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| Supporting information to S42 Consultation Notification |

**Hornsea Project Four Offshore Wind Farm–** **an alternative export cable corridor (ECC) option at Lockington Carr Cross, minor onshore route amendments and additional operation accesses**

This document provides the rationale, supporting information and environmental assessment for a number of amendments to the Hornsea Project Four Offshore Wind Farm Onshore Export Cable Corridor (ECC), logistics compounds and access requirements. The changes have arisen in consideration of Section 42 consultation on the Preliminary Environmental Impact Report (PEIR), which closed 23 September 2019 and from continued progress in the design and engineering information available to Hornsea Four.

Such changes are provided to ensure you are fully aware of the updated proposals, and any potential effects to the environment that may arise from them and can provide feedback via statutory consultation. In outline the changes are:

1. Proposal for an alternative Export Cable Corridor (ECC) route option (Option B) and associated Logistics Compound on Dalton Estate Land by Lockington Carr Cross (both ECC options included);
2. Thirty-six (36) proposed minor onshore route amendments (including amendments to the ECC (14), logistic compounds (6), access tracks (16);
3. Inclusion of permanent access rights for twenty-seven (27) additional Operation accesses;

**Table 1** presents maps/documents which are provided as supplementary supporting information to this report.

**Table 1** Supporting maps and documents

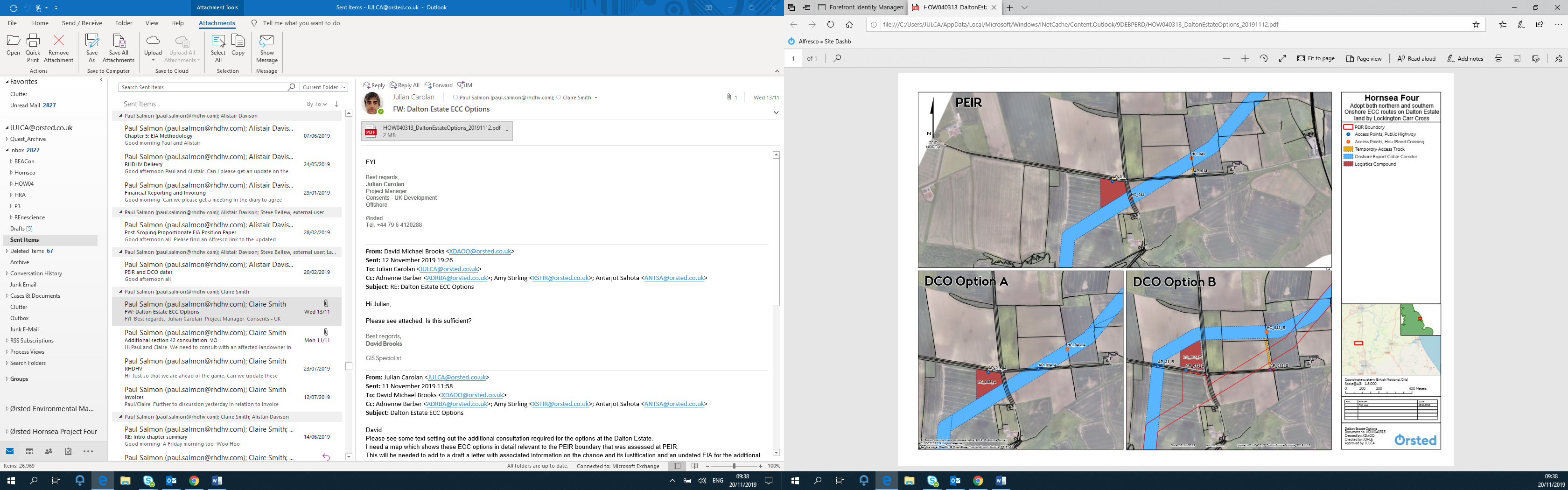
| Map/Document  number | Map Title | Details |
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| 1 | S42 minor changes Overview Map | Overview of the minor changes to the onshore ECC corridor because of S42 consultation on the PEIR.  **NOTE**: alternative ECC at Lockington Carr is shown as ID ECC.1.20 |
| 2 | S42 minor changes Detail Map Book | Details of individual minor changes made because of S42 consultation on the onshore ECC at PEIR.  **NOTE**: alternative ECC at Lockington Carr is shown as ID ECC.1.20 |
| 3 | Overview of operational accesses | Overview of additional operational access rights requirements identified because of S42 consultation on the PEIR |
| Annex 1 | Assessment of 36 proposed amendments (Map 1 and 2) | High-level environmental assessment of the proposed 36 amendments (as presented in Map 1 and Map2) upon onshore environmental receptors |

1. **Proposal for** **an alternative Export Cable Corridor (ECC) route option (Option B) and associated Logistics Compound on Dalton Estate Land by Lockington Carr Cross**

This proposed change is shown below in **Figure 1** (for detail see Inset 8 on **Map** **2**) and a short description of the proposed change provided below.

**Proposed Change:** Hornsea Four is proposing an alternative cable corridor routing option (Option B) at Lockington Carr Cross which is located to the north and west of the proposed cable corridor shown in the Statutory Consultation on the PEIR at this location (Option A).

**Figure 1. PEIR assessed ECC option (Option A) and alternative and option raised during formal consultation on PEIR (Option B)**



The alternative cable corridor routing option (Option B) is 1,385 m long and 80m wide. The construction would be as per Option A. Please note that Hornsea Four continues to consider both Option A and Option B in this location.

Environmental Assessment of ECC Route Option B and associated Construction Compound at Lockington Carr Cross

The additional ECC routing option (Option B in **Figure 1**) located near Lockington Carr Cross, along with the associated construction compound to the north of Station Road, could potentially result in additional environmental impacts (notably where new receptors are identified) or change the significance of impacts previously assessed (Option A in **Figure 1**), as set out in the PEIR.

A review of potential direct and indirect impacts has been undertaken by a team of EIA and environmental professionals from Royal Haskoning DHV and a summary is provided in **Table 2**. It should be noted that where the northern ECC option (DCO Option B in **Figure 1**) is discussed this also includes the associated construction compound north of Station Road (see **Map 2**: S42 minor change Detail Map Book). A full EIA of Option A has been concluded and presented at PEIR

**Table 2** Summary of Environmental Assessment of Northern ECC Route (Option B) and associated Construction Compound on Dalton Estate Land by Lockington Carr Cross.

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| Geology and Ground Conditions |
| The northern routing option will not result in additional areas of historic contamination being directly affected and opening new source-pathway-receptor linkages. However, several areas of historic contamination directly to the west of Beswick will fall within the 1 km search area including farm/out-buildings, a small historic landfill site and a cemetery. The northern ECC route does traverse a Mineral Safeguarding Area but this is contiguous with the same area as that was assessed in the PEIR. No significant changes to the geology underlying the northern route option has been identified.  No new receptors are introduced to the assessment as a result of the inclusion of Option B. No changes to the conclusions of the Environmental Impact Assessment (EIA) as set out in the PEIR have resulted from the alternative ECC option. |
| Hydrology and Flood Risk |
| The northern route option does not fall within, or cross, any new catchments, Water Framework Directive (WFD) watercourses or Internal Drainage Board (IDB) water bodies beyond those identified in the PEIR. No additional groundwater receptors have been identified relating to the northern route option and associated compound and these are entirely located in Flood Zone 1 (i.e. areas of lowest risk).  No changes to the conclusions of the Environmental Impact Assessment (EIA) as set out in the PEIR have resulted from the alternative ECC option. |
| Ecology and Nature Conservation |
| The northern ECC route option is located within 100 m of a barn owl nest, as confirmed during the 2019 breeding bird survey effort.  A review of aerial imagery indicates that the land where the northern ECC route will be undertaken comprises arable fields however, the area has not been subject to an Extended Phase 1 Habitat Survey, though this is anticipated to conclude late spring 2020. No ponds suitable for great crested newts have been identified to be within 250 m of the northern ECC route.  The presence of the barn owl nest and the lack of Extended Phase 1 Survey data for the northern route option has been discussed at the Ecology Technical Panel on the 13th November with both Natural England (NE) and Royal Society for the Protection of Birds (RSPB) present. No specific concerns were raised and a meeting with Natural England’s licencing team regarding protected species mitigation is currently being organised where, amongst other aspects, barn owl mitigation will be discussed and agreed. |
| Landscape and Visual Amenity |
| The northern ECC route option is not located within any areas of differing landscape character to those set out in the PEIR. Additionally, no new landscape or visual receptors are brought into the assessment noting that the village of Beswick and properties along Station Road were included in the PEIR as residential and community receptors.  No changes to the conclusions of the Environmental Impact Assessment (EIA) as set out in the PEIR have resulted from the alternative ECC option. |
| Historic Environment |
| Three new heritage assets (recorded on the Humber Historic Environment Record (HER)) are now located within the historic environment study area as key assets for consideration in the impact assessment as a result of the northern ECC route option. However, there are no changes to the outcome of the impact assessment reported in the PEIR.  The northern ECC route option has not been covered by the Priority Archaeological Geophysical Survey, however Hornsea Four will acquire and incorporate the data in the Environmental Statement and supporting information to support Development Consent.  It is noted that the northern ECC route option partially falls outside the Aerial Photographic and Lidar Assessment study area although there is some overlap with the results set out in the PEIR. Hornsea Four is acquiring this data and it will be clearly set out in the Environmental Statement. However, there is a large overlap with the wider data collected for Hornsea Four and we do not consider the limitation to significantly reduce the validity of the impact assessment set out in the PEIR. |
| Land Use and Agriculture |
| Land use within the northern ECC route option comprises agricultural land and is therefore consistent with the primary land use that has been recorded along and within the wider onshore ECC, landfall and onshore substation areas. No additional areas of stewardship schemes to those identified at PEIR will be directly affected as a result of the proposed northern ECC route option.  One Public Right of Way (PRoW) (namely, LOCK08) will be crossed at a different location to that identified at PEIR if the northern ECC route is followed but no new PRoW will be affected.  No changes to the conclusions of the Environmental Impact Assessment (EIA) as set out in the PEIR have resulted from the alternative ECC option. |
| Traffic and Transport |
| The study area set out in the PEIR remains unchanged due to the inclusion of the northern ECC route option as the relevant road links that require assessment do not change (i.e. the A164 and Station Road).  Changes to access locations and road traffic points will not affect the assessments presented in the PEIR. |
| Noise and Vibration |
| The baseline data monitoring locations for the onshore ECC are considered to represent the noise environment for the proposed northern ECC route and therefore no changes to the baseline are required.  No changes to the traffic and transport assessment has been highlighted (see above) which necessitate any changes to the forecast noise conditions during construction. All Commitments (Co) stated in the PEIR are still valid including Co133 which states that the onshore ECC will be routed at least 50 m from residential receptors. It is noted that the northern ECC route will move construction further away from two residential receptors.  No changes to the conclusions of the Environmental Impact Assessment (EIA) as set out in the PEIR have resulted from the alternative ECC option. |
| Air Quality |
| No changes to the baseline or receptors presented in the PEIR have been identified due to the inclusion of the northern ECC route option. Air quality impacts in this area of Hornsea Four will reflect changes to forecast traffic and as no significant traffic changes have been identified.  No changes to the conclusions of the Environmental Impact Assessment (EIA) as set out in the PEIR have resulted from the alternative ECC option. |
| Socio-Economics |
| The northern ECC route does not change either the baseline or the assessments presented in the Socio-Economic PEIR chapter due to the small spatial scale of the change, which will not affect the socio-economic area affected or the timescale of the project. |

No new receptors are introduced to the assessment as a result of the inclusion of an additional alternative ECC route option (Option B) and no changes to the assessment conclusions on environmental receptors as set out in the PEIR are identified.

1. **Thirty-Six (36) minor onshore route amendments (including amendments to the** **ECC (14), logistic compounds (6), access tracks (16);**

The rationale for the minor onshore route amendments are set out in **Table 3.** In summary the amendments are the result of feedback from landowners and/or acquisition of updated environmental information. The location of the changes is presented in **Map 1**: S42 minor changes Overview Map and **Map 2**: S42 minor change Detail Map Book.

**Table 3** Change ID and rationale for the proposed 36 minor onshore route amendments

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| **Change ID** | **Rationale for change** |
| ***Export Cable Corridor (ECC)*** | |
| ECC.1.1 | Onshore ECC moved south of existing manhole in field as a result of landowner feedback |
| ECC.1.2 | Onshore ECC straightened over Selected Heritage Inventory for Natural England (SHINE) site, and allowance made for a haul road outside of onshore ECC, at Gembling. |
| ECC.1.4. | Extend onshore ECC east and west of Network Rail crossing (south of Beswick) to allow for the required cable laying area on the approach to the railway crossing. |
| ECC.1.5. | Onshore ECC moved closer to the eastern field boundary, west of Dunflat Road as requested by landowner. |
| ECC.1.6. | Onshore ECC moved closer to the western field boundary, east of Bentley Road. |
| ECC.1.7. | Onshore ECC moved 30 m from an ecological receptor. |
| ECC.1.8. | Onshore ECC straightened to avoid number of bends experienced by cables. |
| ECC.1.10 | Onshore ECC straightened to cross the A164 at closer to 90 degrees, and due to presence of archaeological ‘barrow’ within the corridor, east of the A164. Onshore ECC to the west of Platwoods Farm straightened to reduce severed land and number of bends in cable route. |
| ECC.1.11 | Onshore ECC routed, further east around proposed petrol station. |
| ECC.1.12. | Minor adjustment to Onshore ECC west of Rotsea Lane to avoid priority habitat area. |
| ECC.1.16. | Movement of Onshore ECC to be further from residential receptor, north-east of Foston-on-the-Wolds. |
| ECC.1.17. | Onshore ECC moved further to be as close as possible to southern field boundaries, north of Skidby Lakes Golf Club. |
| ECC.1.18. | Onshore ECC re-routed to align with field boundaries east of Bridlington Road, due to tenant feedback and presence of ecological receptor. |
| ECC.1.19. | Onshore ECC straightened and moved further west to reduce impact as a result of consultation feedback from landowner. |
| ECC.1.20. | See Proposal for an alternative Export Cable Corridor (ECC) route option (Option B) and associated Logistics Compound on Dalton Estate Land by Lockington Carr Cross. |
| ***Logistics compounds*** | |
| LC.1.1. | Southern extent of landfall compound area A4 extended to 400 m wide from current cliff-line to allow for erosion. |
| LC.1.2. | Logistics compound reduced in size and moved closer to onshore ECC. |
| LC.1.4. | Re-location of logistics compound at York Road roundabout to the south of the road out of area at greater risk from surface water flooding, and to avoid proposal to build petrol station within PEIR onshore ECC. Once moved south of York Road, logistics compound was moved 5 m further north to reduce severed land for landowner. |
| LC.1.6. | Onshore substation logistics compound area re-shaped and extended further south to maintain 150 m from residential receptor to the east, and to sit directly adjacent to onshore ECC to the south. |
| LC.1.7. | Logistics compound moved west of Dunflat Road (north west of Dunflat Gate), to an area with natural screening to be less visible from the surrounding area. |
| LC.1.10. | Logistics compound moved north of the B1249. |
| ***Temporary accesses*** | |
| TAT.1.1. | Allowance made for temporary haul road access track outside of onshore ECC, south of SHINE site at Gembling. |
| TAT.1.2. | Adjustment of landfall emergency beach  access track off of existing drain and to align with lower cliff elevation down to the beach. |
| TAT.1.3. | Adjacent access tracks created north of the onshore ECC on Rotsea Lane to improve visibility for construction traffic. |
| TAT.1.4. | AP\_018 moved further south, off of North Drain and away from an increased surface water flood risk. |
| TAT.1.5. | AP\_027 moved further north on Bentley Lane to improve visibility for construction traffic. |
| TAT.1.6. | Access track south of York Road adjusted as a result of change ECC.1.11. |
| TAT.1.7. | Landfall access track widened to include100 m buffer from active Barn Owl nest. |
| TAT.1.8. | As a result of the logistics compound being moved north west of Dunflat Gate (LC.1.7.), AP\_028 was moved further east to improve visibility and safety. |
| TAT.1.9. | Bell-mouth extent on onshore substation access track increased to incorporate swept path area required for Heavy Goods Vehicle which may be required to transport abnormal loads. |
| TAT.1.10. | Access track from public highway (B1249) created so that access can be taken through the new logistics compound location (LC.1.10). |
| TAT.1.11. | Access tracks created east of onshore ECC to improve safety of haul road crossing during construction. |
| TAT.1.12. | Access track shortened to reduce severed land as a result of landowner feedback. |
| TAT.1.13. | Temporary access track extended further east over Driffield Canal to adjoin public highway. |
| TAT.1.14. | Permanent and temporary access track for onshore substation moved further east to mitigate effects on ancient woodland (Birkhill Wood) and to reduce severed land. |
| TAT.1.15 | Access point and track relocated from York Road to A1035 due to landowner consultation feedback. |
| TAT.1.16. | Access track north of Newbald Road (AP\_023) shortened and access track south of Newbald Road (AP\_024) removed, moving the access point to within the onshore ECC, as a result of landowner feedback. |

Environmental assessment of the 36 proposed route amendments to the ECC (14), logistic compounds (6), access tracks (16).

The location of the 36 proposed route amendments is shown in **Map 1** (Overview)and **Map 2** (Detail Map Book). The environmental assessment has been undertaken by Royal Haskoning DHV and the review of potential environmental impacts associated with the proposed 36 changes upon onshore environmental receptors are presented in **Annex 1**. Individual amendments identified in **Table 3** are identified in **Annex 1** by the key presented in **Table 4**:

**Table 4** Key used to identify amendments in **Annex 1**.

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| ECC. | Export Cable Corridor |
| LC. | Logistics Compound |
| TAT. | Temporary Access Track |

The review of potential environmental impacts in **Annex 1** are identified using the key in **Table 5.**

**Table 5** Key to environmental assessment presented in **Annex 1**

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| Green Cells | No change identified from PEIR either to the receptors or the relevant assessments presented. |
| White Cells | Either new receptors identified or potential impact on a previously identified receptor increased (but not necessarily significantly). |
| Yellow Cells | Potential for either receptors to be avoided, or impact to be reduced compared to the PEIR (but not necessarily significantly). Text in cell identifies if any updated or new assessment will be required at the point of Development Consent Order (DCO) Application (see **Table 3** for detail). |

A summary of environmental considerations as a result of the proposed amendments is provided in **Table 6**.

**Table 6** Summary of environmental assessment of the proposed onshore route amendments

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| Geology and Ground Conditions |
| No changes to the receptors or potential new sources of contamination have been identified beyond those already identified in the PEIR. No changes to the assessments in the PEIR are therefore required and the conclusions remain valid. |
| Hydrology and Flood Risk |
| A number of minor changes to the watercourses impacted have been identified. Such changes are considered minor and will not affect the assessment set out in the PEIR and the conclusions remain valid. However, all such changes will be incorporated in to the Flood Risk Assessment appropriately. |
| Ecology and Nature Conservation |
| Six of the changes result in avoidance of known ecological receptors. None of the changes introduce receptors not previously considered and the conclusions of the PEIR remain valid. |
| Landscape and Visual |
| One addition to the LVIA assessment only: Access track to the OnSS which will be considered in detailed LVIA assessment instead of simple assessment of construction effects. Does not impact on any new receptors considered and the conclusions of the PEIR remain valid. |
| Historic Environment |
| Three of the changes result in new receptors being identified with assessment required (including assessment on setting during construction) as appropriate. Additionally, three of the changes further avoid impacts to historical environment receptors and the conclusions of the PEIR remain valid. |
| Land Use and Agriculture |
| A number of changes to impacts on PRoW have been identified. However, none of these would result in a greater magnitude of impact than previously assessed at PEIR and previous crossings of BARMF03 and FOTWB09 are not now required, reducing effects on PRoW overall. |
| Traffic and Transport |
| No new roads will be required for access above those already identified and assessed in the PEIR. Most changes would not result in a material change in traffic numbers and therefore impacts would be no worse than assessed within the PEIR. One change may result in a slight decrease in traffic, but this will not be significant and the conclusions of the PEIR remain valid. |
| Noise and Vibration |
| None of the changes introduce receptors any closer than those identified in the PEIR and or result in the requirement to update the assessments set out in the PEIR. The conclusions of the PEIR remain valid. |
| Air Quality |
| The proposed onshore route amendments will not result in any changes to the receptors identified and assessed within the PEIR and the conclusions of the PEIR remain valid. |
| Socio-Economics |
| No changes to the receptors or introduction of new impacts and the conclusions of the PEIR remain valid. |

1. **Inclusion of permanent access rights for twenty-seven (27) additional Operation accesses**

Hornsea Four will need to carry out routine maintenance activities to the onshore cables and link boxes and in a number of locations access will be required across land outside of the ECC in order to gain access to the ECC.

Hornsea Four is consulting on the proposed use of 27 new operational accesses (including 9 accesses which were previously identified as only temporary construction accesses in the Statutory Consultation on the PEIR (see Inside Temporary Access ID on **Map 3**) and 18 new operational accesses using existing farm accesses (see Outside Temporary Access ID on **Map 3**) to gain access to the link boxes and cables during the operational phase for maintenance purposes.

Should Hornsea Four progress with ECC Option A at Lockington Carr, there would be 24 accesses in total taken forward to construction and operation, comprising 9 accesses previously identified as temporary construction accesses and 15 new operational accesses. Should Hornsea Four progress with Option B, there would be 25 accesses in total taken forward to construction and operation, comprising 9 accesses previously identified as temporary construction accesses and 16 new operational accesses.

Hornsea Four will be seeking to put in place voluntary access agreements with affected landowners. However, Hornsea Four will also be applying compulsory acquisition powers for access in case agreement cannot be reached.

It should be noted that Hornsea Four will remove and reinstate all temporary construction accesses as previously proposed in the PEIR. However, where Hornsea Four is proposing to use an existing private track or public right of way, Hornsea Four will be seeking powers to maintain the track or right of way to ensure that the access is useable.

**Conclusion**

The only receptors identified as a result of the changes being consulted upon that will require assessment above and beyond that set out in the PEIR are:

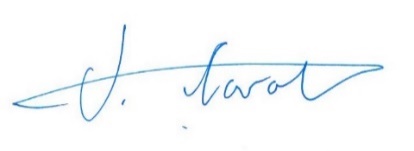
* Two Humber HER records – see change ECC.1.20 in Annex 1; and
* A Scheduled monument – see changes ECC.1.20 and TAT 1.6. in Annex 1.

Following the incorporation of mitigation (notably pre-construction evaluation to inform specific actions) no residual, significant impact is predicted on these receptors.

Other minor changes to receptors remain within the assessments set out in the PEIR and the PEIR conclusions remain valid. It should be noted that several of the changes have been incorporated to specifically reduce/eliminate impacts on receptors such as ancient woodland, owl roosts, watercourses and agricultural severance. A full assessment of all proposed changes taken forward into the DCO application will be presented in the Environmental Statement submitted by Hornsea Four in support of the application.

If you have any questions regarding the process or content of this consultation, please do not hesitate to get in touch.

Yours faithfully



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