DBS Offshore Wind

RWE Renewables UK Dogger Bank South (West) Limited

RWE Renewables UK Dogger Bank South (East) Limited

Dogger Bank South Offshore Wind Farms

The Applicant's Responses to the Rule 17 Letter Dated 19th June

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Company:	**RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited**	Asset:	**Development**
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Glossary

Term	Definition
Array Areas	The DBS East and DBS West offshore Array Areas, where the wind turbines, offshore platforms and array cables would be located. The Array Areas do not include the Offshore Export Cable Corridor or the Inter-Platform Cable Corridor within which no wind turbines are proposed. Each area is referred to separately as an Array Area.
Commitments Register	An Excel spreadsheet which identifies all of the Projects commitments and mitigation relating to each technical topic under consideration in the EIA process and where each commitment is secured in the DCO.
Cumulative Effects	The combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource.
Cumulative Effects Assessment (CEA)	The assessment of the combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor/resource.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Dogger Bank South (DBS) Offshore Wind Farms	The collective name for the two Projects, DBS East and DBS West.
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the value, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Statement (ES).
Environmental Statement (ES)	A document reporting the findings of the EIA and produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations.

Term	Definition
Groundwater	Water stored below the ground in rocks or other geological strata.
High Voltage Direct Current (HVDC)	High voltage direct current is the bulk transmission of electricity by direct current (DC), whereby the flow of electric charge is in one direction.
Intertidal	Area on a shore that lies between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS).
Landfall	The point on the coastline at which the Offshore Export Cables are brought onshore, connecting to the onshore cables at the Transition Joint Bay (TJB) above mean high water.
Management Unit	Management units provide an indication of the spatial scales at which impacts of plans and projects alone, cumulatively and in-combination, need to be assessed for the key cetacean species in UK waters, with consistency across the UK.
Numerical modelling	Refers to the analysis of coastal processes using computational models.
Onshore Converter Stations	A compound containing electrical equipment required to transform HVDC and stabilise electricity generated by the Projects so that it can be connected to the electricity transmission network as HVAC. There will be one Onshore Converter Station for each Project.
Onshore Substation Zone	Parcel of land within the Onshore Development Area where the Onshore Converter Station infrastructure (including the haul roads, Temporary Construction Compounds and associated cable routeing) would be located.
Other trenchless techniques	Other techniques (aside from HDD) for installation of ducts or cables where trenching may not be suitable such as micro tunnelling or auger boring.
Principal aquifer	These are layers of rock or drift deposits that have high intergranular and / or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and / or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifers.
Project Change Request 1	The changes to the DCO application for the Projects set out in Project Change Request 1 - Offshore & Intertidal Works [AS-141] which was accepted into Examination on 21st January 2025.

Term	Definition
Receptor	A distinct part of the environment on which effects could occur and can be the subject of specific assessments. Examples of Receptors include species (or groups) of animals, plants, people (often categorised further such as 'residential' or those using areas for amenity or recreation), watercourses etc.
Sediment transport	The movement of a mass of sediment by the forces of currents and waves.
Special Area of Conservation (SAC)	Strictly protected sites designated pursuant to Article 3 of the Habitats Directive (via the Habitats Regulations) for habitats listed on Annex I and species listed on Annex II of the Directive
The Applicants	The Applicants for the Projects are RWE Renewables UK Dogger Bank South (East) Limited and RWE Renewables UK Dogger Bank South (West) Limited. The Applicants are themselves jointly owned by the RWE Group of companies (51% stake) and Masdar (49% stake).
The Projects	DBS East and DBS West (collectively referred to as the Dogger Bank South Offshore Wind Farms).

Acronyms

Term	Definition
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ERYC	East Riding of Yorkshire Council
ES	Environmental Statement
HVDC	High Voltage Direct Current
iPCoD	Interim Population Consequence of Disturbance
MCZ	Marine Conservation Zone
MCZA	Marine Conservation Zone Assessment

Term	Definition
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
MU	Management Unit
OCoCP	Outline Code of Construction Practice
OEMP	Outline Environmental Management Plan
PTS	Permanent Threshold Shift
SAC	Special Area of Conservation
SPZ	Source Protection Zone

1.1 Examining Authority's Rule 17 Letter Dated 19th June 2025

Table 1-1 – The Applicants' responses to the Examining Authority's Rule 17 Letter dated 19th June 2025 [PD-027]

I.D.	Question	Applicants' Response
17.1	**Emergency intertidal access** In your comments on the responses to Examining Authority's second written questions (ExQ2) [REP6-051,MCP.2.1] you confirmed that the area around the emergency intertidal access would be monitored during construction to ensure the habitat is not damaged. Explain how monitoring is secured and include this as part of the Commitments Register.	Section 6.2.3.1 of the **Outline Code of Construction Practice (OCoCP) (Revision 5)** (document reference: 8.9) has been updated at Deadline 7 to confirm that the emergency beach access will be monitored during the construction period, where it interacts with the priority habitat as part of the Drilling Fluid Management Plan. This has been added as commitment C200 in the **Commitments Register (Revision 3) [document reference: 8.6)**, at Deadline 7. The **Outline Code of Construction Practice (OCoCP) (Revision 5)** (document reference: 8.9) is secured by Requirement 9 of the **Draft Development Consent Order (DCO) (Revision 10)** [document reference:3.1].
17.2	**Withow Gap, Skipsea Site of Special Scientific Interest (SSSI)** The Assessment of Coastal Processes at the Dogger Bank South Landfall [REP5-040] states in 7.1.2.3 that 'the landfall is located at the Holderness Cliffs and near the Withow Gap, Skipsea SSSI. However, as the exit pits will be located in the subtidal zone, there will be no direct impacts on these receptors.' Whilst noting your responses in the deadline 5 Risk & Issues Log [REP5-061, B42] and deadline 6 Risk & Issues Log [REP6-077, B42], provide a response to the applicants' assessment in relation to Withow Gap, Skipsea SSSI. Clarify whether the assessment has addressed your previous concerns raised? If not, explain any outstanding concerns.	No response is required, question directed to Natural England.
17.3	**Applicants' environmental statement conclusions** Confirm if any of the Environmental Impact Assessment (EIA) conclusions in the environmental statement (ES) have changed to those reported in Project Change Request 1 – Offshore and Intertidal Works [AS-141]. If so, please clearly outline which EIA conclusions have changed and why.	The Applicants confirm that the residual significance of effect conclusions reported in **Project Change Request 1 – Offshore and Intertidal Works** [AS-141] have not changed in the updated Environmental Statement submitted at Deadline 7. The Applicants note that while some pre-mitigation effects have been amended (see Table 11-145 of **Chapter 11 Marine Mammals (Revision 2)** [document reference 7.11] for a summary of all potential likely Significant effects on marine mammals), the residual significance of effect for all effects assessed has remained the same as that reported in **Project Change Request 1 – Offshore and Intertidal Works** [AS-141]. The Applicants highlight that following the removal of the 'short trenchless crossing' option from the Project's Design Envelope, the assessment presented in 8.7.3.9 of **Chapter 8 Marine Physical Environment (Revision 2)** [document reference 7.8] '*Changes to Bedload Sediment Transport Due to Cable Installation Activities at the Landfall*' was amended to assess the potential effects of subtidal exit pit construction as opposed to intertidal exit pit construction, based on the assessment previously presented in **Assessment of Coastal Processes at the Dogger Bank South Landfall** [REP5-040]. The effect significance remained as '**Minor 'Adverse**' for this impact.
17.4	**Applicants' environmental statement conclusions for marine physical environment** The Examining Authority (ExA) notes your disagreement with the applicants' updated impact and cumulative effects assessment of the Flamborough Front at deadline 5 [REP5-050]. Please confirm whether you agree with all the other applicants' ES conclusions detailed in Table 8-67 of ES Chapter 8 [APP-080], and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141] and Assessment of Coastal Processes at the Dogger Bank South Landfall [REP5-040]. If not, please	No response is required, question directed to Natural England and the Marine Management Organisation (MMO).

I.D.	Question	Applicants' Response
	specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.	
17.5	**Applicants' environmental statement conclusions for benthic ecology** Confirm whether you agree with the applicants' ES conclusions in Table 9-27 of ES Chapter 9 [APP-089] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.	No response is required, question directed to Natural England and the MMO.
17.6	**Applicants' environmental statement conclusions for fish and shellfish ecology** Confirm whether you agree with the applicants' ES conclusions in Table 10-35 of ES Chapter 10 [APP-091] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.	No response is required, question directed to Natural England and the MMO.
7	**Applicants' environmental statement conclusions for marine mammals** **NE:** 1. The ExA notes NE's continued disagreement with the applicants that: • The number of harbour porpoise potentially disturbed during single piling at the east and west array areas of the proposed development and both projects together is high, and that you consider this should result in a major adverse impact score [REP6-077 point F13/F26]. Confirm if this disagreement remains and if so, exactly which impact reference(s) in Table 11-142 of ES Chapter 11 [APP-095] this concern refers to. • The number of grey seals disturbed during single piling at DBS East at the east and west array areas of the proposed development and both projects together is high, magnitude of impact is high, and should result in an impact score of moderate (significant) [REP6-077 point F14/F27]. Confirm if this disagreement remains and if so, exactly which impact reference(s) in Table 11- 142 of ES Chapter 11 [APP-095] this concern refers to. • The in-combination Interim Population Consequence of Disturbance (iPCoD) modelling (see question 17.8 below). **NE/ the MMO**: 2. Confirm which of the applicants' ES conclusions in Table 11-142 of ES Chapter 11 [APP-095] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141] you are in	No response is required, questions directed to Natural England and the MMO.

I.D.	Question	Applicants' Response
	agreement with and which you disagree with. In addition to those mentioned above, if in disagreement, if possible, include a cross reference to your submissions which explain why.	
17.8	**Interim Population Consequence of Disturbance (iPCoD) modelling** The ExA notes the continued outstanding concerns from NE in Appendix F6 [REP6-075] regarding revision 3 of the iPCoD modelling for marine mammals submitted at deadline 5 [REP5-014] in that it does not agree that a 1% annual decline over 6 years is appropriate to assess significance, and instead the assessment of a significant impact should be more conservative. In the interest of resolving this issue within the examination and to reduce outstanding concerns being passed on to the Secretary of State on a without prejudice basis, the ExA requests that the applicants resubmit the in-combination assessment using a more conservative definition of significant impacts in line with the statutory nature conservation body's advice. The ExA also requests that the applicants consider other anthropogenic impacts to populations in their conclusions as per NE's advice in Appendix F6 [REP6-075].	The Applicants maintain that the 1% annual decline over 6 years is considered an appropriate metric to assess the significance of effect from of long-term disturbance from piling. The effects of disturbance are not considered permanent and are recoverable. The iPCoD modelling has been undertaken for piling at the marine mammal Management Unit (MU) and Special Area of Conservation (SAC) level, where relevant. The iPCoD modelling incorporates the Permanent Threshold Shift (PTS) value as well as the worst-case disturbance measures for the Projects. If, as a result of PTS, a population shows a continued decline of >1% per year (versus a modelled unimpacted reference population) over a set period of time (e.g., the first 6 years, based on the former Favourable Conservation Status reporting period), then there is a high likelihood that a significant effect cannot be ruled out (NRW, 2023[1]). NRW have acknowledged that this threshold could be used as one possible method to determine the significance of behavioural disturbance on a population, based on the iPCoD outputs. However, this guidance is intended for consideration of PTS and remains under development. In absence of other recommendations, the 1% threshold for iPCoD outputs remains a valid way to review results of population modelling to inform overall assessment conclusions and therefore this approach has been applied to the assessments based on the available published guidance. The Assessments for each SAC presented in the **RIAA HRA Part 3 of 4 - Annex II Marine Mammals (Revision 3)** [REP5-009] including potential disturbance from vessels, effects to prey species and a variety of assessments of disturbance from various anthropogenic activities as well as additive effects of multiple pathways of disturbance and the potential for AEoI has been considered across all phases incorporating all potential impacts of the Projects alone and in-combination. Effects of changes in water quality were screened out of the assessment as listed in **Appendix A – Habitats Regulations Assessment Screening** [APP-049]. Consideration of potential effects for commercial shipping and fisheries were presented and screened out in **Appendix 11-5 Cumulative Effects Assessment Screening** [APP-101]. All relevant pathways for effect have been considered in the assessment and the potential for adverse effects on the SACs.
17.9	**Wildlife licence** **The applicants:** The MMO has confirmed a wildlife licence would be required [REP4-115 page 12]. The ExA requested you submit a letter of no impediment for the wildlife licence in second written questions MM2.8 [PD-022]. You have responded [REP5-036] that this is not a recognised practice for offshore developments. The ExA notes it is a recognised practice for the onshore environment and past examinations have requested and received these. The ExA asks for an explanation as to why there is a difference between the onshore and offshore environments in this regard and respectfully asks again for the applicants to submit a letter of no impediment for the wildlife licence into the examination. The ExA is not asking for a marine wildlife application to be commenced now, just confirmation from the MMO whether at present there are any known impediments to the necessary wildlife licence being issued. **The MMO:** You stated at deadline 4 that as a wildlife licence would be required, the applicants would be required to demonstrate that noise abatement has	The Applicants maintain that a letter of no impediment is not required for the reasons explained in response to MM2.8 in [REP5-036] and repeated here for convenience: *'The Applicants are unaware of any offshore developments that have submitted letters of no impediment for the marine wildlife licence and is not a recognised practice in this instance. The application for the marine wildlife (or European Protected Species) licence is usually undertaken post-consent and submitted alongside the final MMMP and SIP. The requirement for a European Protected Species licence is already included in Other Consents and Licenses (Revision 3) [REP1-023]. The application for a licence would include an updated assessment based on the final project design and incorporate all the agreed upon mitigation measures finalised through consultation with the MMO and SNCBs during the development of the final MMMP and SIP. This procedure would ensure there are appropriate measures to address the satisfactory tests'.* To expand on this, onshore wildlife licences are granted by Natural England who have established this practice, of providing letters of no impediment whereas offshore wildlife licences are granted by the MMO. The Applicants are not aware of any instances where the MMO have granted a letter of no impediment for an offshore wildlife licence. The Applicants have been engaging with the MMO to confirm whether there are any known impediments to the necessary wildlife licence being issued. The Applicants note that the MMO's Deadline 4 submission [REP4-115] states that *'As a Wildlife licence will be required, the Applicant will be required to demonstrate that NAS has been secured, and where this has not been possible, justification must be provided.'* The MMO agreed (via email on 24th June 2025) the proposed updates to the Marine Mammal Mitigation Protocol (MMMP) condition wording that are included in the **Draft DCO (Revision 10)** [document reference 3.1] submitted at Deadline 7 which states that the MMMP must include details of noise reduction methods through project design (primary measures) and/or, deployment of noise mitigation systems or noise abatement systems (secondary measures) that will be utilised to manage sounds from those piling activities and such protocol must include full details and justification for the mitigation chosen or excluded for deployment.

[1] NRW. (2023). PS016 NRW's Position on Assessing the effects of Hearing Injury from Underwater Noise on Marine Mammals. Position statement. May 2023.

I.D.	Question	Applicants' Response
	been secured, and where this has not been possible, justification must be provided [REP4-115 page 12]. Please confirm whether at present, there are any known impediments to the necessary wildlife licence being issued. Please also include a statement on this in your final comments to be submitted at deadline 8.	Therefore, the Applicants consider that the agreed condition wording is sufficient to resolve this matter and enable the MMO to confirm there are no known impediments to the necessary wildlife licence being issued.
17.10	**Applicants' environmental statement conclusions for offshore ornithology** Confirm whether you agree with the applicants' ES conclusions in Table 12-118 of ES Chapter 12 [REP4-032]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.	No response is required, question directed to Natural England.
17.11	**Offshore ornithology – lesser black-backed gull** In response to R17.41 [REP6-057] the applicants stated NE concerns in Appendix G5 [REP5-058] exclusively referenced great black-backed gull. Whilst the ExA notes this is correct, the ExA had noted that NE's Risk and Issue log point G55/NEW [REP5-061] does include reference to the lesser black-backed gull. Can NE confirm whether or not it has an outstanding concern regarding lesser black backed gull and if so, what information the applicants should provide to resolve this issue?	No response is required, question directed to Natural England.
17.12	**Holderness Inshore Marine Conservation Zone (MCZ)** NE confirmed at deadline 6 [REP6-071] that it is unable to rule out alone or in-combination risks to the Holderness Inshore MCZ if cable protection is placed within the 10m depth contour and considers that there is unlikely to be agreement between NE and the applicants on this matter before the close of the examination. Could the applicants therefore confirm whether they intend to submit a stage 2 MCZ assessment?	The Applicants have continually communicated the risks associated with not being able to bury the cable in water depths of less than 10m which would require mitigation in the form of cable protection measures. In addition, the Applicants have continued to provide site-specific evidence through the pre-DCO application and Examination stages of the Projects to support the Applicants' original view that the geological feature of the Holderness Inshore Marine Conservation Zone (MCZ) (Spurn Head) would not be impacted by any potential cable protection measures utilised for the Projects. This was detailed most recently in the form of the additional numerical modelling presented in the **Assessment of Coastal Processes at the Dogger Bank South Landfall** [REP5-040], to a level beyond that ever required for schemes making landfall along the Holderness coast, to further strengthen the evidence base to support the conclusions of the Stage 1 Marine Conservation Zone Assessment (MCZA). This is in comparison to Natural England, who have not provided any evidence to support their assumptions and requirements and therefore cannot "beyond scientific doubt" justify their advice. The Applicants maintain they have presented sufficient scientific evidence to conclude that the conservation objective of maintaining the protected features of the Holderness Inshore MCZ in a favourable condition or restoring them to favourable condition will not be hindered by changes to bedload sediment transport related to the operation of the Projects (either in isolation or if both are built concurrently and / or in sequence) to support the conclusions of the Stage 1 MCZA. As a result, a Stage 2 MCZA is not required.
17.13	**Onshore Historic Environment – nighttime visualisation** Provide a view on the information contained in the Nighttime Lighting Visualisation Technical Note [REP6-054]. If you have outstanding concerns regarding the impacts from lighting on the scheduled monument nearby	No response is required, question directed to East Riding of Yorkshire Council and Historic England.

<table>
<tr><th>I.D.</th><th>Question</th><th>Applicants' Response</th></tr>
<tr><td></td><td>to Butt Farm, set out what these are and how they could be addressed. Do you consider that the proposed lighting levels would affect the level of harm you have identified to the nearby scheduled monument?</td><td></td></tr>
<tr><td>17.14</td><td>Onshore Historic Environment – nighttime visualisation

Why is a height of 8 metres chosen for proposed lighting in the Nighttime Lighting Visualisation Technical Note [REP6-054]? Could this be reduced, or could bollard lighting be used, if not, why not?</td><td>As set out in the Nighttime Lighting Visualisation Technical Note [REP6-054], in order to develop an indicative lighting design for use in a nighttime visualisation, the lighting scheme from another comparable RWE High Voltage Direct Current (HVDC) project, currently under construction, was used to provide an indicative lighting design for the Projects. This approach was taken because this level of engineering design for the Projects is not available at this stage, prior to the selection of a Contractor for the HVDC Converter Stations. The final lighting plan will be developed at a detailed design stage and approved by ERYC through Requirement 22 of the Draft DCO (Revision 10) [document reference 3.1] 'Control of artificial light emissions'.

This comparable HVDC project has 'as installed' heights of 8m for lighting fixtures. The lighting mount height and lighting levels are related to ensure sufficient area coverage using low light pollution luminaries (focused downward angle) at the correct lighting level to meet illumination requirements. An 8m height was selected to represent a modern, efficient and optimised design for generalised visualisation of what can reasonably be expected for a large site of this type, where lights are operated on a very infrequent basis.

Reducing the height of the light mounting would require an increased number of lights and supports, to cover the same area. A comparison of equivalent number of lights using reference lights is included below:

<table>
<tr><th>Type</th><th>Light output (Lm)</th><th>Post Height (m)</th><th>Post Spacing (m)</th><th>Consumption per light (W)</th><th>Lit Area</th><th>Total Number of light fittings</th><th>Total Consumption for 25m x25m area</th></tr>
<tr><td>EX3</td><td>5100</td><td>8</td><td>25m</td><td>34</td><td>(25m x25m)= 625m^2</td><td>2</td><td>68W</td></tr>
<tr><td>EX10</td><td>1000*</td><td>3.5</td><td>6m</td><td>7</td><td>(6mx6m)= 36m^2</td><td>18</td><td>126W</td></tr>
<tr><td></td><td colspan="7">*Reduced from 1500Lm for buildings perimeter lights to 1000L lower power variant.</td></tr>
</table>

This is not preferred for design as it results in increased requirement for components; lights, posts, wiring, buried ducting and higher power consumption for the same coverage. The increase in number of lights and posts also introduces significant extra complexity with any placement limitations and ability to micro site lighting locations. Lights need to be sufficiently high to provide clearance for vehicles, and efficient area coverage. Numbers should be particularly limited in HV areas where additional earthing requirements and electrical clearance distances limit placement options.

Bollard lighting is typically used for aesthetic reasons and while it can be of use in pedestrian lighting for frequently navigated pathways, as demonstrated above, this requires a huge increase in luminaries and power consumption for a low frequency usage. In order to provide coverage these are not selected as downward directional lights, so actually produce more light pollution due to light angle and the increased number of objects.

However, it is important to note that, as specified in the Nighttime Lighting Visualisation Technical Note [REP6-054], the lighting plan presented is indicative only and based on a comparative example HVDC project that the Applicants have detailed lighting plans for.</td></tr>
<tr><td>17.15</td><td>Onshore Historic Environment – nighttime visualisation

The ExA notes the conclusion in paragraph 38 of the Nighttime Lighting Visualisation Technical Note [REP6-054] that there would be no significant effect on the scheduled monument nearby to Butt Farm from lighting. However, do you consider that there would be any harm (substantial/ less</td><td>The Applicants do not consider that there would be any harm to the Anti-aircraft gunsite at Butt Farm (scheduled monument) after Year10 of operation of the Projects. In years 1-10, it is considered that impacts to the setting of the Butt Farm gun site from lighting would be too infrequent and discontinuous to contribute to harm.

As detailed in previous submissions including the Applicants Response to ExAQ1, [REP3-027], Applicants Comments on Response to ExAQ1, [REP4-087] Applicants Response to ExAQ2, [REP5-036], and the Nighttime Lighting Visualisation Technical Note [REP6-054], there will be no</td></tr>
</table>

I.D.	Question	Applicants' Response
	than substantial) to the scheduled monument from lighting between Year 1 to Year 10 of operation – if so, set out what you consider the level of harm to be any why. If not, set out why you consider this to be the case.	continuous lighting of the Onshore Converter Stations at night. The Onshore Converter Stations will only require lighting during maintenance and operation visits for health and safety and security reasons. Maintenance and operation visits would be approximately once per week, and would normally occur during daylight hours. Should there be a requirement for dusk or evening visits, it is assumed that this may occur for a 2 hour site attendance period, approximately 4 days per annum. The site will have a professionally designed, low light pollution fixed mount lighting scheme. During detailed design once the final building layout is produced locations can be micro-sited and directional facings of lights can be optimised and circuit control and grouping considered with cognisance of local receptor directions. The visualisation represented in the **Nighttime Lighting Visualisation Technical Note** [REP6-054] is a generalised arrangement worst case and needs to be considered in context. **ES Chapter 22 Onshore Archaeology and Cultural Heritage** (Revision 2) [AS-092] has been updated to include potential operational effects during the operational phase and concludes in para 334 that *"It is therefore considered that any impacts to the setting of designated heritage assets from lighting would be too infrequent and discontinuous to contribute to harm".* The Applicant considers that this would also be the case during Years 1-10 of operation, given the infrequency of the lighting being in use, and the control of lighting design as secured by **Draft DCO (Revision 10)** [document reference 3.1] Requirement 22 Control of artificial light emissions.
17.16	**Landscape and Visual Amenity – impacts on ancient woodland** Review the applicants' responses to your responses to ExQ2 ENC.2.5, LVI.2.2, LVI.2.3 [REP6-051] – do these comments address your concerns regarding impacts to ancient woodland? If not, set out clearly why. If you still consider that requirement(s) are necessary to ensure the protection of ancient woodland, provide suggested wording.	The Applicants request that the ExA, Forestry Commission and The Woodland Trust review the response to 17.17 below and **The Applicants Responses to Deadline 6 Documents** [document reference: 17.4], which includes a response to the Woodland Trusts further comments.
17.17	**Landscape and Visual Amenity – impacts on ancient woodland** What 'constraints' could lead to the need to use depths less than 5 metres below ancient woodland for trenchless crossing techniques and how likely is this? What would happen if constraints suggested shallower depths were required, but roots for ancient woodland were present at similar depths – how would protection of ancient woodland be ensured in this scenario?	Typically, constraints would be localised hydrological or geotechnical risks, where features exist that could interact with the drill path (water pathways or hard geology at preferred depth), which would extend drilling time and fluid pressure risks. A trenchless crossing design would consider all receptors and mitigations using a risk-based approach. As detailed in a Forestry Commission Information Note[2]: '*The common scientific understanding is that it is unusual for roots to penetrate to a depth greater than 2m, with 80-90 % of the widespread rooting structure to be found within the top 0.6m of the soil profile.*' Trenchless crossings are often successfully undertaken in closer proximity to tree roots than the proposed limit using proven trenchless crossing techniques with negligible impact to trees. Therefore, a 5m depth is considered conservative. In Bentley Moor Wood, the veteran tree identified is an Ash, which generally has roots 2-3m deep. The trenchless technique would be selected to minimise impacts on the rhizosphere and to keep overall risk to trees as low as reasonably practicable. While maintaining this priority, adopting a shallower depth than 5m, may allow for the consideration of a wider range of alternative trenchless techniques. These alternatives would continue to prioritise rhizosphere protection, while also reducing other potential environmental impacts. Potential benefits include smaller bore sizes, reduction or elimination of drilling fluid, lower installation forces, shorter duration of works, less vibration, minimised works to prepare entry and exit pits, and lower energy and materials requirements compared to a deeper trenchless method at a conservative depth. The Applicants have already committed to undertaking hydrogeological risk assessments for all trenchless crossing works during construction in section 6.2.2.2 of the **OCoCP (Revision 5)** [document reference: 8.9], which states that: *'In advance of construction, ground investigations and a hydrogeological risk assessment (completed in adherence with Environment Agency's approach to groundwater protection requirements (Environment Agency, 2018)) would be completed at each trenchless crossing to understand the potential risk upon groundwater of construction activities proposed at*

[2] *The Influence of Soils and Species on Tree Root Depth*. The Forestry Commission, November 2005

I.D.	Question	Applicants' Response
		each site location. Results of this study will inform further ground water mitigation required during construction and would be included within the detailed CoCP(s).' This would include the trenchless crossing in the vicinity of Bentley Moor Wood. The Applicants have also updated the wording in section 1.5.2.1 of the **Outline Ecological Management Plan (OEMP) (Volume 8, document ref: 8.10)** and section 6.2.2.2 of the **OCoCP (Revision 5)** [document reference: 8.9], at Deadline 7 to state: '*The Hydrogeological risk assessment for the trenchless crossing in the vicinity of Bentley Moor Wood ancient woodland will also consider the potential risk to ancient woodland from perceived groundwater level changes*.' It is worth noting from further review of ground investigations undertaken to date within the general vicinity of Bentley Moor Wood that the groundwater level is within the chalk stratum therefore it is unlikely that there would be an interaction between a trenchless crossing at 5m or less and a deeper groundwater table residing within the Principal Aquifer and the Source Protection Zone (SPZ). The hydrogeological risk assessment would determine if any monitoring of groundwater levels, which could impact the ancient woodland was required during construction or, operation. The wording on groundwater monitoring has also been updated in section 1.5.2.1 of the **OEMP (Volume 8, document ref: 8.10)** to confirm this: '*The hydrological risk assessment would determine if any groundwater monitoring was required during construction and/or operation. If any operational monitoring is identified, this would be included in the Onshore Operational Monitoring Plan, as per DCO Requirement 33 and detailed in section 8. The plan will be developed by the Applicants /Principal Contractor(s). The Principal Contractor(s) will be responsible for the operational management of the Projects following/during construction up until final handover of the Projects to the Operator(s).'* As detailed in section 1.5.2.1 of the **OEMP (Volume 8, document ref: 8.10)** '*the Applicants are committed to installing the crossing at depth greater than 5m as recommended by the Woodland Trust'*. The wording in paragraph 95 has been updated further at Deadline 7 to clarify: '*If, following detailed geotechnical investigations and the detailed design of the trenchless crossing, the Contractor can provide clear evidence demonstrating that a shallower depth would not adversely impact on roots, soils or rhizosphere along or, above the proposed route, a shallower depth may be considered. Any such change would be subject to agreement and must be approved in consultation with ERYC, Natural England, and an appropriately qualified arboriculturist*.' On this basis the Applicants consider that there is sufficient protection provided to ancient woodland, as a shallower drill could not be undertaken without further evidence and in consultation with the relevant regulators.
17.18	**Landscape and Visual Amenity – impacts on ancient woodland** In response to the Woodlands Trust's response to ExQ2 ENC.2.5, you confirm [REP6-051] that trenchless crossing entry and exit pits would not be located in the 15 metre buffer zones for ancient woodland. Would this also be the case for veteran trees? Can the outline Ecological Management Plan [REP4-042] be updated to specifically make this commitment regarding the location of entry and exit pits – if not, why not?	Yes, the entry and exit pits would be >15m away, this commitment is already made for all works in section 1.5.2.1 of the **OEMP (Revision 6)** [document reference:8.10] '*Buffer zones surrounding retained areas of woodland and mature broadleaved trees would be at least 15m in width or at least the width of the tree root protection zone (whichever is greater), as advised by an appropriately qualified arboriculturist.*' Additional wording has also been added at DL7 to state that: '*In addition, the entry and exit pits for the trenchless crossing under Bentley Moor Wood will not be located closer than 15m from the woodland or the width of the tree root protection zone (whichever is greater), as detailed in the Arboricultural Survey Report, Preliminary Arboricultural Impact Assessment and Outline Arboricultural Method Statement (document reference: 8.31).*'
17.19	**Landscape and Visual Amenity – visualisations** Add a wireframe to the photograph provided in appendix A of [REP6-051] showing where the proposed converter stations would be located.	The Onshore Substation Zone is located centrally within the view shown in Appendix A of **The Applicants' Comments on Reponses to ExQ2** [REP6-051]. As described in the same document (reference REP5-044: LVI.2.4 on page 25), the Onshore Converter Stations would be visible between the Risby Park woodlands on the left of the view, and the clump of trees on Dunflat road in the centre of the view. Views of the Onshore Converter Stations would be screened by these trees and they would only be partially visible, at a distance of 1.7 km. In **The Applicants' Responses to ExQ2** [REP5-036], reference LVI.2.4, the Applicants have confirmed their view that the scale of change to the view from this location would be small, and the effect on people walking along the footpath would be minor adverse and not significant. In response to a further query from the ERYC landscape adviser, the Applicants can also confirm that there are no locations along the Beverley 20 footpath south of Risby Woods that offer a more open view towards the onshore substation zone. The ERYC landscape adviser has confirmed to the Applicants by email on the 18th July that he is in agreement that a visualisation is not required from this viewpoint. This will be included in the **ERYC SoCG (Revision 3)** [document reference: 9.3] at Deadline 8.

I.D.	Question	Applicants' Response
		The Applicants also highlight that the view from the additional viewpoint 9 Dunflat Road (see Figure 23-16c in **Chapter 23 Landscape and Visual Impact Assessment Figures (Revision 4)** [REP4-039]) shows a similar angle of view to the location on the Beverley 20 footpath, though at a lower elevation. The Applicants therefore maintain their position that a further wireline visualisation is not required, and would not materially add to the information available to the Examining Authority.
17.20	**Air Navigation Order 2016** Following the Civil Aviation Authority's (CAA) representation [REP6-061], provide an updated draft DCO with wording to expressly apply relevant provisions of the Air Navigation Order (with modifications if necessary) and an accompanying updated explanatory memorandum, or if you disagree with the CAA provide reasoning why this isn't required.	The Applicants have updated the **Draft DCO (Revision 10)** [document reference 3.1] to specifically apply the relevant provisions of the Air Navigation Order 2016.
17.21	**Tourism effects** Provide your views on the updated ES Chapter 29 – Tourism [REP6-033]. Do you agree with the updated significance of effects assessment for tourism assets (Impact 2) with particular regard to the change of landscape and visual impacts during operation for Butt Farm Caravans, Campsite and Glamping and the additional consideration of noise impacts during construction for Butt Farm Caravans, Campsite and Glamping and Strawberry Fields Holiday Park? If not, explain your concerns and how you would wish to see them addressed	No response is required, question directed to East Riding of Yorkshire Council.

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