



THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES

2010

Outer Dowsing Offshore Wind Farm

**Appendix B1 to the Natural England Deadline 1 Submission**

**Natural England's comments on Marine Processes including the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix B Blockage Modelling Results [PD1-084]**

For:

The construction and operation of Outer Dowsing Offshore Wind Farm located approximately 54 km from the Lincolnshire Coast in the Southern North Sea.

Planning Inspectorate Reference EN010130

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24<sup>th</sup> October 2024

## **Natural England's Advice on documentation submitted and updated related to Marine Physical Processes**

In formulating these comments, the following documents have been considered:

- [APP-150] 6.3.7.1 Chapter 7 Appendix 1 Physical Processes Technical Baseline
- [APP-151] 6.3.7.2 Chapter 7 Appendix 2 Physical Processes Numerical Modelling Report
- [AS-003] 6.3.7.1 Physical Processes Technical Baseline Rev. 2.0
- [APP-152] 6.3.7.3 Seabed Mobility Report (CONFIDENTIAL)
- [PD1-059] 8.13 Schedule of Mitigation V2 Tracked
- [PD1-071] 15.3 The Applicant's Response to Representation Responses – Natural England
- [PD1-081] - 15.9 Environmental Report for the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor
- [PD1-082] 15.9A Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix A Figures – Procedural Deadline 19 September. Part 1 of 2.
- [PD1-083] 15.9A Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix A Figures – Procedural Deadline 19 September. Part 2 of 2.
- [PD1-084] 15.9B Procedural Deadline 19 September Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix B Blockage Modelling Results

### **1) Main Comments**

1. Natural England acknowledges the following issues raised in our Relevant Representations [RR-045] Appendix B are resolved:

- The Applicant has confirmed in their response in PD1-059 that trenchless techniques only will be employed at landfall and that this is secured in the Development Consent Order (DCO) (3.1), in Part 1 of Schedule 1.
- The Applicant has confirmed that an updated assessment of spoil mounds [AS-003] was carried out based on the revised Maximum Design Scenario (MDS) parameters and used to inform the assessment presented in the Environmental Statement [APP-062].

2. A summary of our overarching concerns regarding the introduction of the Offshore Restricted Build Area (ORBA) [PD-081] can be found in our Deadline 1 Cover Letter.
3. With regards to impacts associated with the introduction of the ORBA, given the uncertainty regarding the Realistic Worst Case Scenario (RWCS) as presented in [PD1-084], magnitude of change, and evidence gaps, our concerns remain regarding potential changes to sediment transport processes and seabed morphology over the lifetime of the Project.
4. The presented reduction in significant wave height of up to 1m [PD1-084], over the lifetime of the project (35 years) could have a significant impact on the sediment transport processes that operate on and around sensitive receptors such as the sandbanks within and near the array.
5. We advise the Applicant addresses the evidence gaps and undertakes further modelling to inform the impact assessment. Natural England seeks further clarification on whether the separation between WTGs and Offshore Platforms (OPs) has been reduced as a result of the reduction in the array area introduced by the ORBA.
6. The Applicant has stated in PD1-071 that cable protection measures within the nearshore environment will not take the form of 1.5m high rock berms. Instead, cable protection measures within the inner depth of closure (approx. 7.1m) are unlikely to exceed 0.35m in height (with the exception of cable crossings). If rock protection is to remain the Applicant's chosen external cable protection measure, can the Applicant confirm whether along with a reduction in nearshore cable protection height, they also envisage a reduction in rock berm volume? Natural England requests confirmation as to which document or plan this reduced nearshore maximum cable protection height of 0.35m has been secured.

## **2) Detailed Comments**

7. Natural England provides detailed comments and advice to the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix B Blockage Modelling Results in Table 1 below.

**Table 1 – Document Reviewed - [PD1-084] 15.9B Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix B Blockage Modelling Results**

NE Ref	Section	Key Concern and/or Update	Natural England’s Advice to Resolve Issue
B1.1	Section 1.2	Potential Impact Increase: The introduction of the ORBA has reduced the array area available for installation of the wind turbine generators (WTGs) and Offshore Substation Platform (OSPs). While Natural England welcomes the removal of this northern section which reduces impacts to seabed morphology; we are concerned that impacts to receptors such as marine processes are likely to be increased.	Natural England draws the ExA to the following points where further evidence is requested to demonstrate that the original WCS and associated assessments remain fit for purpose.
B1.2	Section 2/Para 11 (and PD1-071/B2, B15 & B17)	Realistic Worse Case Scenario: The Applicant has stated that the modelled windfarm layout represents the most realistic worst-case scenario (RWCS) based on best available information. However, the (Confidential) Seabed Mobility Report [APP-152] advises that installation of WTG (and presumably OSP) foundations may need to avoid those areas in the array with the greatest potential for bed elevation changes (e.g. 10m/year) over the lifetime of the project, which suggests contention with the conclusions on significance of impact in the original assessment. Moreover, the (Confidential) Seabed Mobility Report [APP-152] advises that more detailed, site-specific data will be needed to assess and better understand bedform migration rates and directions, seabed sediment mobility, scour potential, and infrastructure integrity over the lifetime of the Project. The Applicant highlights the preliminary nature of this report and that <i>“Final layout details will be informed by detailed engineering design work developed post-consent in consultation with the MMO and relevant stakeholders.”</i> Given the uncertainty regarding the RWCS, magnitude of change, and evidence gaps, our concerns remain, and are potentially heightened, regarding potential changes to sediment transport processes and seabed morphology over the lifetime of the Project.	Natural England advises that the Applicant should address the evidence gaps identified in our RR/WR [RR-045] during the consenting phase.  Further modelling may also be required pre-construction to ensure this remains fit for purpose and we anticipate being re-consulted as/when further information is available.  We also advise that monitoring (as mentioned in the In-Principle Monitoring Plan) should be carried out to ensure that there are no unexpected changes to seabed morphology such as sandbanks.
B1.3	Figures 1.2 and 1.3	Reduction in Wave Height: In Figure 1.2, the updated blockage modelling results show an increased ‘wave shadow’ area extending	We advise that the implications of the updated model results will need to be re-

NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue
		<p>further to the south of the array for northerly waves, and in Figure 1.3 to the southwest of the array for northeasterly waves. Natural England advises that a reduction in significant wave height of up to 1m, over the lifetime of the project (35 years) could have a significant impact on the sediment transport processes that operate on and around sensitive receptors such as the sandbanks within and near the array (e.g. Outer Dowsing Shoal).</p> <p>Natural England also notes that the scale in Figures 1.2 and 1.3 used to represent the greatest potential change in significant wave height is -1 to -0.1m, which is a significant order of magnitude, whereas for the lesser changes in significant wave height the range is much smaller (e.g. -0.05 to -0.025m). Therefore, we advise that a more graduated scale for the greatest predicted change in significant wave height would make interpretation of the results clearer.</p>	<p>evaluated when the necessary additional information (see comment above) has been gathered.</p>
B1.4	Section 2/Para 17 & Figure 1.1	<p>ORCP: Natural England notes that Figure 1.1 shows a reduction in current speed of up to 0.1m/s in the ORCP area adjacent to Inner Dowsing sandbank. We remain concerned that the presence of two Gravity Base (GBS) ORCPs with a minimum separation distance of <b>90m</b> adjacent to Inner Dowsing, could disturb tidal flows, local scour, and overlapping wake effects, in an area of high seabed elevation change [PD1-084]. This could lead to changes to sediment transport pathways and affect sandbank morphology.</p>	<p>Natural England advises that further consideration of potential disturbance to tidal flows, development of local scour, and changes to sediment transport pathways and seabed morphology is required.</p>
B1.5	Section 2/Para 11	<p>Changes to structure separation distance: Natural England notes that the Applicant states that project parameters including number of structures and foundation types will remain unchanged. However, it is not clear, given the reduction in array area within the ORBA whether the separation between WTGs and Offshore Platforms (OPs) has been reduced.</p>	<p>Natural England advises that further information should be provided on potential changes to structure separation distance within the ORBA and evidence will be required to support any conclusions.</p>