



THE PLANNING ACT 2008

THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES
2010

FIVE ESTUARIES OFFSHORE WIND FARM

**Appendix B6 Natural England's Marine Processes advice on the Applicant's Deadline
4 Documents**

For:

The construction and operation of Five Estuaries Offshore Wind Farm, located
approximately 57 km from the Essex Coast in the Southern North Sea.

Planning Inspectorate Reference EN010115

11 February 2025

Appendix B6 Natural England's Marine Processes advice on the Applicant's Deadline 4 Documents

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

- [REP4-018] 9.8 Dredge Disposal Site Characterisation Report – Revision B (Tracked)
- [REP4-020] 9.12 Outline Cable Specification and Installation Plan – Revision B (Tracked)
- [REP4-022] 9.13 Margate and Long Sands Special Area of Conservation Benthic Mitigation Plan – Revision C (Tracked)
- [REP4-035] 10.2.1 Technical Note – Methodology for Determining MDS (Offshore) – Revision B (Tracked)
- [REP4-041] 10.30 Outline Sediment Disposal Management Plan

1.1. Summary

Natural England has reviewed the Deadline 4 documents listed above with regards to impacts on the marine physical environment and physical processes. Our detailed comments are provided below in Table 1.

Natural England notes that Gravity Based Structures (GBSs) have been removed from the draft DCO. However, the Maximum Design Scenario (MDS) volumes of disposal material have been based on the seabed preparation requirement for Gravity Based Structures (GBSs) as a worst case. Therefore, we advise that the MDS should be updated in all relevant documents (including REP4-042 and REP4-018) to reflect this change. We also note that the Applicant has identified a number of constraints limiting distribution of material across the Project's disposal sites. It is not clear how these constraints may affect the distribution of sediment disposed across the project area therefore we advise further information (including a map) should be provided.

Natural England also seeks further information on the anticipated proximity of cable crossings to Margate and Long Sands Special Area of Conservation (MLS SAC) and Annex I sandbanks.

1.2. Detailed comments

Table 1: Natural England's Advice On: Marine Processes

Document reviewed: [REP4-041] 10.30 Outline Sediment Disposal Management Plan			
NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue
1	2.2.1	Natural England notes that the Maximum Design Scenario (MDS) volumes of disposal material have been based on the seabed preparation requirement for Gravity Based Structures (GBSs) as a worst case. However, GBS have been removed from the draft DCO. This means that the WCS array disposal volume will be considerably less than that assessed. This is also the case for the worst-case scenario (WCS) total volume of material that may require disposal in 9.8 Dredge Disposal Site Characterisation Report [REP4-018].	We advise that the WCS array sediment disposal volume should be based on the most realistic WCS foundation structures in the array i.e. not GBS. The MDS volumes for sediment disposal should be updated based on the most realistic WCS foundation structures.
2	3.1.1	Natural England has identified that there are 3 disposal areas, namely Array (North and South), Export Cable outside of MLS SAC, Export cable within MLS SAC	We suggest that a further breakdown of the disposal locations is considered as there are different requirements within the SAC.
3	3.1.2	We note there are a number of constraints that limit the distribution of material across the Project's disposal sites. How will these constraints affect the distribution of disposed sediment across the project area? Will there be greater thicknesses of deposited sediments in certain areas owing to these constraints?	Natural England advises that the Applicant provides/signposts a map showing the WCS disposal distribution, taking into account the different constraints described.
4	3.7.4	Whilst there is a focus on sandwave levelling mitigation there is no inclusion within the text of mitigation measures in relation to the deposition of boulders.	Natural England advises that the text is updated with a protocol of how boulders will be deposited to ensure that wider impacts are avoided such as loss of other habitats, changes in bed load transport etc., especially in MLS SAC.

5	3.7.4	Natural England notes that the material removed from MLS SAC will be placed within the Export Cable Corridor (ECC) within the SAC to ensure that sediment is retained in the same sedimentary system and not removed, only redistributed.	Natural England advises that in order to maximise the potential for seabed morphological recovery and limit the effects on the wider sediment transport processes in the SAC, dredged material should be deposited updrift of levelling/seabed preparation and cable trenching operations within same sediment types to encourage natural backfill and reworking of material (except where an upstream deposition may have an adverse impact on another feature).
Document reviewed: [REP4-022] 9.13 Margate and Long Sands Special Area of Conservation Benthic Mitigation Plan – Revision C (Tracked)			
NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue
6	3.2.1	It is stated that material removed from MLS SAC will be placed within the offshore ECC via a discharge pipe/downpipe within MLS SAC to ensure that sediment remains within the same sedimentary cell and no sediment is removed from the local sediment transport system.	Natural England advises that in order to maximise the potential for seabed morphological recovery and limit the effects on the wider sediment transport processes in the SAC, that commitments are also made to deposited dredged material updrift of levelling/seabed preparation and cable trenching operations and within same sediment type, to encourage natural backfill and reworking of material (except where an upstream deposition may have an adverse impact on another feature).
Document reviewed: [REP4-035] 10.20.1 Technical Note – Methodology for Determining MDS (Offshore) – Revision B (Tracked)			
NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue
7	Section 2.1	<u>Cable Crossings</u> Natural England notes that [REP4-035] discusses the MDS for cable crossings within the array areas and offshore export cable corridor. However, there are no details regarding the proximity of cable crossings to Margate and Long Sands Special Area of Conservation (MLS SAC) and Annex I sandbanks.	Natural England advises that the Applicant should provide distances between proposed cable crossing locations and MLS SAC and Annex I sandbanks.

8	2.2 & 2.2.6	<p>Natural England disagrees with the Applicant in relation to their assessment of sediment infilling within rock protection. In particular within MLS SAC.</p> <p>We also note that the Applicant has provided a numerical based estimate rather than site specific data.</p>	Natural England advises that empirical evidence is utilised where possible within the SAC, namely London Array OWF.
9	Section 2.6	<p><u>Percentage Material Ejected During Trenching</u></p> <p>The Applicant has provided further information in [REP4-035] on the MDS volume of sediment disturbed during trenching. However, it remains unclear whether the MDS is based on the 50% or 100% assumption for material ejected during trenching.</p>	Natural England advises that further clarification on which percentage has been used to calculate the MDS volume of material ejected during trenching before we can advise further on this issue.
10	Section 3.2	<p><u>Cable Protection Effects on the Sediment Transport Regime on/near MLS SAC</u></p> <p>We welcome the Applicant's further consideration of cable protection effects on the sediment transport regime at the northern tip of MLS SAC. The Applicant states that only 'very minor changes' to the sediment transport regime are expected due to the presence of cable protection measures at the northern tip of MLS SAC. However, in [APP-071] the Applicant stated that "<i>At the regional scale, sediment transport is broadly in a southerly direction along the offshore ECC although superimposed on this are highly complex localised patterns of sediment circulation around banks and other topographic features.</i>" Currently, there is insufficient information to assess the impact of cable protection measures on these complex patterns of sediment circulation around the</p>	Natural England advises that further evidence is needed to support the conclusion that only very minor changes are expected to the sediment transport regime due to the presence of cable protection measures across MLS SAC.

		northern tip of MLS SAC and, in turn, seabed morphology and sediment composition.	
11	Section 4	<p><u>Export and Array Cable Repair/Replacement Events During the Lifetime of the Project</u></p> <p>The Applicant has provided further information regarding the MDS for export and array cable repair/replacements over the lifetime of the project. MDS for export cable repair/replacement has been based on 9 x jointed export cables with a sediment disturbance volume based on a 1km export cable x 18m wide corridor, 3.5m deep V-shaped trench plus additional anchor-related seabed disturbance. MDS for array cable repair/replacement has been based on 8 x 2.52km whole array cable length x 18m wide corridor x 3.5m deep V-shaped trench.</p>	We welcome the Applicant's further information and rationale for lifetime array and export cable repair/replacement events. We advise that if over the lifetime of the project a benthic MPA is likely to be impacted directly or indirectly then the WCS needs to be established (in terms of frequency, maximum number of events, duration of event, total area of impact) at the time of consent. Affected features, pressures, and sensitivity will need to be identified. The WCS impact on each affected feature will also need to be established. It is also important for there be a requirement to consult the regulator (and the relevant SNCB) to determine if a new marine licence will be required before the O&M activities commence.
Document reviewed: [REP4-020] 9.12 Outline Cable Specification and Installation Plan – Revision B (Tracked)			
NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue
12	Sections 4.6.4 & 4.6.5	<p>We welcome the additional information included in the Outline Cable Specification and Installation Plan – Rev B. We appreciate that the precise location of cable crossings in the export cable corridor (ECC) is not known at present and that the “<i>cable crossings of North Falls and Sealink (should they be required) will occur to the east of the Margate and Long Sands SAC...</i>”</p> <p>However, there is insufficient information to gauge the proximity of cable crossings to MLS SAC and Annex I sandbanks.</p>	Natural England advises that further information is provided by the Applicant on the likely proximity of cable crossings to MLS SAC and Annex I sandbanks and orientation across the study area.
Document reviewed: [REP4-018] 9.8 Dredge Disposal Site Characterisation Report – Revision B (Tracked)			
NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue

13	1.2.5	Natural England suggests that there are in fact 3 disposal areas namely, Array (North and South), ECC outside SAC and ECC within SAC	Natural England suggests this, and other documents are updated to ensure that there are no ambiguities of what is proposed where.
14	2.1.2	Natural England advises that clarification is required within updated text to confirm that only a fall/down pipe will be used in MLS SAC	Natural England advises that tracked change text includes '...but only a fall/down pipe will be used in MLS SAC'