispute aspects of the Applicant's approach, evidence and assessment conclusions in respect of: (1) offshore ornithology and (2) benthic ecology. It is important that those submissions, and the Applicant's response, are considered in their proper legal context. This closing legal submission is intended to provide that proper legal context.

1.5 This submission focusses on key legal issues arising principally from submissions made by Natural England ("**NE**") in the context of offshore ornithology and benthic ecology. This is not a comprehensive summary of each and every issue raised by NE, or a rebuttal of every point made in representations, and the fact a particular point is not expressly responded to should not be construed as any form of acceptance of particular points made.

1.6 This Closing Legal Submission is structured as follows:

1.6.1 Marine Conservation Zones ("**MCZ**") Assessment and related issues of approach

1.6.2 Habitats Regulations Assessment ("**HRA**") and related issues of approach

1.6.3 The relevance of previous decisions on and agreed evidence from other OWF

1.6.4 The implications for reaching conclusions based on submitted evidence for:

(a) Offshore ornithology, and

(b) Benthic ecology.

2. MCZ ASSESSMENT AND ISSUES OF APPROACH

2.1 The Legal & Policy Framework

Introduction

2.1.1 Marine Conservation Zones ("**MCZ**") are designated by order under sections 116 and 117 of the Marine and Coastal Access Act 2009 ("**MCAA**") for the purpose of conserving: (a) marine flora or fauna; (b) marine habitats or types of marine habitat; or (c) features of geological or geomorphological interest.

2.1.2 The Secretary of State is bound by the duties in relation to MCZs imposed by sections 125 (general duties) and 126 (duties in respect of certain decisions) of the MCAA as are the MMO and NE.

MCZs are not European sites

2.1.3 It is necessary to preface any consideration of the requisite approach in respect of MCZs by noting the important distinction that MCZs are not European sites. This may seem a trite statement but it is obvious from NE's submissions that it is seeking to apply the same legal approach to MCZs as to SACs. This has implications for how one treats NE's advice and the weight that can attach to it.

2.1.4 MCZs form part of a wider network of Marine Protected Areas ("**MPA**"), which includes European sites, but MCZs are subject to a different legal and policy framework which sets the process for designation of MCZ and the parameters for the assessment of impacts on designated MCZ. Case law in relation to HRA (e.g. *Waddenzee – see section 3 below*) is not applicable since it relates to the specific legal tests under the Habitats Directive.

2.1.5 MCZs are a lower order consideration than European sites in relative terms. That is not to say that MCZs are unimportant, just less important than European sites. This is the clear implication of NPS EN-1. Read together paragraphs 5.3.9 (*International Sites*) and 5.3.12 (*Marine Conservation Zones*) confirm that "*the most important sites for biodiversity*" are European sites. MCZs, which are dealt with in a separate section, are therefore a lower order consideration than European sites within the framework set by the relevant NPS.

2.1.6 This difference is further reflected in the fact that, when considering development proposals affecting proposed SPAs, NPS policy expressly directs that proposed SPAs are considered in the same way as if they were classified[1]. The same does not apply to MCZs: there is no policy to treat proposed MCZs as if designated.

2.1.7 Thus NE's assertion that the Secretary of State can simply read across all issues NE raises for the SACs and apply those equally to MCZs is a misleading generalisation which is legally and factually baseless. It is correct only to the very limited extent that the type of impact may be similar in general terms (e.g. cable installation or cable protection). Otherwise the scale of impact is different, the protected features are different and, most importantly, the legal framework is different.

The MCZs in Issue

2.1.8 The only designated MCZ which interacts with Hornsea Three is the Cromer Shoal Chalk Beds MCZ ("**Cromer Shoal MCZ**"), designated in January 2016. Details on the designation, the various protected features and conservation objectives are set out in **APP-104** and confirmed by NE in **REP7-070**. It is not contended by any IP that any other designated MCZ is affected.

[1] NPS EN-1 at paragraph 5.3.8.

2.1.9 Cromer Shoal MCZ has ten protected features. The only protected feature directly affected by Hornsea Three is *Subtidal Sand*. It is currently in favourable condition[2] and any assessment must be in that context. There is no legal basis or evidence for any inference to the contrary by NE in **REP7-070**[3] by reference to impacts from Sheringham Shoal or Dudgeon OWFs.

2.1.10 Markham's Triangle is a proposed MCZ ("**pMCZ**"), which was subject to consultation in 2018. As confirmed by NE in **REP7-073**[4] the outcome of that consultation (i.e. designate or not, for which features etc.) is unknown. There is no known timeframe for a decision. The statutory provisions in sections 125 and 126 of the MCAA are not engaged and the Secretary of State is not obliged to apply the tests in section 126.

2.1.11 In fact, designation is an area of important difference between MCZs and European sites. By comparison to European sites, there is considerable latitude afforded in the designation of MCZs. The appropriate authority "*may*" designate an area as an MCZ where "*desirable to do so*". There is no obligation to designate even assuming relevant scientific criteria are met.

2.1.12 Moreover, when considering the desirability or otherwise of designation, express provision is made[5] in for consideration of any "*economic or social*" consequences[6]. Defra suggest in Guidance Note 1[7] that economic considerations could mean that, if there are irreconcilable conflicts between socio-economic activities and MCZs, alternative sites should be considered or perhaps boundaries modified (e.g. to allow a cable route through the general area of an MCZ)[8]. The presence of Hornsea Three may be a factor which has a bearing upon the terms upon which Markham's Triangle is designated, if at all.

2.1.13 Interestingly, Defra Guidance Note 1 indicates that "*in some cases the presence of socio-economic interests may actually afford protection of features of conservation interest and co-location may be mutually beneficial (e.g. wind farm sites, shipping lanes) where objectives could be compatible*". This could be said to apply to Markham's Triangle, given Hornsea Three infrastructure may be expected to reduce fishing pressure (see Applicant's comment at 5.1 in **REP9-016**).

2.1.14 Therefore, whereas one may be confident that a proposed / candidate European site which has reached formal consultation stage is highly likely to be designated, the same cannot be said of a pMCZ. There is no certainty as to whether Markham's Triangle will be designated and on what basis. Impacts on Markham's Triangle pMCZ are a matter to which only limited weight can attach.

2.1.15 In conclusion, while the Applicant diligently assessed the implications for Markham's Triangle as part of the DCO application (though under no obligation to do so), and committed to reduce the infrastructure footprint within this site, the impact of Hornsea Three on Markham's Triangle pMCZ can only be of limited relevance and importance. All that said, insofar as Markham's Triangle pMCZ is relevant, it need not weigh against Hornsea Three for the reasons set out above (reduced fishing pressure resulting from the wind farm infrastructure).

2.1.16 For the reasons above, the remainder of these submissions focus on and are made in the context of Cromer Shoal MCZ, although points of general legal principle would apply equally to Markham's Triangle pMCZ if it is designated prior to determination.

[2] See Table 4.1 in APP-104.
[3] NE claim that cable installation by Sheringham Shoal and Dudgeon OWFs will have impacted the site but present no evidence to substantiate that claim. No conclusions can be drawn from that and no weight attached to this assertion.
[4] Summary of Natural England's Advice on Markham's Triangle pMCZ
[5] MCAA, section 117(7)
[6] The 2012 DEFRA consultation on the first tranche of proposed sites for MCZ designation in 2013 notes that Ministers made use of this provision and considered social and economic factors in making their decisions.
[7] *Guidance on selection and designation of Marine Conservation Zones (Note 1)*, September 2010.
[8] See page 13 of the guidance note. [NB. There are no paragraph numbers.]

The Relevant Duty in this Case

2.1.17 Section 125 of the MCAA provides a general duty on public authorities to exercise their functions in a way that furthers the conservation objectives stated for the MCZ. Where this is not possible, the public authority is required to proceed in the manner that least hinders the achievement of the MCZ's conservation objectives.

2.1.18 It is important to recognise that section 126 of the MCAA goes on to set out specifically how that general duty applies in the context of applications to authorise activities which are capable of affecting (other than insignificantly) the protected features of an MCZ. Section 126 is a specific expression of the section 125 duty as it applies to licensing decisions and the section 125 duty does not therefore apply in addition to the section 126 requirements (as may be suggested by the MMO's MCZ guidance document - see Fig 1 in **REP3-093**) and is fulfilled by applying the section 126 requirements.

2.1.19 This is confirmed by Defra in its explanatory guidance on MCZs (2013)[9] (our emphasis):

> "*Where the functions of a public authority have the potential to impact on an MCZ the MCAA created an obligation on the authority to carry out its functions in a manner that best furthers the conservation objectives of the MCZ (section 125 of the MCAA). Where this is not possible, the public authority is required to proceed in the manner that least hinders the achievement of the MCZ's conservation objectives.* ***The MCAA specified how these principles should be applied in the case of licensing decisions (section 126) and made provision for the MMO to introduce byelaws for protection of MCZs (section 129-133)****. The MCAA also established that one of the main duties of IFCAs is to seek to ensure that MCZ conservation objectives are furthered (section 154)*."

2.2 Stage 1 Assessment – Legal and Evidential Requirements

Threshold (1): Significant effect

2.2.1 There is no prohibition on development within an MCZ. Designation does not mean that a MCZ should remain untouched by human activity. That is clear from the terms of section 126 of MCAA and Defra guidance.

2.2.1 Section 126 is only engaged in respect of an act which is capable of significantly affecting the protected features of an MCZ or their associated ecological or geomorphological processes[10]. The MCAA does not define what is significant/ insignificant in this context and there is no definitive guidance. The MMO MCZ guidance indicates that the MMO will consider the likelihood of an activity causing an effect and the magnitude of the effect should it occur[11].

2.2.2 The Applicant has carried out a comprehensive MCZ Stage 1 assessment on a precautionary basis (see **APP-104**), notwithstanding that the impact of Hornsea Three (following the near-shore re-route of the export cable corridor) is very small such that it could properly be considered insignificant.

Threshold (2): Significant risk of hindering conservation objectives

2.2.3 Section 126(2) and (6) of the MCAA then define the central question which the Stage 1 assessment process is designed to answer: is there a significant risk of the act hindering the achievement of the conservation objectives stated for the MCZ?

[9] Marine Conservation Zone Designation Explanatory Note, Defra, November 2013, at paragraph 22
[10] Section 126(1)(b) of the MCAA is specifically stated to apply to acts capable of affecting the MCZ "*other than insignificantly*". Therefore only significant effects engage section 126.
[11] *Marine conservation zones and marine licensing*, MMO, April 2013 (submitted as **REP3-093**).

2.2.4 Section 126(6) provides that authorisation may only be granted (subject to the derogation provisions in section 126(7)) if the authority is satisfied there is no significant risk of the act hindering the achievement of the conservation objectives stated for the MCZ[12].

2.2.5 It is important that sub-sections 126(2)/(6) are properly understood. It is not framed by reference to the nature of the activity but to its effect on the achievement of the conservation objectives. The word "risk" in this context is prefaced with the work "significant". This use of significant is not to be confused with section 126(1) which is used to describe the scale/magnitude of an effect on the protected features of the MCZ. The term "significant" in the context of section 126(2)/(6) may be translated as "substantial" or words of similar effect. In short, "significant risk" means "strong possibility" (or similar).

2.2.6 There must therefore be a significant effect on the MCZ from the authorised activity with a substantial possibility that the achievement of the conservation objections for the MCZ will be hindered. This is notably different to the approach to HRA which requires the exclusion of risk beyond reasonable scientific doubt.

2.2.7 Turning to the conservation objectives for Cromer Shoal MCZ, they require that the protected features are maintained in favourable condition. The MCAA does not define favourable condition for the purposes of an MCZ. However, Defra guidance (2013) on MCZ designation explains that what is important is the long-term trajectory[13] (our emphasis):

> "*The aim in terms of favourable condition is that the **long-term trend** for features should be stable or improving, and that they will be sufficiently resilient to recover from any temporary deterioration*."

2.2.8 The Defra guidance (2013) also confirms that their objective with the MCZ framework is to achieve a balance between safeguarding the marine environment and allowing sustainable economic activity to continue, and that small scale impacts which do not hinder the long-term objectives may be tolerated and deemed insignificant[14]:

> "*Favourable condition is the condition that would be expected in the absence of significant anthropogenic pressures which have an adverse effect. The aim is to find an appropriate balance between safeguarding the marine environment and the sustainable use of marine resources. Anthropogenic impacts that do not have a significant adverse impact on the features will be allowed. **For example, laying of a submarine cable across a feature where that cable covers only a small proportion of the feature and the parameters described in paragraph 7ii are not significantly affected**. These will be assessed on a case-by-case basis*" (our emphasis).

2.2.9 It is notable that the specific example cited is installation of a submarine cable.

The degree of certainty required

2.2.10 Turning to the approach taken by NE, it can be readily seen that it is not enough for NE to suggest that there is "uncertainty" and assert it does not have full confidence in the Applicant's conclusions. To displace the Applicant's evidence and conclusions it would be necessary for NE to explain by reference to evidence why there is a significant effect and a corresponding strong possibility that the achievement of the conservation objectives would be hindered.

[12] MCAA, Section 126(5) and (6).
[13] See paragraph 15, Defra (2013).
[14] See paragraph 14, Defra (2013).

2.2.11 As noted above, authorisation may be granted if the authority is "*satisfied*" that there is no significant risk of the act hindering the achievement of the conservation objectives stated for the MCZ[15].

2.2.12 As set out earlier in submissions, MCZs are not European sites and cases such as *Waddenzee* do not apply. Therefore, while the Secretary of State must be satisfied that there is no significant risk of hindering the achievement of the conservation objectives, that should not be construed as meaning 'beyond reasonable scientific doubt' (per *Waddenzee*). The Secretary of State can be satisfied on balance.

2.3 Implications for Conclusions on Stage 1 Assessment

2.3.1 NE concedes that the impacts to the MCZ and pMCZ relative to the extent of each site is small scale, especially so in the case of Cromer Shoal MCZ (i.e. <0.02% of the Subtidal Sand broadscale habitat feature affected over the long term, or 0.0013% of the total area of the MCZ). NE does not positively advise that the identified impacts are necessarily significant. Though NE does not rule out significant effects, equally it does not explain how any such effects pose a significant risk to the long-term favourable condition of the MCZ. NE does not advocate that Stage 2 assessment is necessary for any MCZ.

2.3.2 In relation to Markham's Triangle pMCZ, NE does not have any firm position. With regard to Cromer Shoal MCZ, its position is one of limited confidence in the Applicant's conclusions (see section 5.1 of **REP7-070** and **REP7073**) but that is based on contended "uncertainty". Such conclusions must be questioned for the reasons set out above.

2.3.3 It is clear from the legal framework for MCZs that NE's approach is flawed insofar as it appears to be founded upon the approach to HRA. NE's position and approach to the MCZ, founded on the misapplication of an HRA standard (noting the Applicant's submissions in section 3 below that NE's approach to HRA is itself extreme), is misconceived. It is not for the Applicant to demonstrate there is no risk beyond reasonable scientific doubt - that is the wrong test. In consequence, very little weight can be given to NE's advice on MCZs in **REP7-070** and **REP7-073**.

2.3.4 The correct approach is that the Secretary of State can be satisfied on balance for the reasons set out above. The Applicant has undertaken a very comprehensive MCZ assessment in respect of Cromer Shoal MCZ and Markham's Triangle pMCZ (see **APP-104**) supplemented by clarifications during the examination (**REP2-021, REP3-023** and **REP9-016**) and responses to ExA written questions. Even if a higher standard is applied (akin to HRA), the Applicant submits that the Secretary of State can be satisfied on the evidence.

2.3.5 In addition, leaving aside the legal issues highlighted above, NE's position of "limited confidence" is contradictory. NE cannot accept the survey information is sufficient to reach conclusions on a worst case basis (see section 2.1 of **REP7-070**) yet claim there is uncertainty precluding it from reaching firm conclusions.

2.3.6 Whether trenching or HDD is the worst case scenario, or indeed if each is regarded as "worst case" in different ways, does not matter. Each has been assessed and neither found to give rise to impacts of concern for MCZ purposes. The implications of disposal have also been assessed for the only broadscale habitat feature within the DCO boundary (i.e. Subtidal Sand). No critical information is missing.

2.3.7 The Applicant made substantial effort to minimise the footprint of the offshore cable corridor (and thus effects associated with cable installation) within the Cromer Shoal MCZ. This included a substantial re-route of the offshore cable corridor to reduce the length of the offshore cable corridor within this MCZ down to approximately 1km. This was done in response to a Section 42 consultation response from NE (see **REP1-138**).

[15] MCAA, Section 126(5) and (6).

2.3.8 In the final analysis, even in the maximum design scenario (absolute worst case), one protected feature is affected to a very small extent (this can readily be seen on Figures 4.1 and 4.2 in **APP-104**) and the feature has the ability to recover, such that there is no risk to the long-term favourable condition of the MCZ.

2.3.9 Having regard to the correct approach to MCZ assessment, we therefore submit that the only possible conclusion that can be reached is that the condition of section 126(6) of the MCAA is met. That is to say, there is not a significant risk that the conservation objectives will be hindered as a result of Hornsea Three. Any other conclusion would render meaningless the term "significant" in the different contexts in which it is used in sections 126(1) and section 126(2)/(6) of the MCAA.

2.4 Measures of Equivalent Environmental Benefit (MEEB)

2.4.1 As confirmed by the Applicant at ISH 7, it is only where the authority is not satisfied that the condition in section 126(6) is met that the requirements of section 126(7) are engaged – referred to by MMO guidance as a Stage 2 assessment. It is only then that it becomes necessary to consider MEEB, amongst other things.

2.4.2 As set out in response to ExA written question 2.2.46 and supported by the legal submissions set out above, the Applicant maintains there is no basis to proceed to Stage 2 assessment for Cromer Shoal MCZ and even less for Markham's Triangle pMCZ.

2.4.3 However, if the Secretary of State is not satisfied under section 126(6), such that section 126(7) is engaged, it would be necessary for the Secretary of State to be satisfied that—

(a) there is no other means of proceeding with the act which would create a substantially lower risk of hindering the achievement of those objectives,

(b) the benefit to the public of proceeding with the act clearly outweighs the risk of damage to the environment that will be created by proceeding with it, and

(c) the person seeking the authorisation will undertake, or make arrangements for the undertaking of, measures of equivalent environmental benefit to the damage which the act will or is likely to have in or on the MCZ.

2.4.4 At this stage, no assessment has been carried which positively concludes that a Stage 2 assessment is required. No detailed evidence, analysis or assessment has been presented by NE to rebut the Applicant's evidence and which identifies and quantifies damage to the MCZ. This is relevant because Stage 2 relies on the nature and the extent of "damage" having been identified through Stage 1.

2.4.5 The Applicant therefore makes no detailed submissions at this stage in relation to any of the above, save to say that the Applicant is confident as a matter of principle that there would be no difficulty meeting the requirements of section 126(7) of the MCAA. It is not considered reasonable to go further in submissions on section 126(7) at this stage, given it can only be on a speculative basis. In the event the Secretary of State is not satisfied under section 126(6) and proceeds to Stage 2 assessment under section 126(7), the Applicant has a legitimate expectation that it would be consulted and afforded sufficient time to make further detailed representations.

2.4.6 In relation specifically to MEEB and how they may be secured, the Applicant stands by its position as set out in response to ExA question 2.2.46. Without prejudice to that, in the event that the Secretary of State finds against the Applicant, MEEB can be secured by condition attached to the DML. As requested by the ExA at ISH 7, proposed wording for such a condition is set out in **Appendix A**.

3. HABITATS REGULATIONS ASSESSMENT AND ISSUES OF APPROACH

3.1 A degree of uncertainty is inherent to any environmental assessment process as it necessarily involves prediction and modelling in an effort to assess what is likely to happen in the real world. In a prior assessment, there is never, or rarely, absolute certainty, which established case law accepts is "*almost impossible to attain*"[16]. That approach has applied to each and every offshore wind farm consented to date. Hornsea Three is no different.

3.2 Given that NE contends Hornsea Three is somehow unique, such that NE is unable to give proper advice on impacts in the context of the Habitats Regulations Assessment ("**HRA**") owing to contended "uncertainty", which in their submission amounts to "reasonable scientific doubt" (applying *Waddenzee*[17]), it is important to address what those concepts actually mean in the decision-making context where Article 6(3) of the Habitats Directive is engaged.

3.3 This section therefore contains legal submissions which address:

3.3.1 the correct approach in light of *Waddenzee* to the requirements of Article 6(3) of the Habitats Directive;

3.3.2 the extent to which NE's position based on uncertainty is evidence based and constitutes "*reasonable scientific doubt*" (as opposed to just doubt), having regard both to the evidence in this case and the approach taken by NE and decision makers to other offshore wind projects.

3.4 The Integrity Test

The Legal Framework

3.4.1 Article 6(3) of the Habitats Directive provides as follows:

"*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*"

3.4.2 In a case where there is considered to be a risk of significant adverse effects to a European site which cannot be immediately discounted, there must be an appropriate assessment ("**AA**"). The proper approach to Article 6(3) of the Habitats Directive has been considered in a number of cases at European and domestic level, which have established the parameters of the exercise and evidential requirements.

Case Law on Approach to Uncertainty

[16] C-127/02, *Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij at para 107.*
[17] C-127/02.

3.4.3 In *Waddenzee*, the ECJ found that a high standard of investigation is required. In the light of the precautionary principle, a project is "*likely to have a significant effect*" and to require an AA if the risk cannot be excluded on the basis of objective information[18].

3.4.4 As to the form and nature of AA, it should be no more than is "appropriate" to the task in hand, which is to satisfy the responsible authority that the project will not adversely affect the integrity of the site concerned. It requires a high standard of investigation, but the issue of the adequacy of that assessment ultimately rests on the judgment of the authority[19].

3.4.5 The questions for the authority carrying out the assessment are: What will happen to the site if this plan or project goes ahead?; and is that consistent with maintaining or restoring the favourable conservation status of the habitat or species concerned?[20].

3.4.6 *Waddenzee* confirms that AA involves the identification of impacts having regard to the best available scientific evidence and/or knowledge in the field[21]. This means that the assessment should be informed by expert assessment rather than mere assertion, but not any higher evidential standard, and may involve the exercise of judgment[22]. The competent authority must be "certain" that there would be no AEOI. However, in practice, that means there should be no "reasonable scientific doubt"[23]. Doubts must be reasonable and scientific (i.e. evidence-based). Advocate General Kokott explained in *Waddenzee*[24] (our emphasis added):

> *"the necessary certainty* ***cannot be construed as meaning absolute certainty since that is almost impossible to attain****. Instead, it is clear from the second sentence of article 6(3) of the Habitats Directive that the competent authorities must take a decision having assessed all the relevant information which is set out in particular in the appropriate assessment.* ***The conclusion of this assessment is, of necessity, subjective in nature. Therefore, the competent authorities can, from their point of view, be certain that there will be no adverse effects even though, from an objective point of view, there is no absolute certainty****."*

3.4.7 Absolute certainty is therefore not required. Where there are gaps in empirical evidence, it is lawful to work with probabilities and estimates, provided they are identified, reasoned and precautionary[25]. A degree of permissible doubt is allowed. In essence, the competent authority is carrying out a risk based assessment and must exercise judgement[26].

3.4.8 The standard of certainty has the subject of a number of judicial review cases in the UK. The position adopted by UK courts is consistent with that set out above. For example, in *Redcar*, the requirement was interpreted as requiring "*ascertainment with a high degree of certainty*"[27], but not absolute certainty.

3.4.9 An attempt to challenge the adopted AA on grounds of certainty was rejected in *R (Merricks)*[28] on similar grounds. In *Merricks*, it was claimed the Inspector had failed to grapple with alleged deficiencies in the evidence in relation to swans crossing the site and reliance on winter night flying to 6 pm only, without radar investigation of night flying. It was argued that meant the Inspector could

[18] *Waddenzee*, at para 39
[19] *R (Champion) v North Norfolk District Council* [2015] 1 WLR 3710, at para 41
[20] See the opinion of Advocate General Sharpston in *Sweetman v An Bord Pleanala (Galway County Council intervening)* (Case C-258/11) [2014] PTSR 1092, point 50
[21] *Waddenzee*, at paragraph 54
[22] *Smyth v SSCLG* [2015] P.T.S.R. 1417, at [83]
[23] *Waddenzee*, at paragraph 61.
[24] See paragraph 107 of Advocate General's Opinion.
[25] *Waddenzee*, points 107 and 97 of the Advocate General's opinion, endorsed in Champion, at para 41 and in *Smyth v Secretary of State for Communities and Local Government* [2015] PTSR 1417, at para 78.
[26] *R (Champion) v North Norfolk District Council [2015] UKSC 52* at para 41:
[27] Jackson J, at paragraph 118, *R (Lewis) v Redcar and Cleveland District Council* [2007] EWHC 166.
[28] *R (Merricks) v Secretary of State for Trade and Industry, nPower Renewables IP*

not conclude that the CRM accurately forecast numbers of likely collisions. The court dismissed this claim, on the basis that factual findings could only be challenged on the usual Wednesbury basis, i.e. no evidence to support conclusions or perverse findings/inferences from the evidence received. The precautionary principle did not create a more exacting standard.

3.4.10 In *Boggis*[29] the court considered the extent to which there is an onus on those contending there is some uncertainty (amounting to reasonable scientific doubt) to provide evidence for that:

> *"Whether a breach of Article 6.3 is alleged in infraction proceedings before the ECJ by the European Commission (see Commission of the European Communities v Italian Republic Case C-179/06, para. 39), or in domestic proceedings before the courts in member states, a claimant who alleges that there was a risk which should have been considered by the authorising authority so that it could decide whether that risk could be "excluded on the basis of objective information", **must produce credible evidence that there was a real, rather than a hypothetical, risk which should have been considered**."*

3.4.11 It is open to the decision maker to depart from or to attach limited weight to the views of the appropriate nature conservation body. In such cases a cogent explanation should be provided as to the reason for doing so and the evidence which is relied upon[30].

The Key Principles

3.4.12 In summary, considering *Waddenzee* together with subsequent case law, the following principles can be distilled:

(a) The requirement for certainty (i.e. no reasonable scientific doubt) gives expression to the precautionary principle.

(b) Article 6(3) provides for evidence-based decision-making that takes account of comprehensive scientific assessment and the evaluation of the acceptable level of risk that remains after this assessment. The latter consideration of risk is within the discretion of the competent authority.

(c) The assessment must be supported by expert evidence, but such evidence includes the exercise of judgment and grappling with uncertainties and predictive methods.

(d) Evidence must be provided to support any contended risk or uncertainty – risks must be real and not hypothetical to give rise to reasonable scientific doubt.

(e) It is inevitable when carrying out AA generally (and this applies particularly in the marine environment) that there are degrees of scientific uncertainty as to cause and effect. But where absolute certainty is impossible, it is permissible to work with probabilities and estimates so long as they are identified, reasoned and precautionary.

(f) The level of acceptable risk is when the competent authority is satisfied from an assessment of the best available evidence that any remaining risks do not undermine its certainty that the integrity of the site concerned will not be adversely affected. Since the threshold for a negative assessment is an adverse effect on site integrity, uncertainties which do not go to an impact on site integrity can be properly disregarded.

(g) The legal requirements of Article 6(3) thus require evaluative judgements having regard to many varied factors and scientific and technical considerations. In the real world, the best available evidence is often imperfect and it is necessary to rely on prediction (taking a

[29] Sullivan LJ, at paragraph 37, *R (Boggis and Anor) v Natural England*, [2009] EWCA Civ 1061
[30] *R (Hart District Council) v Secretary of State for Communities and Local Government* [2008] 2 P & CR 16, at para 49

precautionary approach where evidence is limited). The competent authority must exercise its judgement on the basis of the available body of evidence supplemented as necessary by prediction.

(h) The conclusion of an AA thus necessarily involves subjective judgements. A competent authority may therefore, from its point of view, be certain even though from an objective point of view there is no absolute certainty.

3.5 Contrasting Approaches to Article 6(3)

3.5.1 In view of the above principles and the correct legal approach, the Applicant is satisfied that it has provided sufficiently precise and definitive information to allow the Secretary of State to have certainty for the purposes of the Article 6(3) test, i.e. to conclude that site integrity is not undermined.

3.5.2 Having regard to the manner in which it is proposed to carry out Hornsea Three, and to the requirements and conditions subject to which it is proposed that development consent should or could be granted, there would be no adverse effect on the integrity of any European site.

3.5.3 That conclusion can be reached beyond reasonable scientific doubt based on a comprehensive survey and precautionary analysis, as reported in the RIAA [**APP-050** to **APP-054**]. In response to points raised during Examination, and any new and better evidence, the RIAA has either been supplemented by clarification notes or conclusions stress-tested through sensitivity or other additional analysis. The consistent and dominant pattern of all data and evidence submitted by the Applicant is one which demonstrates that the assumptions and analysis in, and in turn the conclusions of, the RIAA are highly and in some cases overly precautionary.

3.5.4 In contrast, NE's position is almost wholly or largely founded on contended uncertainty. It says either that adverse effects cannot be ruled out for one reason or another and/or it contends that a position of extreme precaution must be adopted with assumptions made that are calculated to inevitably lead to a conclusion of AEOI. No issue is taken with NE highlighting the importance of the precautionary principle in the context of HRA, only their application of it in a manner which distorts the nature of predictive assessments.

3.5.5 *Waddenzee* and subsequent case law provides no support for an approach that amounts to no more speculating on possible uncertainties and hypothetical risks. If it did, it would allow any objector opposed to a scheme to point to theoretical uncertainties and, in doing so, obstruct much needed and urgent nationally significant energy development based on specious argument. For this reason the Courts have been clear that it is insufficient to undermine an Appropriate Assessment for a third party to point to merely hypothetical risks. It is incumbent on the competent authority to insist that those who contest the findings of a comprehensive scientific assessment provide cogent factual arguments based upon sound scientific evidence.

3.5.6 The reasoning of NE in many cases ignores important new evidence. It focusses on and fails to put into context minor issues to justify its position of concern and doubt, by not looking at what can be concluded from the whole body of survey work. The Applicant does not believe that NE has engaged constructively and objectively with the totality of the evidence put forward by the Applicant and as such we submit NE has failed to reach a balanced and objective conclusion.

3.5.7 NE adopts the stance that it is for the Applicant alone to substantiate its position and demonstrate conclusively by reference to empiric evidence that there would be no risk of adverse effect on integrity of any European site, without recognising the need to exercise professional judgment. NE's approach is to say not all doubt has been positively disproved by the Applicant and to fasten upon that as 'uncertainty', which is then said to constitute reasonable scientific doubt or to justify the adoption of extreme precaution. NE's position is, essentially, a standard of absolute certainty as to implications for the relevant European sites. That does not accord with *Waddenzee* and subsequent

case law, properly read. NE's approach is an extreme application of the relevant jurisprudence which would render the task of assessment unworkably difficult. Put another way, NE contend for an assessment which is not "appropriate".

3.5.8 Furthermore, NE assumes the burden to provide evidence rests solely with the Applicant; NE appears to believe there is no requirement for it to substantiate its concerns by reference to analysis and evidence in order to establish that contended risks are real and not merely hypothetical.

3.5.9 Such an approach to the application of the relevant principles and concepts, does not accord with EC guidance or the judicial dicta referred to above. In short, the position of NE is founded on hypothetical risks and doubts, not evidence. There is no sound basis, in light of evidence to date, for concluding that the issues raised by NE indicate any potential risks to the integrity of European sites.

3.6 Article 6(4): IROPI

3.6.1 The Applicant's position is that Article 6(4) is not engaged because there is no basis for identifying a risk to site integrity after appropriate assessment. The Applicant has identified in response to ExA written questions 2.2.7 and 2.2.44 (**REP4-082**) the basis upon which it would wish to advance an IROPI case if a negative assessment were reached by the decision-maker.

3.6.2 However, in the absence of any conclusion as to the existence or extent of a possible effect on site integrity, the Applicant maintains that it is not necessary to consider IROPI. It is not considered reasonable to go further, given it can only be on a speculative basis.

3.6.3 If contrary to the evidence advanced to date the Secretary of State does identify an AEOI of any European site such that Article 6(4) is engaged, the Applicant expects and asserts its legitimate expectation that it would be consulted and afforded sufficient time to make further detailed submissions.

4. RELEVANCE OF PREVIOUS ADVICE AND OWF DECISIONS

4.1 The Applicant has referenced previously agreed positions with NE and conclusions reached by NE and the Secretary of State in the context of Hornsea Projects One and Two in respect of offshore ornithology in the application documents and in its submissions to examination. Reference has also been made to the approach taken in other OWF decisions such as East Anglia Three and in Scotland.

4.2 The Applicant acknowledged in response to questions at ISH 5 that SNCB advice and decisions on Hornsea Projects One and Two are not legally binding precedent and that is also true of other past decisions on OWFs by the Secretary of State. Nevertheless, these previous decisions are relevant and important considerations because similar issues have been deliberated upon and resolved as here, drawing on similar data sets.

4.3 The justification for this is, amongst other things, the importance of consistency in the decision-making process. This principle has recently been affirmed again in *Gladman* [2019][31], but the principle is set out in a line of consistent authority going back to *North Wiltshire*[32] [1993], where it was put as follows:

> "*One important reason why previous decisions are capable of being material is that like cases should be decided in a like manner so that there is consistency in the appellate process. Consistency is self-evidently important to both developers and development control authorities. But it is also important for the purpose of securing public confidence in the operation of the development control system. I do not suggest and it would be wrong to do so, that like cases must be decided alike. An inspector must always exercise his own judgment. He is therefore free upon consideration to disagree with the judgment of another but before doing so he ought to have regard to the importance of consistency and to give his reasons for departure from the previous decision*."

4.4 Notwithstanding the Hornsea projects are different in some respects, their circumstances are sufficiently closely related on a number of crucial issues to suggest that the approach in this case should not diverge materially from the approach taken in the first two projects, even allowing for NE's concerns regarding the ornithological baseline characterisation.

4.5 It is therefore relevant to highlight that NE's approach to many areas of the assessment at Hornsea Three, including phenology, apportioning and Band Model Option for CRM is not consistent with NE's position and advice on previous projects that are fundamentally similar, with no new evidence suggesting that the position of NE should have changed and no cogent explanation from NE as to the reason for this change (beyond their points on the baseline). Insofar as new evidence does exist, this suggests that the position of all parties on previous projects was overly rather than insufficiently precautionary – in other words, if there were to be a departure, it would be towards an assessment of reduced, rather than increased risk as compared to these projects.

4.6 In addition, the ExA and Secretary of State will have to reach conclusions as to the acceptability of the impact on species at a population level by reference to the PVA analysis provided by the Applicant. In the absence of guidance or advice from NE or any other SNCB as to acceptable or tolerable thresholds of impact for projects alone or in combination, the only reliable guide is recent decisions granting consent in light of the identified impact for the project in question alone and in combination.

4.7 It is for this reason that, for example, the Applicant sought to place predicted collision rates into context compared to recent consent decisions. As set out at ISH 7 (see **REP7-009**) for the FFC SPA, the Hornsea Two and East

[31] *Gladman Development Ltd v Secretary of State of Housing, Communities and Local Government* [2019] EWHC 127 (Admin)

[32] *North Wiltshire DC v Secretary of State for the Environment* [1993] 65 P&CR 137 This approach was endorsed and applied in *Dunster Properties Limited v First Secretary of State* [2007] EWCA Civ 236 and *R v on the application of Fox Strategic Land and Property Limited v Secretary of State for Communities and Local Government* [2012] EWCA Civ 1198; [2013] 1 P&CR 80. This principle was also applied in *DLA Delivery Limited v Baroness Cumberlege of Newick* [2018] EWCA Civ 1305

Anglia Three are highly relevant given there was specific consideration of the potential for an adverse effect on the breeding kittiwake interest feature of that SPA. The collision rates and CPS35 values are colour coded to indicate their correspondence with the impacts considered at East Anglia Three. Green indicating that the collision rate is lower or CPS35 value is higher than that which was considered in consenting East Anglia Three.

4.8 In the absence of new evidence to suggest previous relevant decisions taken by the Secretary of State as to the acceptable or tolerable thresholds of impact on FFC SPA are wrong, there is no reason to take a different view now.

4.9 In this context it is worth remembering that Hornsea Three is the furthest from FFC SPA of all projects within the former Hornsea Zone. All evidence which does exist indicates that the Hornsea Three array area is of less importance to qualifying species than Hornsea Project One or Two. Conversely, there is no evidence to suggest that the Hornsea Three array area is of more importance to the qualifying species of FFC SPA.

5. IMPLICATIONS FOR APPROACH TO OFFSHORE ORNITHOLOGY EVIDENCE

5.1 The Applicant's Statement of Case provides a comprehensive summary of the Applicant's evidence and position in relation to ornithology, in response to NE, and should be referred to and read against the legal backdrop set out above. This section of this legal submission seeks only to highlight some particular issues which serve as good examples of the misconceived and/or unjustified approach adopted by NE when considered through the lens of the legal position as described above.

5.2 **Ornithology Baseline Issues**

5.2.1 The issues NE cites with respect to the ornithological baseline must be considered objectively, in their proper context, and with regard to the totality of the evidence available to the Secretary of State.

5.2.2 Many if not most of the issues cited as giving rise to uncertainty (e.g. inter-annual variability) apply similarly to other OWFs consented by the Secretary of State. In and of themselves, they are not reasons to conclude reasonable scientific doubt.

5.2.3 Conversely, and in contrast to many previous projects especially in Rounds 1 and 2, the former Hornsea Zone is amongst the most well surveyed areas for wind farm development in the UK. There is good survey data from a previous zonal survey programme, which included data for the Hornsea Three area and provides useful baseline information which can complement the site-specific DAS.

5.2.4 Given discussions during the evidence plan process on seeking to find suitable uses for the existing zonal data, NE's final position to examination (that difficulties in using data from different platforms are insurmountable) appears only to serve the purpose of casting doubt on the Applicant's assessment. The Applicant has pointed out in response that it is not uncommon to draw on multiple data platform sources, including data obtained from a combination of visual and digital survey methods and there is no good reason for ignoring this data.

5.2.5 Furthermore, the boat-based data obtained for the former Hornsea Zone formed the baseline dataset for use in the assessments undertaken for the Hornsea Projects One and Two and was relied upon by the Secretary of State to grant development consent. The assessments undertaken for those projects relied upon bird densities derived from those surveys. Whatever reservations NE may say they had over the boat-based data, NE did not challenge those decisions.

5.2.6 The site-specific DAS campaign comprising 20 consecutive months of surveys, provides coverage of almost two breeding seasons. The months that were surveyed in two seasons (April – Nov inclusive) include the majority of the breeding season for key species even applying NE's seasonal definitions (which the Applicant does not agree with) and are more important in ornithological impact assessment terms than the months surveyed once (Dec – March inclusive). The previous surveys

within the zone confirm densities and the variability in the density of key species during the Dec – March period are low or lower, compared to other times of year.

5.2.7 The Applicant has also submitted evidence which demonstrates Hornsea Three is not unique in having missing survey months: a number of other consented OWFs collected less than 24 months of survey data including gaps of 4 or more consecutive months[33]. This is not an insurmountable issue. It has not previously precluded the Secretary of State from reaching a positive conclusion following an AA accounting for uncertainty that may be said to arise.

5.2.8 What is unique is NE's insistence in this case that it cannot advise on impacts arising from Hornsea Three. There is no evidential difference between Hornsea Three and other projects with less than 24 months data. NE seeks to distinguish Hornsea Three on the basis other OWFs with gaps in data intended to collect 24 months of data. That has no bearing on the evidence available to the Secretary of State and cannot affect any conclusion which the Secretary of State may reach.

5.2.9 NE also seeks to question the precision achieved by the DAS in relation to a 'target' 16% coefficient of variation (**CV**). The Applicant has explained why this target is not of material importance in the context of the type of survey required for baseline characterisation purposes, given the density of key species at issue in this case. Regardless, the Applicant has presented a comparison between CV values associated with survey data collected for Hornsea Three and those associated with survey data from other OWFs which shows that CV values are variable by both species and month and that the CV values associated with data from Hornsea Three are similar and in many cases superior to those achieved at other projects (**REP4-096**).

5.2.10 The Applicant considers that for NE to suggest the issues it raises with respect to the baseline data are both unique and insurmountable for Hornsea Three given the totality of the survey work both for the site and from across the former Hornsea Zone, is a gross overstatement that risks creating a misleading impression as to the nature of the evidence available to the competent authority.

5.2.11 While issues of details may differ from one case to another, overall there is no greater uncertainty in this case than has or may be expected to arise in the context of any OWF. In this case the areas of uncertainty have been identified and can therefore be accounted for through suitably precautionary assumptions and, should it be necessary, by adopting mitigation.

5.2.12 In view of the legal framework and principles outlined above, the baseline issues raised by NE do not provide a sound basis for concluding reasonable scientific doubt.

5.3 Collision Risk Modelling (CRM) Parameterisation

Summary

5.3.1 The Applicant's final position on CRM is summarised in Appendix 28 of the Applicant's Deadline 6 submission (**REP6-042**). It is supported by a comprehensive set of data and evidence and robust justification which is set out in detail across a range of documents including the RIAA (**APP-051**) and subsequent submissions, as drawn together in **REP4-049**.

5.3.2 In contrast, the closest NE has come to setting out its position on CRM parameter values is its Deadline 7 submission **REP7-078**, though its position remains ill-defined (NE say **REP6-043** presents the parameter values 'most closely aligned with' but not necessarily representing their actual position). **REP7-078** responds to and draws on the Applicant's submission at Deadline 6 on CRM parameters (**REP6-043**).

[33] See Table 1.3 in **REP1-141** and the Applicant's response to the ExA's second written question 2.2.4.

5.3.3 It is not the Applicant's role to set out NE's possible position and the information in **REP6-043** was provided by the Applicant in good faith to assist the ExA in the continuing absence of advice from NE and in response to the direct request from the ExA.

5.3.4 The Applicant does not consider the use of the parameters set out in **REP6-043** and carried through into NE's submissions in **REP7-078** are supported by the best available evidence, even on a precautionary approach and accounting for uncertainty. Consequently, both individually and cumulatively (as each parameter adds precaution upon precaution), it is considered that the values set out by NE can only be regarded as extreme and to represent a gross over-estimate of impact going beyond any realistic or even hypothetical worst-case assessment.

5.3.5 The Applicant maintains fundamental concerns with Natural England's position (**REP6-007**) including:

(a) The confounding of multiple sources of variability when considering collision risk estimates producing a range of values that is essentially meaningless in terms of the consideration of variability;

(b) The use of worst case scenarios for all parameters, without acknowledgement, when Natural England have previously advocated the use of a range; and

(c) A lack of application of an evidence-based approach including in relation to nocturnal activity factors, apportioning rates, flight speeds and avoidance rates.

Model Option

5.3.6 The Applicant continues to endorse the use of Option 1 of the Band (2012) CRM in this case because it uses site-specific flight height data and there is an extensive dataset covering Hornsea Three.

5.3.7 The use of collision risk estimates calculated using Option 1 was agreed as the appropriate model Option during examination of the Hornsea Project Two offshore wind farm. Both NE and in turn the Secretary of State based their final conclusions on collision risk estimates calculated using this model Option. The dataset and methodology used to derive the proportion of birds at collision height at Hornsea Three is identical to that applied at Hornsea Project Two including the consideration of uncertainty within the dataset.

5.4 Population Viability Analysis (PVA)

5.4.1 PVA modelling has been undertaken for the species of interest and model results are presented in REP4-092. As explained by the Applicant's witness at ISH 7, the PVA modelling produced by the Applicant is not trying to simulate population, rather try to understand its resilience to mortality.

5.4.2 The key metrics used to interpret the model outputs relate to:

(a) Population growth and specifically the ratio of the impacted growth rate to the unimpacted growth rate – referred to as the counterfactual of growth rate or CGR.

(b) Population size at the end of the operational life of the wind farm (in this case 35 years) and specifically the ratio of the impact population size to the unimpacted population size – referred to as the counterfactual of population size (at 35 years) or CPS35.

5.4.3 In the absence of guidance from NE on the interpretation of these metrics, the Applicant considers it is relevant and appropriate to consider previous decisions (such as East Anglia Three and Hornsea Projects One and Two) and also how other SNCBs and regulators have approached this topic, such as SNH and Marine Scotland.

5.4.4 Even if NE's parameterisation is used, which is considered to lie at the extreme end of the spectrum, it depends on the view taken of the in combination effect and the interpretation of PVA – for example, even the highest number on the table in slide 9 of the presentation of 0.84-88 (see **REP7-009**) is higher than a modelled number consented in Scotland (e.g. Neart na Gaoithe), where the population of kittiwake is in a less favourable condition, and no adverse effect was concluded.

5.5 In-Combination Effects

5.5.1 Volume 2, Chapter 5: Offshore Ornithology (**APP-065**) and the RIAA (**APP-051**) looked at the differences between assessed and as-built turbine scenarios for certain projects, which is likely to result in a significant over-estimate of the impacts assumed in cumulative and in-combination assessments.

5.5.2 It is important to note that NE agrees as a matter of principle that in-combination assessment is generally an over-estimate. The question in light of that is how to account for that over-estimation: it must be accounted for in one way or another, otherwise new projects may be refused on account of a false baseline position.

5.5.3 The Applicant sought to follow the agreements reached at previous projects, especially those reached with NE at Hornsea Project Two where correction factors based on the differences between the number of assessed and consented turbines were applied. The approach applied in the RIAA (**APP-051**) is identical to the approach applied at Hornsea Project Two with the suite of projects for which correction factors were applied agreed with NE during examination of Hornsea Project Two. Collision risk estimates calculated using these correction factors were incorporated into the assessments undertaken by both the applicant for Hornsea Project Two (see SMartWind, 2015a and 2015b) and NE (see Natural England 2015a and 2015b) A number of the associated correction factors were also applied as part of the assessments produced for the Dogger Bank Creyke Beck A & B offshore wind farms.

5.5.4 Further to this, MacArthur Green (2017) identified differences between assessed and as-built turbine scenarios, calculating a correction factor for each. This information was reviewed to identify projects where it would be reasonable to apply a correction factor, a key consideration being whether the design scenarios applied by MacArthur Green (2017) were appropriate and reflected current understanding. Where appropriate, therefore, the correction factors recommended in that study were applied to help quantify the likely over-estimation of cumulative and in-combination impacts. This information was used qualitatively in the assessments presented in the RIAA (**APP-051**) to highlight the precaution in those assessments.

5.5.5 At Deadline 1 the Applicant submitted Appendix 4 (**REP1-148**) which provided updated information in relation to the differences between assessed and as-built turbine scenarios building on the approach considered qualitatively in the Hornsea Three application (**APP-051** and **APP-065**). The Applicant provided clarification of its approach in **REP6-020**.

5.5.6 These analyses consistently illustrate that there are significant reductions in cumulative and in-combination collision risk totals even when including only the reductions at those projects at which future / further development is not possible. As there is no longer any potential for those projects for which a reduction was applied to be built out to the extent of the worst case associated with the assessed turbine scenario, it is incorrect to continue using collision risk estimates associated with the assessed scenario.

5.5.7 In contrast, despite acknowledging the issue, NE again reverts to arguing that matters are simply too difficult and uncertain and does not advocate any particular method for reflecting this over-precaution in the assessment. The Applicant has sought to account for the over-estimate by applying corrections in an open and transparent, and precautionary manner following a methodology developed by The

Crown Estate. Whether or not the Applicant's methodology is adopted or not, some allowance must be made for the inherent over-estimation of the in-combination baseline position.

5.6 Mitigation available if necessary to avoid AEOI

5.6.1 The Applicant maintains that mitigation is unnecessary. With respect to European sites, the conclusion in all cases is that there is no indication of an AEOI arising from Hornsea Three (either alone or in-combination). It is considered that these conclusions can be made beyond any reasonable scientific doubt as the assessment has identified and addressed potential sources of uncertainty.

5.6.2 The Applicant maintains that there is no legal or evidence-based reason to apply NE's assumptions in this case. However, if the ExA is minded to adopt some or all of the assumptions advocated by NE, the Secretary of State would be duty bound to consider mitigation as identified by the Applicant, which can reduce predicted impacts to a level at which no AEOI is predicted.

5.6.3 At ISH 7, the Applicant presented collision risk estimates for kittiwake calculated using two revised turbine scenarios that incorporate increased lower rotor tip heights. The use of increased lower tip heights reduces collision risk estimates due to the skewed nature of the flight height distribution of birds across the sea meaning fewer birds interact with the collision risk window. Collision risk estimates for all species calculated using the original turbine scenario and the two increased lower rotor tip height scenarios were presented in **REP7-031**. However, as noted in **REP7-030**, the application of such mitigation comes at a cost to the project and should not be imposed lightly.

5.6.4 The Applicant notes that, in its response to ExA **Q F.2** (Rule 17), NE confirms that raising the minimum blade height is a recognised mitigation technique to reduce collision risk. NE also confirms that REP7-031 does indicate the relative effects that raising the lower turbine height would have on predicted collision impacts.

6. IMPLICATIONS FOR APPROACH TO BENTHIC ECOLOGY EVIDENCE

6.1 The Applicant's Statement of Case, submitted at Deadline 10, provides a comprehensive summary of the Applicant's evidence and position, in response to NE, in relation to benthic ecology and should be referred to and read against the legal backdrop set out above. This section of this legal submission seeks only to highlight some particular issues which serve as good examples of the misconceived and/or unjustified approach adopted by NE when considered through the lens of the legal position as described above.

6.2 Extensive Mitigation by Design

6.2.1 Before considering the validity of the concerns maintained by NE with regard to the impact of cable installation and protection on designated sites, it is relevant and important to consider the extent to which it is possible and realistic to avoid such impacts.

6.2.2 Offshore cable routing is necessarily an exercise to find the straightest acceptable route from one fixed location (in this case the offshore array area) to another fixed location (in this case the selected landfall site). There are manifold constraints dictated by engineering limitations, physical, third party and seabed use (e.g. avoid or minimise cable crossings) in addition to environmental considerations. For Hornsea Three, given the start and end points of the offshore export cable, a degree of interaction with designated sites and corresponding habitat impact is unavoidable.

6.2.3 The NNSSR SAC extends from approximately 40 km off the north Norfolk coast out to approximately 110 km offshore and encompasses the most extensive area of offshore linear ridge sandbanks in the UK. Given the relative positions of the Hornsea Three array and landfall respectively, avoiding the SAC is not feasible.

6.2.4 Although not feasible to avoid the NNSSR SAC, the Applicant reduced the extent of offshore cable corridor within the NNSSR SAC so far as possible, given other constraints. This is readily apparent from ES Figure 4.6 of the ES [Volume 1, Chapter 4, **APP-049**] which identifies the various offshore cable corridor route options considered by the Applicant, with the selected route being the one which limited the interaction with the NNSSR SAC.

6.2.5 With regard to The WNNC SAC, preference was initially given to reducing the footprint of the offshore cable corridor within the WNNC SAC over the Cromer Shoals MCZ. However, as noted in other submissions throughout examination, the Applicant undertook a substantial reroute of the offshore cable corridor to reduce the length of the offshore cable corridor within the Cromer Shoal MCZ (and associated impacts with it), an exercise precipitated by a Section 42 consultation response from NE (see section 2 of **REP1-138**). As a result, the Hornsea Three export cable corridor only extends through approximately 1 km of the Cromer Shoal MCZ.

6.2.6 Beyond routing, the Applicant has made a series of further mitigation commitments. These are confirmed in the Benthic Impact Control Plan, submitted at Deadline 10, but include avoiding Annex I reefs within the SAC through micro-siting, the use of sensitive cable protection (i.e. cable protection grain sizes will be selected considering the local seabed conditions) and cable protection measures used within SAC will not include concrete mattresses. More recently, the Applicant has committed that remedial cable protection within designated sites could be decommissioned at the end of the operation and maintenance phase, subject to agreement from SNCB.

6.3 Benthic Baseline Issues

6.3.1 Turning to the issues NE cites with respect to the benthic ecology baseline, as with ornithology, it is important that these are considered objectively, in their proper context, and with regard to the totality of the evidence available to the Secretary of State.

6.3.2 Leaving aside the nearshore re-route (where for good reason there is less site-specific data), the export cable corridor is well characterised through an appropriate number and distribution of site specific samples, supplemented with data from other published sources. The Applicant has identified and classified benthic infaunal and epifaunal biotopes using appropriate guidelines for marine habitat classification in UK waters and following methodologies used on previous offshore wind farm projects.

6.3.3 Survey methods, sampling frequency etc. were discussed through the Expert Working Groups as part of the evidence plan process. The primary purpose of such discussions is explicitly to inform evidence gathering to ensure the data and consequent assessment is fit for HRA purposes (not just EIA purposes). For NE to suggest in examination that what has been done is fine for EIA but somehow inadequate for HRA purposes is both wrong and unreasonable on their part.

6.3.4 The Applicant acknowledges that there is less sampling within the WNNC SAC (though there is sampling) relative to other parts of the export cable corridor but that is on account of the nearshore re-route. NE's criticism in this regard is disproportionate and unreasonable, given the background of the Applicant seeking in good faith to address and respond to NE and SNCB concerns regarding the initial routing the cable through Cromer Shoal MCZ.

6.3.5 Regardless, it has been possible to adequately characterise the baseline of the WNNC SAC through existing data sources from comparable adjacent or nearby locations. Furthermore, that characterisation was subsequently validated during the Examination phase via the WNNC SAC Clarification Note (**REP1-140**).

6.3.6 Many of the criticisms advanced by NE have been revealed to be unfounded and in some cases appear to be drafted to create a misleading impression that the Applicant had systematically failed to consider important matters or deviated from set standards. For example NE initially and repeatedly

sought to suggest that the Applicant failed to consider repetitive impacts between phases of the project, yet in response to ExA question **F2.23** (Rule 17) now concedes that the impact assessment is not flawed (though it still creates a misleading impression by referring (incorrectly) to "13 years of impact", a duration which is patently wrong). In a similar vein, as addressed by ExA question **F2.14** (Rule 17), NE had contended that the Applicant failed to undertake a 'standard set of analysis' in respect of biotopes but now concede that the Applicant's approach is not incorrect and there is no such 'standard method'.

6.3.7 It is submitted that these and other examples demonstrate an unhelpful approach by NE which is indicative of a lack of objectivity and proportionality with regard to Hornsea Three. It may also reflect a wider anxiety on the part of NE in view of the recent condition assessment[34] undertaken for the SAC, but as set out by the Applicant in REP6-019 that is largely driven by fishing pressures[35].

6.3.8 In the final analysis, when the extensive evidence presented by the Applicant is considered in totality, in the context of the legal framework and principles outlined above, it is clear that NE's repeated comments over the baseline do not provide any grounds for concluding reasonable scientific doubt.

6.4 Likelihood of Cable Burial and Need for Cable Protection

6.4.1 The Applicant is one of the most experienced offshore wind developers in the world, with access to a wealth of engineering expertise and experience in relation to the installation of offshore cabling in the marine environment.

6.4.2 Drawing on its expertise, the Applicant has developed a project envelope which includes a range of cable burial tools and installation methodologies which are considered eminently appropriate to install cables within the Hornsea Three offshore cable corridor having regard to the range of expected ground conditions.

6.4.3 It is in the interests of the Applicant to achieve burial of the cables as it offers best protection for cables. As set out by the Applicant in numerous submissions throughout the examination phase, cable protection is and will be a last resort.

6.4.4 To address NE concerns, the Applicant has gone 'above and beyond' and presented a Preliminary Trenching Assessment ("**PTA**") (**REP6-026**). The PTA provides confidence in the ability to bury export cables within marine protected areas. The analysis and conclusions of the PTA are not seriously challenged by NE or any other party

6.4.5 However, there are many reasons why a cable may be insufficiently buried (e.g. adverse weather, mechanical breakdown) which cannot be precisely defined now based on analysis of ground conditions or professional judgement. There are 'known unknowns'. Regardless of any analysis that may be done now, it would remain necessary to include provision for remedial cable protection and to assess the implications of that in order to assess the worst case scenario.

6.4.6 The Applicant has presented a robust justification for its precautionary maximum design scenario of up to 10% cable protection within designated sites (see **REP1-138**). No evidence is presented by NE or any other party to suggest that 10% is inadequate or insufficiently precautionary. Race Bank did not include any allowance for cable protection in its original consent and, to that extent, is not a fair comparison.

[34] Due to the absence of direct monitoring data of the demersal fisheries, NE adopted a vulnerability assessment-type approach as a proxy to assess the impact.
[35] At paragraph 3.1 of REP6-019 the Applicant notes that the main reason for the two relevant sub-features being judged to be in unfavourable condition is due to fisheries activity using bottom towed gear, which has a repeated impact on biological communities over a relatively wide area. In contrast, impacts related to offshore wind farm cabling are more discrete and localised, and are generally not repeat impacts.

6.4.7 When the concerns and comments from NE are stripped away, in the final analysis NE has presented no countervailing technical evidence on cable burial to rebut the Applicant's evidence. The NE paper (Offshore wind cabling: 10 years experience and recommendations) (**REP1-208**) is not an independent, peer reviewed paper. It is supposition by NE and, for the reasons set out in **REP2-004,** can only be regarded as anecdotal; no evidential weight can attach to it when it fails to identify the projects cited by NE as examples and does not provide any information to allow any determination as to whether the conditions and circumstances are comparable to Hornsea Three.

6.4.8 NE acknowledge in their response to ExA question **F2.9** (Rule 17) that it does not have sufficient engineering knowledge of the specific equipment and evidence presented in the PTA to comment on the suitability of the equipment. NE does not possess comparable offshore engineering expertise such that its professional opinion can or should be preferred over the Applicant's.

7. CONCLUSIONS

7.1 The Hornsea Three project is firmly in accordance with NPS EN-1 and EN-3 for the reasons summarised in the Applicant's Statement of Case. It benefits from the presumption in favour of the grant of development consent in section 104(3) of the 2008 Act.

7.2 The impacts of Hornsea Three have been carefully assessed in accordance with the principles in the relevant NPS and the statutory requirements of the Habitats Regulations and the MCAA. There is nothing in the legal matters addressed above or otherwise with reference to section 104(4) to (8) of the 2008 Act to suggest development consent should not be granted.

7.3 The Applicant has comprehensively evidenced through the original impact assessments as presented within the RIAA and subsequent examination phase clarifications why a conclusion of no AEoI either alone or in-combination for all European sites can be reached. There is no reasonable scientific doubt remaining.

7.4 Where questions as to the adequacy of the Applicant's assessment have been raised by NE and other IPs the criticisms have been proportionately addressed through further submissions and analysis. Those areas where there are outstanding disagreements do not approach justifying the withholding of development consent, taking account of proposed mitigation.

7.5 While NE continue to advise that it cannot rule out the potential for an AEOI, either alone or in-combination, for certain European sites, it does so mainly or wholly on grounds of contended uncertainty. The legal submissions above set out why that is based on an extreme position and the Applicant invites the Secretary of State to discount and depart from NE's advice in this case.

7.6 Although NE and other IPs maintain residual concerns in some areas, none advocate that development consent must or should be refused. The concerns which remain are not insurmountable within the context of the legal framework and evidential requirements described above.

7.7 If the Examining Authority is minded to recommend or the Secretary of State minded to reach a conclusion based on some or all of the extreme assumptions advocated by NE in relation to ornithology, the Applicant invites the Secretary of State to consider the mitigation that has been identified and is available that would reduce predicted impacts to a level at which no AEOI can be concluded.

7.8 Adverse impacts are an inevitable result of Nationally Significant Infrastructure Projects. In this case, considerable effort has been invested to minimise the adverse impacts such that they are no greater than would be expected for a major offshore wind farm of this scale, or can be made so subject to necessary mitigation, and they are substantially outweighed by the benefits of the proposal.

Pinsent Masons and Richard Turney
1 April 2019

8. APPENDIX A: dDML condition to secure MEEB

Without Prejudice

"MEEB" means measures of equivalent environmental benefit, as that term is used in section 126(7)(c) of the 2009 Act;

"in principle MEEB plan" means the document certified as the in principle MEEB plan by the Secretary of State for the purposes of this Order under article 36 (certification of plans and documents etc);

In Schedule 12 (DML – Transmission Assets), Condition 14, insert new sub-paragraph (7)

14 (7) The licenced activities, or any phase of those activities, must not commence within The Cromer Shoal Chalk Beds MCZ until a MEEB plan which accords with the principles set out in the in principle MEEB plan has been submitted to the MMO and the MMO is satisfied that where the plan confirms that MEEB is necessary to avoid significantly hindering the achievement of the conservation objectives (within the meaning of the 2009 Act) stated for the Cromer Shoal Chalk Beds MCZ, it provides arrangements to ensure such MEEB is undertaken, whether by the undertaker or another party.