



Deadline IV Appendix 19 Appendix D Amended Onshore Works Plan Sheets 5 & 6



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Deadline IV Appendix 19, Appendix E Supplementry Environmental Impact Assessment Information in support of Proposed Order Limits Realignment at Plots 58B and 58F





Document Title	Deadline IV Appendix 19, Appendix E
	Supplementary Environmental Impact Assessment Information in support of proposed Order Limits Re-alignment at Plots 58B and 58F
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1. Introduction

1.1. Purpose of this document

- 1.1.1. This document is provided by Forewind Limited (Forewind) in relation to the application for development consent for the Dogger Bank Teesside A & B offshore wind farms. It is an appendix to the main report titled 'Proposed Minor Amendment to the Application Plots 58B and 58F' submitted at Deadline IV. The 'main report' is referred to throughout this appendix.
- 1.1.2. The main report outlines the justification for a minor re-alignment of approximately 180m in length, of the high voltage alternating current (HVAC) cable route between the converter stations site and the existing Lackenby substation.
- 1.1.3. The HVAC route as shown on the application plans submitted to the Planning Inspectorate, crossed an area of land leased to GrainCo Limited, a tenant of Sembcorp's at the Wilton Complex. Forewind is now requesting to amend the order limits and the alignment of that part of the onshore HVAC export cables that fall within GrainCo Limited's leasehold interest.
- 1.1.4. This document supports the request to amend the order limits and provides further environmental information necessary to conclude that the proposed changes do not result in any changes to the predicted environmental effects or give rise to any new consequential significant environmental effects as documented in the Environmental Statement (ES) (application ref 6.0).



2. Proposed Changes

2.1. Introduction

- 2.1.1. A detailed description of the proposed change as a result of the request to amend the Order Limits through Plots 58B and 58F and realign the HVAC export cable, is detailed in the main report.
- 2.1.2. For the purposes of environmental assessment the proposed amendment does not require any changes to the development description presented in either Chapter 5 Project Description of the ES (application ref 6.5), or the scope of the associated permitted development described in the draft Development Consent Order (DCO) as submitted (or subsequently amended). As a result, no changes are required to the description or assessment of the overall construction methodology, construction techniques or construction timings as documented in relevant chapters of the ES (application ref 6.0).
- 2.1.3. There is also no change in the overall length of the HVAC cable route as assessed in the EIA submitted with the application. For the purpose of EIA the length of the HVAC cable route remains approximately 2km. [The length of the HVAC cable route from the proposed onshore converter stations to the existing NGET substation at Lackenby has reduced by approximately 20m.]

The proposed length of realignment is shown on **Figure 1** and details of the proposed changes, with specific reference to onshore environmental topics, are provided in Section 2.2.

2.2. Description of proposed changes

- 2.2.1. The proposed realignment of the HVAC cable route will result in the following changes to the project:
 - Approximately 180m length of the HVAC cable route (west of the proposed converter stations) will be realigned to a position approximately 50m southeast of the original alignment (refer to **Figure 1**).
 - The approximately 180m realigned section of the HVAC cable route will be 'shared' between the future developers and operators of the projects, for Dogger Bank Teesside A and Dogger Bank Teesside B. Further description of this matter and subsequent changes required to the draft DCO are documented in the main report.
 - The working corridor through the area of realignment, has decreased from 39m width for two projects, to an 18m shared easement. Indicative cable route cross sections for the re-aligned18m working corridor width, and a comparison with the original 39m working corridor shown in the ES, are shown in Figures 2 and 3 of the main report, 'Proposed Minor Amendment to the Application – Plots 58B and 58F' submitted at Deadline IV.

- The HVAC cables for either project will be installed within the 18m working width using the methodology described within Section 4.4 (Cable Installation) of Chapter 5 Project Description of the ES (application ref 6.5). The working width for each project, in the realigned length, will typically comprise of the following:
 - An open cut trench, with an indicative width (at base of trench) of 1.5m;
 - A single haul road for access during cable installation. The indicative layout shows a single haul road in the same location, for use by both projects. In addition, either or both of the Dogger Bank Teesside A & B projects may be able to use sections of existing track in place of a haul road;
 - A suitably sized spoil storage area. This may be located further back from the realigned section due to the restricted working width; and
 - Suitable methods for drainage within the working corridor.
- Removal of approximately 0.03ha of woodland/scrub from an earth bund located to the south of the grain storage facility (refer to **Figure 1**).
- Removal of approximately 0.015ha (30m x 5m) of hedgerow comprising woodland/scrub, located to the north side of an existing track (south of the grain storage facility) (refer to **Figure 1**).
- Removal of approximately 350m³ of spoil from the northern edge of the earth bund. All spoil removed from the bund will be re-used within the order limits. Subject to the final volume of spoil generated, any excess spoil will be used for localised land re-profiling associated with Works No. 7 (onshore converter stations) or Works No. 7L (associated mitigation landscaping).
- Relocation of a crossing point associated with an existing drainage ditch to the south of GrainCo Limited's site. No change is required to the crossing methodology as presented in Section 6.3 of Chapter 24, Geology, Water Resources and Land Quality of the ES (application ref 6.24). The relocated crossing point will now be located approximately 50m south-east of the previously identified crossing point (refer to Figure 1).
- 2.2.2. Outside of the order limits of Dogger Bank Teesside A and B, there is a section of ditch that ran through the GrainCo Limited site and has now been re-routed by GrainCo Limited along the southern boundary of their site. The re-routed section of ditch is shown on **Figure 1** and is outside of the order limits of the Dogger Bank Teesside A and B, and will be unaffected by construction of the HVAC cable route.



3. Stakeholder Engagement

3.1. Introduction

- 3.1.1. Stakeholder engagement and consultation is detailed further in the main report, 'Proposed Minor Amendment to the Application – Plots 58B and 58F' submitted at Deadline IV.
- 3.1.2. Following Environmental Impact Assessment (EIA) of the realignment, it is concluded that the proposed changes do not result in any changes to the predicted environmental effects, or give rise to any new consequential significant environmental effects as documented in the ES (application ref 6.0). Forewind does not believe that any additional significant environmental impacts are likely. As such, additional EIA topic specific consultation with stakeholders has not been undertaken to inform this report.



4. Screening of onshore environmental topics

4.1. Introduction and scope

- 4.1.1. This section describes the potential environmental effects of the proposed 180m HVAC cable route realignment.
- 4.1.2. This review is based on the assessment methodology and findings used in the ES. The effects of the proposed changes are considered qualitatively (unless otherwise stated) and compared to the findings reported in the ES.
- 4.1.3. At the outset, it was necessary to screen each of the onshore topics, identifying the environmental topics that required detailed consideration. The results of this screening exercise are presented in **Table 4.1**.
- 4.1.4. Where no changes to the potential effects presented in the ES are identified, that topic is not considered any further. For topics where changes to the potential effects are identified they are considered further.
- 4.1.5. The proposed realignment is located wholly within the existing study areas identified within the individual EIA topic assessments. The baseline information to inform the assessments therefore has already been collated, and as a result the existing environment has already been characterised for the area of the proposed re-alignment.
- 4.1.6. In addition, the consideration of the construction scenarios (i.e. the manner in which Dogger Bank Teesside A & B will be built out) will remain the same.

Onshore environmental topics assessed in the ES	Comments	Taken forward for further assessment?
Landscape and Visual Impact	It was previously assumed that the earth bund to the south of the track (in the area of the realignment), and all the vegetation upon it, would remain intact during construction. It was also assumed that the hedgerow comprising woodland/scrub to the north of the track would remain. Direct impacts to these areas of trees/scrub were not considered previously and will be taken forward for further consideration within this report.	Yes
Socio-economics	The proposed changes will not alter the predicted construction costs or employment levels. It is concluded that there are no changes in the assessment findings presented in the ES from the proposed route realignment. Therefore this topic is not considered further.	No

Table 4.1Screening of onshore topics as a result of potential HVAC cable routerealignment



Onshore environmental topics assessed in the ES	Comments	Taken forward for further assessment?
Tourism and Recreation	A section of an access track to the east of Greystone Road will continue to be temporarily disrupted during construction as a result of the proposed changes. This remains consistent with the assessment made in the ES as submitted. It is concluded that there are no changes in the assessment findings presented in the ES from the proposed route realignment. Therefore this topic is not considered further.	No
Geology, Water Resources and Land Quality	 The realignment sits within the previously assessed study area. In the area of the realignment, there is: no change in the underlying geology; no change to groundwater vulnerability; no additional areas of potential contamination crossed; and no implications to flood risk. As such, these elements of the geology, water resources and land quality assessment are not considered further in this report. The ditch in this location will be crossed approximately 50m to the south-east of the previously identified crossing point. However, there is no change in the overall construction methodology or construction techniques. As such, the impact assessment and mitigation measures proposed in the ES for ditch crossings remain valid and this element is not considered further. The changes will result in additional waste (approximately 350m³ of excavated spoil) being generated in this location as a result of the localised topography. All spoil removed from the existing bunding will be re-used within the order limits. Excess spoil will be used for localised land re-profiling associated with Works No. 7 (onshore converter stations) and Works No. 7L (associated mitigation landscaping). With this commitment to re-use spoil the figures presented within the ES for waste generation remain unaffected. 	No
Terrestrial Ecology	this topic is not considered further. An additional area of approximately 0.045ha of woodland/scrub will be lost as a result of the realignment over and above that assessed in the ES (this comprises both the area of earth bund affected and the hedgerow north of the track). Direct impacts to these areas of woodland/scrub, and any associated protected species, were not considered previously and will be taken forward for further consideration within this report.	Yes





Onshore environmental topics assessed in the ES	Comments	Taken forward for further assessment?
Land Use and Agriculture	The easement temporarily affected during the onshore cable route construction works will be marginally lower than that reported within the ES. However, the reduction does not amend the numbers presented within the chapter. The worst case scenario for land take values therefore does not change as a result of this amendment. It is concluded that there are no changes in the assessment findings presented in the ES from the proposed route realignment. Therefore this topic is not considered further.	No
Terrestrial Archaeology	There are no designated or significant heritage assets within this area or in close proximity. The earth bund is a relatively recent addition with no historical landscape value. It is concluded that there are no changes in the assessment findings presented in the ES from the proposed route realignment. Therefore this topic is not considered further.	No
Traffic and Access	The proposed changes will not result in any change to reported traffic numbers and will not change any other aspects of the construction timings or methodology. It is concluded that there are no changes in the assessment findings presented in the ES from the proposed route realignment. Therefore this topic is not considered further.	No
Noise and Vibration	The closest noise sensitive receptors to the proposed realignment are houses located on Grange Estate (approximately 320m from the construction works). Potential construction noise impacts (where noise exceeds 65dB) are limited to areas within approximately 75m from the works. The proposed realignment will not result in any construction works located closer to Grange Estate. In addition, the construction methodologies remain as that assessed in the original ES. It is concluded that there are no changes in the assessment findings presented in the ES from the proposed route realignment. Therefore this topic is not considered further.	No
Air Quality	The closest dust sensitive receptors to the proposed realignment are houses located on Grange Estate (approximately 320m from the construction works). The proposed realignment will not result in any construction works located closer to this dust sensitive receptor than that already assessed. In addition, the construction methodologies remain as that assessed in the original ES. It is concluded that there are no changes in the assessment findings presented in the ES from the proposed route realignment. Therefore this topic is not considered further.	No



5. Updates to onshore topic assessments

5.1. Introduction and scope

- 5.1.1. The screening exercise presented within Table 4.1 identified that two onshore topics require further consideration as a result of the proposed realignment of the cable route to avoid land currently leased to GrainCo Limited. These are:
 - Landscape and visual impact; and
 - Terrestrial ecology.

5.2. Landscape and Visual Impact

- 5.2.1. The 18m wide working width within the realigned section of the HVAC route will run across the northern edge of an existing landscaped earth bund to the south of the GrainCo Limited site. The working width runs between a palisade security fence and a ditch to the north, and the higher earth bund to the south. It also encompasses an access track. This track is bordered on its north-western side by a linear belt of trees, a remnant hedgerow field boundary. To the south, the earth bund is vegetated with a mix of young trees and shrubs. It has a naturalised character. Informal paths pass along the earth bund, south of the area of proposed disturbance.
- 5.2.2. It is assumed that the northern edge of the earth bund would need to be removed to accommodate the construction working width including haul road and spoil storage. This would require the removal of a small area of woodland/scrub and underlying vegetation. It is assumed that the edge of the earth bund will be regraded after construction is complete, topsoil reinstated and the area reseeded. It will be left to naturally recolonise.
- 5.2.3. The track will be replaced upon completion. The hedgerow comprising woodland/scrub to the north/north-west of the track will not be replanted with tree species, but that the area will be re-topsoiled and seeded, then left to naturally recolonise with scrub.
- 5.2.4. The proposed changes to the alignment of the route will result in the loss of approximately 0.03ha woodland/scrub on the landscaped earth bund, and the loss of approximately 0.015ha of hedgerow comprising woodland/scrub to the north of the track.
- 5.2.5. The northern edge of the earth bund may require some temporary reinforcement of the exposed bund side during construction. The area will be reprofiled upon completion and no man made reinforcement will be left in place. These works are limited in area to that identified within the amended order limits.



- 5.2.6. Locally, this will result in a minor impact upon landscape resources during construction, which would not occur if the trees could be retained, as per the original proposal. This impact will not be significant, and will not alter the findings of the assessment already submitted in any way.
- 5.2.7. Views from the Greystone Road to the west will be marginally more open, enabling views of construction activities whilst this area of the cabling is installed. Impacts on views would be minor, would not be significant and do not alter the findings of the visual assessment as previously reported in the ES.
- 5.2.8. It is not expected that the view of the converter stations, or the levels of impacts associated with these, will be different from those reported in the ES.
- 5.2.9. In undertaking the landscape and visual impact assessment, it was previously assumed that the entire earth bund and all the vegetation upon it would remain intact in this area. It was also assumed that the hedgerow comprising woodland/scrub would remain. Whilst there will be a change to both of these assumptions, it is not anticipated that the previously submitted impact assessment results would alter. There will be no significant impacts over and above those already identified, whether during construction or operation.

5.1. Terrestrial Ecology

- 5.1.1. An ecological walkover of the proposed cable route realignment, plus a 50m buffer, was undertaken on the 22 August 2014, by a suitably qualified ecologist. Whilst the proposed realignment is located wholly within the terrestrial ecology study areas identified within the ES, an updated walkover of the realignment plus a 50m buffer was undertaken to confirm the baseline ecology, and to specifically consider the potential for bat roosts within trees impacted by the realigned route, that were previously avoided.
- 5.1.2. The walkover confirmed that the habitats in this area remain as described within the ES. The proposed realignment will pass through the edge of an earth bund vegetated with young woodland/scrub and also through a short stretch of hedgerow comprised of the same woodland/scrub habitat. **Figure 1** identifies where the proposed realignment overlaps with these features. The species present are common and include a mix of rowan, silver birch, Norwegian maple, pine species, hawthorn, bramble, teasel, thistle and other tall ruderals. No evidence of invasive plant species was noted during the survey.
- 5.1.3. The woodland/scrub remains of local ecological importance as a habitat, which corresponds with the receptor sensitivity presented within the ES; and none of these trees are subject to Tree Preservation Orders.
- 5.1.4. The walkover confirmed that there are no significant changes in the habitats located in this area and the 2013 survey data (as presented within the ES) remains a valid dataset for assessment.



- 5.1.5. None of the trees within the 2014 survey area (which includes the realigned section and a 50m buffer beyond that) were assessed as having potential to support roosting bats, primarily due to their age (young and self-set saplings) and the absence of any suitable cracks or crevices for bats to use. However, the area continues to offer suitable commuting routes for foraging bats as previously reported within the ES. The woodland/scrub habitat also continues to offer suitable habitat for breeding birds.
- 5.1.6. Water voles, reptiles, otter and great crested newts were not identified during the 2013 surveys, and the proposed realignment will have no impact on these species.
- 5.1.7. In summary, the habitats present along the proposed realignment remain of relatively low ecological interest and of local sensitivity only as previously reported in the ES. There was no evidence of legally protected species; however the area continues to offer suitable breeding bird and foraging bat habitat as previously reported within the ES.
- 5.1.8. The proposed realignment will result in the temporary loss of approximately 0.045ha of woodland/scrub. This increases the total areas of woodland / scrub temporarily affected by Dogger Bank Teesside A & B from 0.7ha (as reported in the ES) to 0.745ha. However, as detailed within Chapter 25 Terrestrial Ecology of the ES (application ref 6.25) and Requirement 26 (Restoration of land used temporarily for construction) of draft DCO Version 2, these areas will be reinstated following completion of the works, i.e. topsoil will be reinstated and the area reseeded, then left to naturally recolonise with scrub. However, the land immediately above the route of the cables will be maintained free of woody vegetation.
- 5.1.9. The temporary loss of this additional area of woodland / scrub, of local ecological importance, does not represent any additional impact beyond that previously reported within the ES, and no additional mitigation measures are proposed.



6. Summary

6.1. Summary

- 6.1.1. A re-alignment of approximately 180m length of the Dogger Bank Teesside A & B HVAC onshore cable route is proposed to avoid the plot of land leased to GrainCo Limited. The extent of land affected is detailed in **Figure 1**.
- 6.1.2. The scope of the proposed works has not changed and no resultant changes are required to the overall construction methodology, construction techniques or construction timings in this location. The realignment will result in an area of woodland / scrub to be temporarily lost and approximately 350m³ of an existing earth bund to be removed, both of which had been previously avoided.
- 6.1.3. This supplementary environmental impact assessment information has been prepared to determine whether the proposed project alterations represent changes to that previously assessed within for each onshore EIA topic within the ES (application ref 6.0) submitted with the application. Where no changes to the potential effects were identified that topic was not considered any further. For topics where the proposed amendment was assessed to have the potential to give rise to different effects to those presented in the ES, they were considered further.
- 6.1.4. Landscape and visual, and terrestrial ecology topics were identified as having the potential to give rise to different effects. All other onshore topics were screened out.
- 6.1.5. In undertaking the landscape and visual impact assessment, it was previously assumed that the entire earth bund embankment and all the vegetation upon it would remain intact in this area. Whilst there will be a change to both of these assumptions, it is not anticipated that the previously submitted impact assessment results would alter and no significant impacts are predicted over and above those already identified within the ES as submitted (application ref 6.0).
- 6.1.6. The temporary loss of this additional area of woodland / scrub, of local ecological importance, was assessed as not representing any additional impact beyond that previously reported within the ES, and no additional mitigation measures are proposed.
- 6.1.7. As such, the proposed approximate 180m realignment of the Dogger Bank Teesside A & B HVAC onshore cable route does not result in any significant impacts predicted over and above those already identified within the ES as submitted (application ref 6.0).



7. Figures

