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 Applicants' Responses to Issue Specific Hearing 2 (ISH2) Supplementary Agenda Questions

Submission for Deadline 1

Document Date:	January 2025
Document Reference:	11.5
Revision Number:	01
Classification:	Unrestricted

RWE MASDAR

Company:	**RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited**	Asset:	**Development**
Project:	**Dogger Bank South Offshore Wind Farms**	Sub Project/Package	**Consents**
Document Title or Description:	The Applicants' Responses to Issue Specific Hearing 2 (ISH2) Supplementary Agenda Questions		
Document Number:	005626343-01	Contractor Reference Number:	PC2340-RHD-ZZ-ZZ-RP-Z-0190

Rev No.	Date	Status/Reason for Issue	Author	Checked by	Approved by
01	January 2025	Submission for Deadline 1	RHDHV	RWE	RWE

Contents

Tables

Glossary

Term	Definition
Array Area	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.
Baseline	The existing conditions as represented by the latest available survey and other data which is used as a benchmark for making comparisons to assess the impact of the Projects.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
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.
Glacial till	Poorly sorted, non-stratified and unconsolidated sediment carried or deposited by a glacier.
Haul Road	The track along the Onshore Export Cable Corridor used by traffic to access different sections of the onshore export cable route for construction.
Horizontal Directional Drill (HDD)	HDD is a trenchless technique to bring the offshore cables ashore at the landfall and can be used for crossing other obstacles such as roads, railways and watercourses onshore.
Impact	Used to describe a change resulting from an activity via the Projects, i.e. increased suspended sediments / increased noise.

Term	Definition
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.
National Policy Statement (NPS)	A document setting out national policy against which proposals for NSIPs will be assessed and decided upon.
Nationally Significant Infrastructure Project (NSIP)	Large scale development including power generating stations which requires development consent under the Planning Act 2008. An offshore wind farm project with a capacity of more than 100MW constitutes an NSIP.
Offshore Development Area	The Offshore Development Area for ES encompasses both the DBS East and West Array Areas, the Inter-Platform Cable Corridor, the Offshore Export Cable Corridor, plus the associated Construction Buffer Zones.
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 Development Area	The Onshore Development Area for ES is the boundary within which all onshore infrastructure required for the Projects would be located including Landfall Zone, Onshore Export Cable Corridor, accesses, Temporary Construction Compounds and Onshore Converter Stations.
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.
Order Limits	The limits within which the Projects may be carried.
Preliminary Environmental Information Report (PEIR)	Defined in the EIA Regulations as information referred to in part 1, Schedule 4 (information for inclusion in environmental statements) which has been compiled by the applicants and is reasonably required to assess the environmental effects of the development.
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.
Scoping Opinion	The report adopted by the Planning Inspectorate on behalf of the Secretary of State.

Term	Definition
Scoping Report	The report that was produced in order to request a Scoping Opinion from the Secretary of State.
Scour protection	Protective materials to avoid sediment erosion from the base of the wind turbine foundations and offshore substation platform foundations due to water flow.
Temporary Construction Compound (TCC)	An area set aside to facilitate construction of the Projects. These will be located adjacent to the Onshore Export Cable Corridor and within the Onshore Substation Zone, with access to the highway.
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).
Trenching	Open cut method for cable or duct installation.
Wind turbine	Power generating device that is driven by the kinetic energy of the wind.

Acronyms

Acronym	Definition
ALARP	As Low as Reasonably Practicable
ANC	Association of Noise Consultants
AONB	Area of Outstanding Natural Beauty
BAP	Biodiversity Action Plan
BS	British Standard
CBRA	Cable Burial Risk Assessment
CIEH	Chartered Institute of Environmental Health
CoCP	Code of Construction Practice
dB	Decibel
DBS	Dogger Bank South
DCO	Development Consent Order
dML	Deemed Marine Licence
EIA	Environmental Impact Assessment
ERYC	East Riding of Yorkshire Council
ES	Environmental Statement
ETG	Expert Topic Group
HAA	Heavy Anti-Aircraft
HAP	Humber Archaeology Partnership
HDD	Horizontal Directional Drilling
IEMA	Institute of Environmental Management and Assessment
LANAF	London Authorities Noise Action Forum
LIR	Local Impact Report
LVIA	Land and Visual Impact Assessment

Acronym	Definition
MCA	Maritime and Coastguard Agency
MMO	Marine Management Organisation
MW	Megawatt
NERC	Natural Environment and Rural Communities
NPS	National Policy Statement
NRA	Navigational Risk Assessment
NSIP	Nationally Significant Infrastructure Project
OCoCP	Outline Code of Construction Practice
OEMP	Outline Ecological Management Plan
OLMP	Outline Landscape Management Plan
OWSI	Outline Written Scheme of Investigation
PEIR	Preliminary Environmental Information Report
PRoW	Public Right of Way
RVAA	Residential Visual Amenity Assessment
SAC	Special Area of Conservation
SOAEL	Significant Observed Adverse Effect Level
SoCG	Statement of Common Ground
SPZ	Source Protection Zones
SuDS	Sustainable Drainage Systems
TAG	Transport Analysis Guidance
TCC	Temporary Construction Compound
TPO	Tree Preservation Order
UKHO	UK Hydrographic Office
WER	Water Environment Regulations

1 Introduction

1. The Examining Authority (ExA) issued Supplementary Agenda Questions for Issue Specific Hearing 2 (ISH2) on Wednesday 15 and Thursday 16 January 2025 [EV5-002] to the Applicants on 10th January 2025.

2. The Applicants have reviewed the supplementary agenda questions and provided responses, as required, in **Table 2-1**.

2 Responses to ISH2 Supplementary Agenda Questions

Table 2-1 The Applicants' Responses to the Examining Authority's ISH2 Supplementary Agenda Questions

Number	Subject	Question / Clarification	Applicants' Response
Agenda Item 1: Infrastructure and Other Users			
ISH2.2.1	Wake loss	Describe your understanding of wake loss, what effects it can have and how is it assessed. What factors determine the effects from wake loss, such as wind patterns and strength? Is wake loss static throughout a month or year and what factors affect the severity of wake loss?	Wake loss is only one part of the "Turbine Interaction Loss" – the reduction in power at one wind turbine (or wind farm) caused by the thrust on the wind of a second turbine (or farm). The wake loss is the largest of these interactions, and comprises the "shadowing" in the wind behind the first turbine, but generally does not capture other complex effects (such as global blockage, and gravity-wave effects). Note that many developers and consultants are moving towards providing only the "total turbine interaction loss" as it is not possible to separate wake loss from blockage in many newer generation models (e.g. computational fluid dynamics). Factors which may influence the extent of wake loss, include: • Wind farm power density (Megawatt (MW) per square kilometre (km)); • Capacity and footprint of wind farm and proximity to neighbouring wind farms; • Joint distribution of wind direction and speed; • Turbine design and size; and • Sea and atmospheric conditions. Wake loss varies throughout the year dependent on prevailing atmospheric conditions, with wind speed and direction being the most significant drivers. There are several ways to model wake losses in a wind farm, with varying complexity depending on the level of detail desired. Wake loss can be estimated using computer modelling software, either a commercially available tool or a proprietary in-house software solution. Modelling of wake loss effects is dependent on information/assumptions of the wind farm that is being proposed as well as the existing operational wind farm (for instance their current yield, downtime, curtailment, internal wakes etc).
ISH2.2.2	Wake loss	The Frazer Nash Consultancy Offshore Wind Leasing Programme Array Yield Study [AS-014] used a wind turbine rotor diameter of 279.9 meters (m) and height of 169.9m. The maximum rotor diameter for the Proposed Development would be 344.08m and maximum height would be 394.08m [APP-071], which is significantly larger. Can the conclusions of the study be applied to the Proposed Development when there are significant differences in the parameters being compared?	It is the Applicants' understanding that the key factor for determining wake loss impact upon a neighbouring project is the project MW capacity and the overall site footprint. Note that The Crown Estate Lease of Dogger Bank South (DBS) stipulates a requirement to achieve a minimum power density of 5MW/km²- greater power densities would use less seabed but would lead to a reduction in wind yield from the project, hence 5MW/km² is considered the target power density for the project. With a target project capacity of 1500MW, the footprint of the site remains the same at ~300km². Whilst it is correct that the maximum rotor diameter for the wind turbine of the proposed development is significantly greater than that assumed in the Frazer Nash report [AS-014], the spacing between wind turbines of this scale would also be greater in order to achieve 5MW/km² and optimise (reduce) the turbine interaction effects. The Frazer Nash report [AS-014] covers a range of power densities from 3-8MW/km² and, in the case of the assessment of buffer distances, it has assessed the impact of a 6MW/km² project. The general trends of the outputs of the study could therefore be considered applicable considering the wake loss impact of a 6MW/km² project would be greater than that of a 5MW/km² project (as per DBS) if each had the same site footprint (but in this case different wind farm capacities). However, the magnitude results (e.g. % inter-farm wake loss) are likely to differ due to both the turbine representation and other site characteristics (e.g. different turbulence, wind speed, stability, etc.).
ISH2.2.3	Environmental Statement (ES) Chapter 16 [APP-130]	Table 16-9 in ES Chapter 16 [APP-130] does not present the distance from the Proposed Development to the Dogger Bank C or Dogger Bank D array areas (only the distance to the	The distance to the Array Areas for Dogger Bank C and D are detailed in Table A2 of **Appendix 6-2 Offshore Cumulative Effects Assessment Methodology** [APP-078], with Dogger Bank C being located 56km from DBS East at its closest point and Dogger Bank D being located 68km east of DBS East at its closest point.

Number	Subject	Question / Clarification	Applicants' Response
		export cables). Please update the table accordingly.	The Applicants do not propose to update Table 16-9 in **Chapter 16 Infrastructure and Other Users** [APP-130]. Only the export cables for Dogger Bank C and D were included in Table 16-9 of the **Chapter 16 Infrastructure and Other Users** [APP-130] due to the Array Areas for Dogger Bank C and D falling outside of the 50km study area defined in section 16.3.1 of the chapter. This study area was originally introduced in the Projects' Scoping Report[1]. No comments were received disagreeing with the defined study area in the Scoping Opinion or in comments on the Projects' Preliminary Environmental Information Report (PEIR) (see **Appendix 16-1 Infrastructure and Other Users Consultation Responses** [APP-132] which details all Scoping and PEIR responses received for the Projects with regards to Infrastructure and Other Users). Hence, it is not proposed that the chapter will be updated.
ISH2.2.4	Cumulative effects	The Dogger Bank D Relevant Representation (RR) [RR-011] states that the Dogger Bank South application was submitted prior to the 2024 Dogger Bank D Scoping Report submission. Do you intend to update the ES to incorporate any relevant information from the scoping report? If so, when is this likely to be updated and do you foresee any significant changes?	The Applicants do not intend to update **Chapter 16 Infrastructure and Other Users** [APP-130] with the updated information provided in the revised Dogger Bank D Scoping Report submitted on 24th June 2024 (following the Projects Development Consent Order (DCO) submission on 13th June 2024) and consider the chapter to be a point in time document which included all relevant projects at the point of submission. This included assessment of the information presented in the (now retracted) Dogger Bank D Scoping Report issued on 21st April 2023.
Agenda Item 4: Marine and Coastal Processes			
ISH2.4.1	Disposal of dredged material, sediment deposition and proposed mitigation	Your response to Natural England's (NE) Relevant Representation (RR) [AS-048] states that, 'sand wave deposition will try to avoid areas of priority habitats under NERC 2006 by the inclusion of a 50m buffer around the NERC habitats'. Could you signpost where the Natural Environment and Rural Communities Act 2006 sites have been identified and buffer areas marked on a plan? If no such plan has been provided at this stage, please could this be provided? Please also explain how and where the commitment to avoid these sites is secured.	Figure 5-1 and Figure 5-2 of **Appendix 9-3 Benthic Ecology Monitoring Report** [APP-089] detail all observations of potentially sensitive taxa and habitats made within the Offshore Development Area during the DBS benthic survey overlaid on a side scan sonar mosaic. This figure includes instances of the habitat 'Clay exposure with piddock burrows', which is defined as a UK Biodiversity Action Plan (BAP) Habitat under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. No buffer areas are marked on these figures. This information was used to inform the benthic assessment work included within the Environmental Statement. It should be noted that any decisions regarding micro-siting and buffer areas within the Offshore Development Area will not be informed by the survey results obtained prior to the DBS DCO application. This is because further pre-construction surveys are required as conditions of each deemed Marine Licence (dML) (e.g. Condition 20 in Schedule 10). These post-consent surveys will re-confirm the presence (or absence) of any important habitats for micro-siting purposes in the post-consent stage of the Projects. Information obtained from any pre-construction surveys will be used to inform the discharge of Condition 15(1)(v) of the **Draft DCO (Revision 5)** [document reference: 3.1] (based on Schedule 10). This condition obliges the Applicants to provide a plan for the Marine Management Organisation (MMO) approval prior to the commencement of construction, detailing the location of areas for micro-siting in the pre-construction phase. This condition states: *15.— (1) The licensed activities or any phase of those activities must not commence until the following (insofar as relevant to that activity or phase of activity) have been submitted to and approved in writing by the MMO, in consultation with Trinity House, the MCA, the relevant statutory nature conservation body and UKHO as appropriate —* *(a) a layout plan setting out proposed details of the authorised scheme, including the:* *(v) any exclusion zones or micro-siting requirements identified pursuant to 15(1)(e)(iv) or relating to any habitats of principal importance, Annex I subtidal habitats or surficial deposits of glacial till identified as part of surveys undertaken in accordance with condition 20.*

[1] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010125/EN010125-000181-DBS%20-%20Environmental%20Impact%20Assessment%20Scoping%20Report.pdf

Number	Subject	Question / Clarification	Applicants' Response
			Within the **Draft DCO (Revision 5)** [document reference: 3.1], 'habitats of principal importance' are defined as '*a habitat designated as being of principal importance in accordance with section 41 (biodiversity lists and action (England)) of the Natural Environment and Rural Communities Act 2006'*. A 50m standoff around any identified UK BAP habitats would be applied under this condition and agreed with stakeholders. In light of the above, it should be clear that the final identification of important habitats for micro-siting purposes, and the discharge of dML conditions pertaining to the same is an activity to be undertaken post-consent. Commitment CO91 of the **Commitments Register** [APP-231] (a certified document) presents further detail on the process for identifying and micro-siting around important benthic habitats.
ISH2.4.2	Disposal of dredged material, sediment deposition and proposed mitigation	Can you explain your proposed authorisation process for the disposal of dredged material and the different stages of authorisation by the Marine Management Organisation (MMO)? Please confirm if the MMO would be required to sign off any final proposals before any dredging works would be undertaken. Explain where this is secured.	The maximum volumes of material for deposition are presented within Schedule 1 Part 1 and within each of the dMLs (Schedule 10-14) presented in the **Draft DCO (Revision 5)** [document reference: 3.1]. Using this information, along with the **Disposal Site Characterisation Report** [APP-242] the MMO will designate dredge disposal grounds for the Projects in accordance with relevant legislation. Control of disposals during the construction phase of the Projects will be achieved through the limits on disposal volumes presented within the dMLs as well as further detail presented in information to be provided by the Applicants to the MMO to discharge Condition 15 of dML 1 and 2 (Schedules 10 and 11), Condition 13 (Schedules 12 and 13), and Condition 11 (Schedule 14). In accordance with the prescriptions of the dMLs the Applicants cannot commence the licenced activities until they have provided Construction Method Statements which must detail: (iii) foundation installation methodology, including drilling methods and **disposal of drill arisings and material extracted during seabed preparation for foundation and cable installation works and having regard to any mitigation scheme pursuant to subparagraph(1)(g);** The Construction Methods Statements must be produced in accordance with final Cable Statements (as per Condition 15(1)(c) of Schedule 10 of **Draft DCO (Revision 5)** [document reference: 3.1]) aligned with that produced in support of the application (**Cable Statement (Revision 2)** [AS-078]). The Cable Statements will include the details of any proposed dredging including the volumes to be dredged, the locations of any proposed dredging activity, the methods to be employed for any dredging and the details of proposed disposals. The Cable Statements will present the details of dredging required in support of cable installation activities. In addition, the Applicants are required to submit Scour Protection Plans within the Construction Methods Statements to further discharge the relevant conditions of the dMLs. The Scour Plans must be produced in accordance with **Outline Scour Protection Plan (Revision 2)** [AS-080] and will present details relating to scour protection installation, including those details relating to any seabed preparation required. In order to discharge the respective conditions within the dMLs, the MMO must approve the Construction Method Statement (which includes a Scour Protection Plan) and final Cable Statement in writing before a licensed activity may commence. In consideration of the above, it is clear that MMO will have significant control relating to the extents and locations of proposed dredging activities, as well as of disposals, relating to cable installation and foundation installation.
ISH2.4.3	Disposal of dredged material, sediment deposition and proposed mitigation	Reference to a maximum of 5% of turbine locations requiring drilling and a maximum of 5% of offshore platforms requiring drilling is made throughout the 'Disposal Site Characterisation Report' [APP-242]. In addition, ES Chapter 8 [APP-080], table 8-1, 'assumes 5% of all wind turbine and offshore platform locations will be drilled' and paragraph 158 of	As described in C**hapter 5 Project Description (Revision 3)** [document reference: 7.5], monopiles and pin piles may be installed by "*by either driving (use of a pile driving hammer), or a combination of driving and drilling techniques where harder ground conditions are present*". The quantity of arisings calculated and assessed is based on 5% of the *total volume* of the piles below the seabed being drilled out (plus clearance around the pile). This means that more than 5% of the number of piles may be drilled to some extent, as it is possible that a driving and drilling technique would be used to minimise the quantity of drilling required at any one location. At the time of DCO submission, the Applicants had not conducted detailed geotechnical site investigation, but early indications (based on early survey information and neighbouring projects) were that there was a low likelihood of hard ground and pile driving challenges

Number	Subject	Question / Clarification	Applicants' Response
		ES Chapter 8 [APP-080] states that, 'pile driving will be used in preference to drilling where it is practicable to do so (i.e. where ground conditions allow)'. Could you clarify the extent of proposed drilling for turbine and platform foundations, including monopiles and jackets, and explain how the 5% has been calculated? Could you also provide justification for the proposed 5% figure? On what basis has this been chosen? Finally, could you confirm how and where the 5% is secured in the draft Development Consent Order (DCO)?	that would necessitate drilling operations. This was also based on the maximum 6,000kJ hammer and a worst case foundation geometry. However, the risk of pile driving limitations could not be excluded and thus the assessment included a low quantity of drilling (5%) as contingency. Subsequent surveys by the Applicants within the DBS West Array Area in Q2-Q3 2024 have confirmed the low probability of drilling being required, but the outputs are still being assessed. 5% is still considered a reasonable worst case, particularly considering DBS East will not complete geotechnical site investigations until Q4 2025, with the results being interpreted through 2026. The same assumptions and similar conclusions were reached with respect to the pin piles associated with offshore platforms. The results of the volumetric calculations of total arisings for disposal are presented as item (f) under the Further Associated Development activities logged for each project in Schedule 1 Part 1 of the **Draft DCO (Revision 5)** [document reference: 3.1], an example of which states: *(f) disposal of drill arisings in connection with any foundation drilling up to a total of 37,917 cubic metres;* Further, the maximum volume of drill arisings proposed for disposal under each dML in the **Draft DCO (Revision 5)** [document reference: 3.1] is presented under the Details of Licenced Marine Activities as further associated development point (f). For example, the relevant wording within Schedule 10 states: *(f) disposal of drill arisings in connection with any foundation drilling up to a total of 35,086 cubic metres;* The volumes presented vary across the dMLs in accordance with the worst cases related to each deemed licence.
ISH2.4.4	Cable Protection within the Dogger Bank Special Area of Conservation (SAC)	Can you explain the rationale for the 10% requirement for cable protection within the Dogger Bank Special Area of Conservation (SAC)? Furthermore, could you clarify any additional studies and works that would need to be undertaken in order to refine the worst case scenario and potentially reduce the 10% requirement? What would be the timescale for undertaking the works? Do you consider the work could be undertaken as part of the Examination? If not, why not? In line with the request by NE [RR-039], could you provide evidence from Dogger Bank A and Dogger Bank B to justify and present a realistic worst case scenario for the remedial cable protection along 10% of the route?	The DBS Array Area Cable Burial Risk Assessment (CBRA) remains at a Preliminary stage, from a study completed in 2023. The Applicants are not planning to develop a revised version until the turbines proposed for use by the Projects have been chosen (likely Q3 2025 and, therefore, post-Examination) and the array layout is finalised (similar time frame). The Applicants conducted geotechnical site investigations in the Array Area at DBS West in 2024, and will be commencing geotechnical studies at DBS East in 2025. Using information arising from these surveys updates of the array area ground models will enable a refined CBRA to be developed in late 2025 – again, post-close of the DBS DCO Examination. The indications are that the Array Areas (the most significant part of the Projects for construction in the Special Area of Conservation (SAC)) shouldn't present areas of burial challenge. The site boundaries brought forward for Examination were refined from the Agreement for Lease boundaries presented at the PEIR stage in part to exclude high density boulder regions which would have presented significant burial risk. Despite the removal of this area of potentially challenging ground conditions, an upper limit of 10% of remedial protection (excluding cable / pipeline crossings and approaches to wind turbine and platform foundations where cables entering J-tubes need to be protected) has been assessed on the basis of the level of uncertainty that currently exists prior to geotechnical survey outputs being available and prior to a specific array cable layout being developed. The Applicants are not a participant in Dogger Bank A and B and do not have evidence in relation to those projects. We understand that construction is on-going on these projects and final cable protection values would not be available until construction has finished. In any case, the Applicants also do not consider that using the 'actual' (verified after installation is complete) remedial burial protection quantities from another project would be appropriate or applicable for the DBS Projects as there is a need to allow for the inherent uncertainty that exists until site design and investigations are complete, burial depths and methodology are selected, and ultimately until the physical process of laying/burying the cables is complete. If the Applicants were to lay cables on the seabed surface without an agreed option for remedial burial protection, the cables would be subject to high risk of damage during the potentially lengthy period of time it would take to seek approval for secondary cable protection to be installed. Further, there would be additional seabed disturbance then associated with any cable repair works which would be likely to occur with greater frequency over more extensive areas should remedial cable protection usage be sub-optimal from an asset protection perspective. The final volumes, areas and locations of remedial cable protection will not exceed the worst case values presented in the **Draft DCO (Revision 5)** [document reference: 3.1]. The predicted final volumes, areas and locations of anticipated remedial cable protection will be included in the final Cable Statement(s) which will require MMO approval under each dML prior to the commencement of

Number	Subject	Question / Clarification	Applicants' Response
			construction. The final Cable Statement(s) will be produced in alignment with **Cable Statement (Revision 2)** [AS-078]). Conditions within each dML (e.g. Condition 23 in Schedule 10) require the Applicants to report to the MMO and the relevant statutory nature conservation bodies the details of the cable protection and scour protection used within the authorised scheme following the completion of construction. Thus, it is clear that there will be a high level of control of the deployment of remedial cable protection prior to and beyond construction. The Applicants wish to clarify that the primary means of cable protection is burial and that every effort will be taken to maximise burial potential reduce the use of costly, time-consuming remedial protection measures through appropriate cable design, routeing and micro-siting and the selection of the most appropriate installation methods. Aside any environmental concerns, the Applicants are deeply incentivised to minimise the use of remedial protection at all project stages.
Agenda Item 5: Commercial Fisheries			
ISH2.5.1	Assessment definitions	Can you provide references for the receptor sensitivity, magnitude of impact and significance of effect definitions provided in Tables 13-10, 13-11 and 13-12 respectively in Chapter 13 of the ES [APP-117]?	The definitions of receptor sensitivity, magnitude of impact and significance of effect used for the commercial fisheries Environmental Impact Assessment (EIA) can be found within **Chapter 13 Commercial Fisheries** [APP-117] (Table 13-10, Table 13-11 and Table 13-13). A specific reference can't be provided for the definition of receptor sensitivity, magnitude of impact or significance of effect, however these definitions have been informed by and are compliant with a number of key guidance documents set out in Table 6-1 of **Chapter 6 EIA methodology** [APP-076]. These definitions are largely consistent with the approach adopted by a number of other offshore wind farms, including Morgan and Mona Offshore Wind Projects and Hornsea Three and Four. Specific policy, legislation and guidance relevant to commercial fisheries is also detailed within section 13.4.1 of **Chapter 13 Commercial Fisheries** [APP-117]. Receptor Sensitivity As well as the above highlighted guidance in Table 6-1 of **Chapter 6 EIA methodology** [APP-076], the definition of receptor sensitivity (Table 13-10 of **Chapter 13 Commercial Fisheries** [APP-117]) has been informed by consultation with the Commercial Fisheries Working Group (CFWG), site specific vessel traffic and scouting survey data, Vessel Monitoring System data and other statistical landings data from the MMO and EU-STECF to inform the key factors that influence a receptor's sensitivity. The key factors identified were: • Vulnerability • Spatial adaptability and spatial tolerance • Recoverability These key factors were incorporated into the definitions of receptor sensitivity to provide a qualitative form of assessment. A full list of the data and information used to inform the assessment of commercial fisheries is described in section 13.4.2 of **Chapter 13 Commercial Fisheries** [APP-117] and section 2.2 of **Appendix 13-1 Commercial Fisheries Consultation Responses** [APP-119]. Magnitude of Impact As well as the above highlighted guidance in Table 6-1 of **Chapter 6 EIA methodology** [APP-076], the definition of magnitude (Table 13-11 of **Chapter 13 Commercial Fisheries** [APP-117]) of impact has also been informed by consultation with the CFWG. The definitions are primarily based on the impact duration and the estimated reduction in value in terms of a commercial fishing receptor's annual landings. In response to consultation with the CFWG as a result of S.42 PEIR consultation, detailed in Appendix 13-1 Commercial Fisheries Consultation Responses [APP-119], the definition of low and medium magnitude of impacts were updated between the PEIR stage and final Environmental Statement (ES). Specifically, the definition of Low was amended from a "5-20% reduction in annual value of landings" to a "5-10% reduction in annual value of landings".

Number	Subject	Question / Clarification	Applicants' Response
			Similarly, the medium magnitude of impact definition was amended from a "21-50% reduction in annual value of landings to a "11-50% reduction in annual value of landings. The estimated percentage reduction in annual value of landings valuations were used in order to provide some form of semi-quantitative assessment, i.e. to not just rely on potentially vague definitions such as "a medium impact on revenue". The evaluation of impact magnitude has been informed by expert judgement that is based on data analysis, stakeholder feedback, the Array Area layouts presented and how these may affect fishing activity. **Significance of Effect** Definitions of each level of significance are provided in Table 13-13 of **Chapter 13 Commercial Fisheries** [APP-117]. The significance of effect upon commercial fisheries is a two-stage process and is determined by correlating the magnitude of impact with the sensitivity of the receptor, as per Table 13-12 within **Chapter 13 Commercial Fisheries** [APP-117]. For the purposes of this assessment, any effect that is of major or moderate significance is considered to be significant in EIA terms, whether this be adverse or beneficial. Any effect that has a significance of minor or negligible is not significant. These definitions are considered to be in compliance with key guidance documents set out in Table 6-1 of **Chapter 6 EIA methodology** [APP-076].
Agenda Item 7: Shipping and Navigation			
ISH2.7.1	Assessment references	Can you provide a reference to support which risks are to be considered as low as reasonably practicable (ALARP) as stated in paragraph 19 on the Navigational Risk Assessment [APP-124]?	**Appendix 14-2 Navigational Risk Assessment** (NRA) [APP-124] (paragraph 19) details that hazards assessed to be 'Broadly Acceptable' or 'Tolerable with Mitigation' are As Low as Reasonably Practicable (ALARP), whilst 'Unacceptable' risks are not considered to be ALARP. Following the risk assessment, section 21.5 of **Appendix 14-2 NRA** [APP-124] includes a concluding risk statement: "*The significance of risk has been determined as either Broadly Acceptable or Tolerable with Mitigation for all shipping and navigation hazards assessed. No additional mitigation measures have been identified, and thus the residual risk is also Broadly Acceptable or Tolerable with Mitigation for all shipping and navigation hazards*" (Paragraph 658). In line with the risk assessment methodology, all hazards are therefore considered to be ALARP or not significant in EIA terms.
Agenda Item 9: Seascape, Landscape and Visual			

ISH2.9.1	Lighting	Paragraph 7.80 of the East Riding of Yorkshire Council's Local Impact Report [PDC-007] suggests that for construction lighting, a community liaison approach should be set up before any lighting that would be required for longer periods or overnight would be installed. Should this commitment be added to the outline Code of Construction Practice [AS-094]? If not, why not?	The **Outline Code of Construction Practice (OCoCP) (Revision 2)** [AS-094] includes details of construction lighting in Section 5.11 (p.47), key measures include:
			
			• In respect to Temporary Construction Compounds (TCCs), low levels of security lighting may be required at night during construction, at the entrance to the sites and office facilities as well as around the perimeter of the TCCs.
			• A Construction Lighting Plan will either be appended to the detailed Code of Construction Practice(s) (CoCP(s)), or detailed text included within the main detailed CoCP(s), dependant on the approach pre-construction. Site lighting will be provided to ensure the safety of work and to maintain security on the construction sites.
			• Lighting design will ensure that any artificial light emitted from premises will not be prejudicial to health or be a nuisance as required by the Environmental Protection Act 1990
			• External lighting of the construction site will be designed and positioned to:
			  ○ Provide the necessary levels for safe working;
			  ○ Minimise light spillage or pollution; and
			  ○ Minimise light spill to adjoining residents, occupiers and identified ecological receptors (if relevant).
			
			The Construction Lighting Plan will be agreed with the East Riding of Yorkshire Council (ERYC) prior to construction. The requirement for the contractor to agree a detailed CoCP is secured by Requirement 19 of the **Draft DCO (Revision 5)** [document reference: 3.1].

Number	Subject	Question / Clarification	Applicants' Response
			As detailed in section 4.5 of the **OCoCP (Revision 2)** [AS-094] '*The Community Liaison Officer (CLO) will manage and respond to any questions and complaints and keep a robust record of all correspondence. A system for dealing with enquiries or complaints will be established by the Projects and the Principal Contractor(s).*' In addition, it also states that: '*At relevant milestones, information on the programme of works and associated activity will be communicated through a variety of methods to ensure people are informed on what they can expect to see and experience through the construction. These might include newsletters, website updates and information events.*' As stated in Table 3-1 of the **OCoCP (Revision 2)** [AS-094] a Communications and Public Relations Procedure (OCPRP) will be developed as part of the final CoCP and implemented throughout construction to ensure that all onshore associated stakeholders including local residents, parish and town councils and businesses are kept informed of construction activities. This would include notification of any significant night works which may include additional construction lighting requirements. Given the commitments already included in the **OCoCP (Revision 2)** [AS-094] the Applicants do not propose to provide any further updates.
ISH2.9.2	Candidate Yorkshire Wolds National Landscape	The Planning Inspectorate suggested in its scoping response [APP-232] that potential effects on the candidate Yorkshire Wolds National Landscape should be considered on the basis of a zone of theoretical visibility, rather than distance from the Proposed Development, however you have not adopted this. Please explain why you have determined that a distance of between 12.5km and 15.5km from the Proposed Development results in effects that would not be significant.	During Section 42 consultation, Natural England confirmed their position that potential impacts on the Yorkshire Wolds candidate National Landscape (formerly Area of Outstanding Natural Beauty (AONB)) could be scoped out. Refer to **Appendix 23-1 Landscape and Visual Impact Assessment (LVIA) Consultation Responses** [APP-194], page 19. A zone of theoretical visibility shows areas where a proposed development may be visible. It does not indicate the likelihood of significant effects. Based on the assessors past experience of undertaking landscape and visual impact assessment for this type of development (e.g. Dogger Bank Creyke Beck; Hornsea Four) on behalf of the Applicants, it is not considered that views of the Onshore Converter Stations would give rise to effects that could be significant at a distance of over 11km.
ISH2.9.3	Candidate Yorkshire Wolds National Landscape	Would there be views of any elements of the Proposed Development during construction or operation from the candidate Yorkshire Wolds National Landscape?	There is the potential that some locations may experience distant visibility of the Onshore Converter Stations during construction or operation. However, given the scale of the Onshore Converter Stations and associated construction works, and that it would be seen at a minimum of 11km from the candidate National Landscape, this is unlikely to result in significant visual effects. It was therefore not considered appropriate to include any viewpoints within the candidate Yorkshire Wolds National Landscape, or any further viewpoints to the west within the locally designated Yorkshire Wolds Important Landscape Area. This was confirmed by the ERYC landscape representative in the ISH2. Construction effects along the Onshore Export Cable Corridor may be seen slightly closer at c. 9.6km. But these construction effects would be low-lying and short term in nature and are unlikely to give rise to significant effects.
ISH2.9.5	Residential Visual Amenity Assessment	Did you consider conducting a Residential Visual Amenity Assessment (RVAA) to evaluate and assess any likely change to the visual amenity for nearby dwellings resulting from the Proposed Development? If not, why not?	The closest property would be Butt Farm which is approximately 260m north of the Onshore Converter Stations. An existing mature hedge with trees is present between the property and the Substation Zone, which provides some screening. Additional screening is proposed in the form of a native woodland plantation up to 50m across, which will include evergreen species. The outlook from the farmhouse at Butt Farm is to the east and south, with views south-west towards the Onshore Converter Stations being partially screened by farm buildings. Properties in Bentley village to the south are between 380m and 560m from the proposed Onshore Converter Stations. Views north from these properties are varied but for some are relatively open views from the rear outlook of the houses. Additional screening is proposed in the form of a substantive native woodland plantation up to 100m across, which will include evergreen species.

Number	Subject	Question / Clarification	Applicants' Response
			Given the distance, and the existing and proposed screening, it is not considered likely that impacts on views from any of these properties would be so great as to potentially breach the Residential Visual Amenity Threshold, as described in guidance published by the Landscape Institute. Therefore, effects on views are not considered to impact on 'living conditions' at the closest dwellings. As part of the **Project Change Request 2 – Onshore Substation Zone** [AS-152], which has now been accepted [PD-012], the Onshore Converter Stations will be reduced in extent and will be located further from residential properties at Butt Farm and Bentley village. While there is unlikely to be a reduction in the significance of effects, the change will further reduce the likelihood of breaches of the Residential Visual Amenity Threshold On this basis, RVAA was not undertaken.
ISH2.9.6	Visualisations	Provide a response to the following queries on the selection of locations for viewpoints (VP) [PDA-010] and provide justification for your answers: • Why was the location for VP3 looking towards the Beverley 20 walking route taken from the selected location, rather than in more elevated position to the north of the VP? Why was the location for VP3 selected over a closer range view further south, such as the public right of way (PRoW) labelled 'Walkington Footpath No. 9/ Beverley 20 Footpath/ East Riding Heritage Way' shown on Page 29 of the PRoW Plan [APP-017]? • Was a VP considered along Walkington Footpath No. 4 at the bridge crossing over the A1079 that provides vehicle and pedestrian access to Butt Farm? If not, why not? • Was a VP from the A164 from the north-east, towards the proposed converter stations considered? If not why, not? • Why was VP6 taken from the chosen location rather than slightly further to north where the PRoW turns a corner and more exposed views of the site are available?	The LVIA viewpoint locations were discussed and agreed with ERYC at a series of Expert Topic Group (ETG) meetings, as set out in the **Statement of Common Ground** [document reference 9.2], ID 104 and ID 105. In relation to the specific queries: • VP3 was taken near the junction of Walkington Footpaths 4 and 9 to represent users of both. VP3 was chosen to give a balance of distance and elevation. A Viewpoint too close to the site might have been afforded more screening from Johnstons Pit which would be seen in closer proximity (especially if taken near the 90 degree turn in Footpath 9). Further north, the footpath is more enclosed by hedges and views would be partially obscured. • Viewpoint 1 is taken from Walkington Footpath No. 4 by Butt Farm, which has more open views and is in slightly closer proximity than the bridge. The bridge, although elevated, is surrounded by roadside vegetation on embankments which obscures views towards the Substation Zone. • At the time of viewpoint selection the A164 had dense roadside vegetation which limited views towards the Substation Zone. Much of this has now been cleared, and following a request from ERYC, a viewpoint has been selected on the A164 between the Coppleflat Road and Dunflat Road junctions. A visualisation will be submitted at Deadline 2, which will also include the changes to the Onshore Converter Stations included in **Project Change Request 2 – Onshore Substation Zone** [AS-152]. This viewpoint has been selected to show the impact that vegetation removal as part of the A164/Jock's Lodge improvement has had on views and the potential increase in visibility of the Onshore Converter Stations. • Viewpoint 6 was selected to offer visibility over the surrounding farmland. It was considered that there is limited visibility from the entirety of this PRoW.
ISH2.9.7	Significance of Effects	Explain why the threshold of significance for landscape effects in ES Chapter 23 [APP-192] from the proposed converter stations is defined as being at no more than 1km away – how has	The LVIA concludes that significant effects would be contained within the area "*bounded approximately by the A1079 to the north, the A164 to the east, and Coppleflat Lane to the south and west*" (**Chapter 23 Landscape and Visual Impact Assessment** [APP-192], para 418).

Number	Subject	Question / Clarification	Applicants' Response
		this been derived? Do you consider the effects at 1km away to be localised effects?	A number of features within approximately 1km of the site would provide screening to limit the extent of effects. This includes woodland at Bentley Moor Wood, Johnson's Pit, Eleven Acre Plantation, Jillywood and Birkhill Wood, and vegetation along the A1709. Undulating landform and woodland at Risby Park in the west also helps contain development.
ISH2.9.8	Converter Stations	Provide indicative, annotated cross-section drawings of the converter station area, along northern and southern points of the proposed platform (in a generally east-west direction) showing existing and proposed features, levels and tie-ins. Also provide a longitudinal section drawing (in a generally north-south direction) showing existing and proposed features, levels and tie-ins. These can be provided at Deadline 2 if it is not possible to provide these by Deadline 1.	The requested drawings will be provided at Deadline 2 within an updated **Design and Access Statement** [APP-233].
ISH2.9.9	Temporary Construction Compounds	Provide more information regarding the likely visual appearance of temporary construction compounds that have been assessed in the ES. For example: what are the maximum heights for fencing, equipment and cabins; what are the effects from lighting on landscape character and visual amenity? Should any parameters for the size, colour, design or height of the temporary office and welfare facilities in the temporary construction compounds be incorporated into the Design and Access Statement for example [APP-233]?	The exact internal layout of the construction compounds and what would be located within them will be agreed with the Contractor, prior to construction. Construction compounds could be set out in a number of ways (e.g., siting of office cabins, storage of materials, and machinery etc). The predicted fence height would be a decision for the contractor, but would not exceed 2.4m in height, as stipulated in paragraph 263 of **Chapter 5 Project Description (Revision 2)** [document reference: 7.5]. The exact location and nature of construction lighting is unknown. Any effects would be experienced on a temporary nature and only in periods of darkness during winter months. The Applicants have made the commitment to submit a construction lighting plan as detailed in the **OCoCP (Revision 2)** [AS-094], further detail about this plan have been added to the OCoCP at Deadline 1. An additional visualisation for Viewpoint 3 showing the extent of the TCC, and a 2.4m fence forms Appendix A of **The Applicants' Response to East Riding of Yorkshire Council's Local Impact Report** [document reference 11.3]. Additional detail has also been added to **Chapter 5 Project Description (Revision 2)** [APP-071] at Deadline 1, to provide clarification on the likely dimensions of key equipment within the TCCs. Given the temporary nature of these elements, we do not think detailed design parameters would be necessary or proportionate in the **Design and Access Statement** [APP-233] for construction.
ISH2.9.10	Outline Landscape Management Plan [AS-096]	Paragraph 13 of the outline Landscape Management Plan [AS-096] refers to reinstatement of trees and hedgerow 'as soon as is practicable after installation of the cables'. Which cables does this refer to? Please update the management plan to be more specific about timescales for reinstatement planting.	'Cables' refers to the installation of the cable ducts within the Onshore Export Cable Corridor which runs from the landfall to the Onshore Converter Stations, and onwards to the Proposed Birkhill Wood National Grid Substation . Hedges would be reinstated 'as soon as is practicable', which in practice will be at next planting season following installation of the cable ducts. Paragraph 13 of the **Outline Landscape Management Plan (OLMP) (Revision 2)** [AS-096] will be updated to reflect the above at Deadline 2, when incorporating **Project Change Request 2 – Onshore Substation Zone** [AS-152].
ISH2.9.11	Outline Landscape Management Plan [AS-096]	In East Riding of Yorkshire Council's Local Impact Report [PDC-007], paragraph 7.53 sets out the Council's planting guidance for hedgerows. Are you prepared to incorporate this into the outline Landscape Management Plan [AS-096]?	All of the species noted in paragraph 7.53 of the **Local Impact Report (LIR)** [PDC-007] are already included in the species mixes in Tables 1-1 to 1-4 of the **OLMP (Revision 2)** [AS-096] (with the exception of Ash which the LIR notes should be substituted). The LIR also notes that Guelder rose is acceptable and that 'other planting mixes are considered appropriate to the area'. The details of planting proposals, including species mixes, will be subject to approval by ERYC, controlled by Requirement 10 of the DCO. It is not considered that the **OLMP (Revision 2)** [AS-096] needs to be updated.

Number	Subject	Question / Clarification	Applicants' Response
			The ERYC agreed on a call on the 27th January that no further updates were required, if the species listed in the LIR aligned with the **OLMP (Revision 2)** [AS-096].
ISH2.9.13	Landscaping and drainage	ERYC's Local Impact Report [PDC-007] requests that the surface water drainage strategy be landscape led and be developed to integrate with and contribute to the overall landscaping scheme. Could the landscaping scheme be amended to achieve this? If not, why not and, if yes, when would these amendments be submitted, and how could this be secured through the draft DCO?	The Applicants support using a landscape design-led approach to the design of the SuDS. This would be beneficial for both the landscape and ecology/biodiversity. The Applicants are committed to establishing a landscape-led approach to SuDS with landscape professionals working collaboratively with the SuDS engineers to produce a design which will maximise landscape benefits. The drainage design will be progressed at detailed design stage, post DCO consent, to include swales around the proposed development which better integrate into the landscape and provide enhanced ecological benefits compared to the larger 'end of pipe' SuDS attenuation pond. The Applicants have calculated the maximum area required for a single drainage feature based on an outline design for the Onshore Converter Stations and a worst case assumption about permeability of surface material in the design in order to understand the maximum parameters for assessment as per the 'Rochdale Envelope Approach'. The requirement to prepare a detailed Drainage Strategy is secured by DCO Requirement 16 of the **Draft DCO (Revision 5)** [document reference: 3.1], and must be approved by the ERYC and the relevant drainage authority. Although a detailed design has not been undertaken, wording has been added to sections 1.5.2 and 1.5.4 of the **OLMP (Revision 2)** [AS-096] with clarification that the SuDS design would be landscape-led following comments from the ERYC. Paragraph 30 states (p.160) '*The detail of the landscape treatment in this area will be developed in the final LMP based on the final design of the drainage works. This will help further inform the planting design along the eastern boundary. The SuDS design, set out in the **Outline Drainage Strategy (Revision 2)** [APP-237] would be approached in a landscape-led manner. Landscape professionals would work collaboratively with the SuDS engineers to produce a design which maximises landscape benefits. The detailed design would be progressed at to best integrate the SuDS into the landscape and provide enhanced ecological benefits, where possible.*' The detail in the OLMP is secured by Requirement 10 of the **Draft DCO (Revision 5)** [document reference: 3.1]. The **Design and Access Statement** [APP-233] will be updated for Deadline 2, to provide more detail on the landscape-led approach to SuDS and the commitment made in the Projects' **Commitment Register** [APP-231] which will be updated for Deadline 2.
ISH2.9.14	Important Hedgerows	How have you defined important hedgerows for the purposes of the landscape and visual assessment? Is the status of any hedgerows likely to change between now and when construction would start? How would this affect the Proposed Development and any proposed mitigation measures?	For the purposes of the landscape and visual impact assessment, all hedgerows are considered to have importance for their contribution to landscape character, and for the visual screening they provide. As such there is no specific 'status' attributed to any hedges within the LVIA.
ISH2.9.15	Hedgerows	As a worst case scenario, how many metres of hedgerow would be removed across the whole of the Order Limits? Are you confident that there is sufficient space in the Order Limits to accommodate replanting to match this level of removal?	The total length of hedgerow within the Onshore Development Area is 16.67km, as detailed in **Chapter 18 Terrestrial Ecology and Ornithology (Revision 4)** [PDC-002]. As stated in the both the ES chapter and the **Outline Ecological Management Plan (OEMP) (Revision 3)** [As-114] there are certain hedgerows crossings where hedgerow removal cannot be avoided, these are identified in **Appendix 5-2 Obstacle Crossing Register (Revision 2)** [As-053]. These sections for removal would be limited to up to 24m along the Onshore Export Cable Corridor, 34m along the Onward Cable Connection and up to 25m for visibility splays, with some crossing locations only requiring a temporary haul route crossing. As the **Appendix 18-10 Biodiversity Net Gain (BNG) Strategy** [App-157] has assumed that all hedgerows removed along the Onshore Export Cable corridor, will be reinstated within two years, the Applicants were not required to include the total length of hedgerow temporarily lost in the BNG metric calculations. Therefore, this number is not readily available, and the Applicants will provide a response at Deadline 2, considering the maximum extent of hedgerow removal at each crossing point.

Number	Subject	Question / Clarification	Applicants' Response
			The Applicants are, however, confident that there is sufficient space in the Order Limits to accommodate replanting of all hedgerows which are temporarily removed.
ISH2.9.16	Trees and Hedgerows	Are there instances where you consider that the removal of trees or hedgerow that cannot be replanted in the same location would have a harmful effect on landscape character?	The route of the Onshore Export Cable Corridor has been designed to avoid as far as practicable the loss of areas of woodland, which where necessary would be crossed by trenchless techniques. In total, 3.75 hectares of woodland have been recorded within the Onshore Development Area but only a small area of 0.02 hectares (200m²) representing 0.5% of the total woodland area will be affected. Sections of hedgerows lost will be reinstated over the Onshore Export Cable Corridor but will take time to establish. Trees cannot be planted over the Onshore Export Cable Corridor. Some individual trees (e.g., hedgerow trees) may be lost, but if replacement trees cannot be planted in the same location would be replanted nearby within the Order Limits. A loss of woodland would have harmful effects on landscape character. The loss of occasional individual trees is less likely to have significant effects, especially as the Applicants are committed to replanting close by, and thereby retaining their contribution to landscape character in the long term. Compensatory tree planting is included as mitigation in paragraph 146 of in the **OEMP (Revision 3)** [AS-114], secured by Requirement 12 of the **Draft DCO** (Revision 5) [document reference: 3.1] The current Onshore Converter Stations landscape mitigation plan (Figure 23-6 [PDA-010]) includes new areas of woodland to be created including areas that will allow the expansion of the ancient woodland (Bentley Moor Wood).This will be updated at Deadline 2 to include the **Project Change Request 2 – Onshore Substation Zone** [AS-152].
ISH2.9.17	Trees – ash die back	The outline Code of Construction Practice [AS-094] notes that the converter stations would benefit from existing screening provided by Johnson's Pit, Eleven Acre Plantation and Bentley Moor Wood (paragraph 208). However, ES Chapter 18 (Terrestrial Ecology and Ornithology) [AS-109, paragraph 142] states that ash dieback was observed in the trees surveyed, and it is possible for infected trees to fall or collapse unexpectedly as a consequence of the disease. To what extent does this screening rely on ash trees and what would be the impact of ash die-back that has been noted in these woods in terms of effects on landscape character and visual amenity?	Johnson's Pit, Eleven Acre Plantation and Bentley Moor Wood are well established and dense woodland blocks. Loss of some trees to ash die back is unlikely to significantly alter their screening capability. As part of the Projects, the Applicants are seeking powers to maintain Bentley Moor Wood but this would not extend to Johnson's Pit or Eleven Acre Plantation which are outside the order limits. The government's advice is that, whilst it is likely that the majority of native ash trees in England will exhibit symptoms of ash dieback, not all will die. Some ash trees will have some tolerance to the disease, and others will exist in locations where they escape the worst impacts. Some ash trees may have genetic tolerance to ash dieback, meaning they may survive and reproduce to create the next generation of ash trees. When this happens, these ash trees should be retained where they stand out as being healthier than those around them, providing it's safe to do so. Retaining a proportion of dead, dying or felled trees will provide deadwood habitat and be beneficial for biodiversity. No ash trees are being proposed for planting as part of the **OLMP (Revision 2)** [AS-096].
ISH2.9.19	Good Design	The Design and Access Statement [APP-233] should be revised to set out the vision for the completed development with a narrative on how this has been taken from conception through to the final design, how this would achieve sustainability, create a new place and hold design together. Clarify how the design evolved from the initial brief and how the design rationale was taken forwards. Explain the beneficial outcomes that result from the adopting good design principles. This can be	The development narrative will culminate with the designs and reflections made during the detailed design stage. The narrative of the development still retains flexibility whilst the site is finalised. The Design Principles and Consideration provide the outline approach for what the scheme is aiming to achieve and will be used as the baseline requirements during the detailed phase. The **Design and Access Statement** [APP-233] includes much of this material, and will be updated for Deadline 2, to highlight the design development and the vision for the completed Projects. The vision for the completed development is represented through the seven overarching Design Principles. The development narrative progresses through policy and guidance review, site context analysis and design consideration testing in Section 4. The Projects aim to achieve sustainability through a positive approach to landscape functions such as drainage and ecological restoration, whilst minimising the development works needed as far as possible. The vision for the Projects will be a balance of

Number	Subject	Question / Clarification	Applicants' Response
		provided at Deadline 2 if it is not possible to provide this at Deadline 1.	technical requirements and sensitive implementation that will mitigate impacts as far as possible and provide economic benefits and ecological and wildlife benefits through restoration, enhancement and connections. The design rationale was informed during the policy and guidance review and site context analysis, with initial proposals also being reviewed against technical and safety requirements. The Design Principles and Consideration provide the outline approach for what the Projects are aiming to achieve and will be used as the baseline requirements during the detailed design phase. Responding to the 'Good Design' guidance and requirements will ensure that the Projects are designed in a positive way, which will ensure that the development is beneficial to people, place and nature. The **Design and Access Statement** [APP-233] includes much of this material and is currently being updated for Deadline 2 to further highlight the design development and the vision for the completed Projects. This will include restructuring and rewording to make Design Principles and design process more prominent in relation to the Onshore works, additional information on specific design considerations such as SuDS, earthworks and materials to reinforce the design process and additional visuals that represent how the Design Principles have been implemented in the **Outline Landscape Management Plan (Revision 2)** [As-096], also being updated at Deadline 2 to incorporate the **Project Change Request 2 – Onshore Substation Zone** [AS-152].
ISH2.9.20	Good Design	Explain your design rationale for the converter stations – what design principles were established from the outset of the Proposed Development to guide the development from conception through to operation and where are these reflected in the proposed indicative layout and design of the converter stations.	A series of overarching design principles have been developed that outline how design should be considered and delivered at the Onshore Converter Stations. These respond to the variety of technical and environmental constraints that have been raised during the DCO process. The overarching design principles outlined in Table 4-1 page 45 & 46 of the **Design and Access Statement** [APP-233] inform the design consideration for each area and create a framework that promotes good design throughout the report. The **Design and Access Statement** [APP-233] will be updated for Deadline 2; to clarify the overarching principles and to ensure they are referenced throughout the document.
ISH2.9.21	Good Design	How do the design principles of the Proposed Development respond positively to climate, people, place and value? Would the Proposed Development create a sense of place? How would the community benefit from the Proposed Development, notably the proposed converter stations, in terms of sense of place?	The Design Principles set out in the **Design and Access Statement** [APP-233] have been created to ensure the development responds positively to climate, people, place and value. This is achieved through a balance of technical requirements and sensitive consideration for the way the development will sit with the environment. The development will create a sense of place, through its integration into the landscape instead of creating a destination. Communities will benefit from the increased economic benefits of the site, and the ecological and wildlife community will benefit from restoration, enhancement and connections. The **Design and Access Statement** [APP-233] will be updated for Deadline 2, to clearly relate the proposed measures to the National Infrastructure Commission Design Principles of Climate, People, Place and Value.
ISH2.9.22	Good Design	Paragraph 13 of the Design and Access Statement [APP-233] states that, '*where relevant, the design will incorporate adaptations to address future impacts of climate change*'. What might some of these adaptations be and where could they be relevant?	The Applicants have detailed how climate change resilience measures are secured in the Projects' design in **Chapter 30 Climate Change** [APP-222]. The commitments in this ES Chapter (secured through the **Commitments Register** [APP-231] include ensuring the Projects design will prioritise resilience against hazards posed by existing extreme weather events and climate conditions, and ensuring the design will incorporate adaptations to address future impacts of climate change. **Chapter 30 Climate Change** [APP-222] section 30.3.4.2 details how management plans would deal with potential effects from climate change during the construction, operation and maintenance, and decommissioning phases of the Projects (such as the CoCP (secured by DCO Requirement 19). The management plans will account for exposure of site workers and construction plant to extreme weather events and ensure appropriate preparation and response measures are in place to minimise their impacts. These measures include, but are not limited to, the following: • Scheduling construction activities based on seasonality and timely weather forecasts; • Monitoring of on-site weather conditions and severe weather alert services;

Number	Subject	Question / Clarification	Applicants' Response
			• A comprehensive flood warning and evacuation plan; • Incorporating a severe weather protocol into construction management plans and assigning clear responsibilities in the event of an emergency; and • Requiring contractors to include additional provisions in their management plans based on weather conditions at the time of works such as additional rest breaks during heatwaves, securing stored equipment and material during high wind events and specifying de-icing equipment during cold spells. Mitigation against flooding due to climate change impacts are considered in the design of the onshore components, including drainage for the Onshore Converter Station, detailed in the **Outline Drainage Strategy (Revision 2)** [AS-099]. Design adaptations to aspects of the landscape design may include proposed planting that includes specifically climate resilient species to respond to drought or flooding. SuDS capacity has also been engineered to ensure that increased climatic events can be dealt with in a sustainable way. Material use will also be considered as part of a circularity framework, ensuring that consumption is reduced, materials are re-used where possible and provide longevity. The **Design and Access Statement** [APP-233] will be updated for Deadline 2, to expand on this point.
ISH2.9.23	Good Design	The Design and Access Statement [APP-233] provides two options for materials for the converter stations, though both are presented as having constraints. Are there any other potential options available in terms of materials? Could a mixture of both be utilised? Are there any innovative or new materials that you are aware of being developed that could be utilised? Could the Design and Access Statement be updated to explore other potential options?	Other materials considered such as timber, presented technical constraints through fire risk, longevity or availability. This left metal and polycarbonate, which could be used as a mix in different applications if required. The **Design and Access Statement** [APP-233] will be updated for Deadline 2, to provide more detail on the use of materials, where possible.
Agenda Item 10: Onshore Historic Environment			
ISH2.10.3	Archaeology	Comments from Historic England [APP-174] regarding effects on archaeology suggest that the Yorkshire Wolds and its immediate hinterland are a priority area for Historic England, with a research framework for the Wolds, which was not referenced in the scoping report. The ExA cannot see that this is referenced in ES Chapter 22 [AS-092]. Provide more information on the research framework, its relevance to the application and how this was considered as part of the ES.	The Research Agenda and Outreach Strategy have had appropriate regard to the relevant aspects of the Research Framework for the Wolds and provide the basis for more detailed proposals that will be developed in the light of results of fieldwork as it emerges. Historic England indicated that they agreed to this research framework mapping at the Statement of Common Ground (SoCG) meeting held on 5/12/2023. The Archaeological Research Framework for the Wolds is not explicitly referenced in the ES as its application to baseline valuations and assessment is indirect. The Projects are in areas referred to in this strategy as 'off-Wolds' and were not themselves considered directly in the production of the strategy. The Projects have, however, mapped the Research Agenda in the **Outline Onshore Written Scheme of Investigation** [APP-239] (Table 6-1) to research objectives in the Yorkshire Wolds Research Strategy where the findings of archaeological work carried out by the Projects would be relevant to those objectives.
ISH2.10.5	Archaeology	Does the Phase Two trial trenching address the shortfall in trial trenching at the proposed converter station site identified in ES Chapter 22 [AS-092]? (Paragraph 163 states that trial trenching was abandoned due to adverse weather and ground conditions).	The remaining trial trenching in the Onshore Substation Zone that could not be carried out in the Phase 1 trenching due to adverse weather and ground conditions has now been completed. These works identified archaeological remains of former field boundary and drainage ditches, and the findings are summarised in the **Archaeological Trial Trenching Phase 2 (Interim) Section 17** [PDA-030] at sections 3.2 and 3.3.

Number	Subject	Question / Clarification	Applicants' Response
ISH2.10.6	Archaeology	How do the findings from the Phase Two trial trenching affect the findings of ES Chapter 22 [AS-092]? Are any additional mitigation measures required?	In all Sections that were investigated, the Phase 2 evaluation trenching identified archaeological remains of the same or lower significance than those predicted in **Chapter 22 Onshore Archaeology and Cultural Heritage (Revision 2)** [AS-092]. This is consistent with the approach adopted in the ES of stating a precautionary valuation of predicted archaeological remains for the purpose of impact assessment, and no mitigation further to that already discussed in the ES is required. A summary of each section, with reference to the predictions in the ES is contained in the **Phase 2 2024 Archaeological Trial Trenching Technical Note (Revision 2)** [AS-022]. To summarise: • Section 10: Routh East – results were broadly consistent with geophysical survey with no dense concentrations of features or settlement activity • Section 11: Routh West – results were consistent with geophysical survey suggesting limited potential, and no evidence for features associated with the medieval settlement at Eske (NHLE1—5216) were observed. • Section 3: Nunkeeling – results were generally consistent with geophysical survey suggesting the presence of a pre-modern field system. Geophysical anomalies interpreted as a potential Roman Road were observed to be undated furrows. • Section 17: Substation – results were less significant than predicted. While predicted elements of pre-modern field systems were recorded, no evidence of elements of the WWII Heavy Anti-Aircraft (HAA) battery at Butt Farm was observed. • Section 5: Routh North – the overall concentration of archaeology across Section 5 was slightly higher than anticipated however of similar character and significance as predicted. • Section 6: Routh South – there was a good correlation between the anomalies identified in the geophysical survey results and the excavated evidence, with a concentration of features suggestive of Iron Age or Romano-British domestic settlement.
ISH2.10.7	Archaeology	How much of the onshore area has now been assessed by trial trenching and geophysical survey?	The Projects have carried out geophysical survey by magnetometry of 100% of the areas where survey is practicable (excludes roads, woodland, water rivers etc) within the Order Limits. The **Geophysical Assessment Report** submitted with the ES [APP-180 to APP-188] reported 339ha of the 434ha suitable for geophysical survey (out of 455ha of the final Order Limits) equating to 78% coverage. The final **Geophysical Assessment Report** was submitted to the Examination on 8th November 2024 (AS-029 to AS-035) and reported completion of 100% coverage of 434ha out of 434ha suitable for geophysical survey (out of 455ha of the final Order Limits). The Projects have carried out archaeological trial trenching over approximately 36% of the Order Limits with an average area sample of around 2%. Those areas completed to date have been focused on fixed infrastructure areas and areas of highest archaeological potential as suggested by geophysical and desk-based survey. These include the Landfall and Substation areas in 2023 and discrete sections of the cable route in 2024. As detailed in **Phase 2 2024 Archaeological Trial Trenching Technical Note (Revision 2)** [AS-022] the Applicants have agreed with Historic Environment Stakeholders through the Evidence Plan Process that sufficient geophysical survey and trial trenching information was carried out pre-application (and included within the DCO submission) for purpose of the examination. The ongoing post-submission geophysical survey and trial trenching is being carried out to alleviate programme pressure pre-construction, and to better understand archaeological risks and mitigation planning during construction; should consent be granted.
ISH2.10.8	Archaeology	Is it likely that items of significant archaeological potential identified in sections 5 and 6 trial trenching areas [AS-023 and AS-024] would be able to be preserved in situ? If not, does not preserving the items of importance in situ result in the potential to increase the significance of effect and, if so, is this accounted for in the ES?	The archaeological evaluation has enabled the consideration of preservation in situ for areas of higher archaeological potential (where practicable) to be weighed against other engineering and environmental constraints. In particular, there is potential to avoid the highest concentrations of archaeology at Catfoss (**Archaeological Trial Trenching Phase 2 (Interim) Section 5**, [AS-023]), through extension of the trenchless crossing zone and micro-siting the cable route within section 6. The worst-case assessment presented within the ES assumed that preservation in situ would not be achieved. The assessed magnitude of impact would therefore not be altered if preservation *in situ* were not practicable.

Number	Subject	Question / Clarification	Applicants' Response
			Where preservation in situ can be achieved, this would result in a reduction in the magnitude of impact, but as these proposals cannot be confirmed, the worst case has been retained in the ES assessment.
ISH2.10.9	Defining the level of harm to heritage e assets	The ExA requests that the updated information provided in ES Chapter 22 [AS-092] regarding the level of harm attributed to heritage assets as a result of the Proposed Development is reviewed again. The ExA has the following observations: • In some cases, the degree of harm (i.e. whether any harm to heritage assets would be substantial or less than substantial) has been identified under the 'magnitude of effect', but in other instances the level of harm is referred to in the 'significance of effect'. The ExA requests that the identified level of harm pre- and post-mitigation for each potential impact identified in ES Chapter 22 and for each heritage asset is provided. This needs to be reviewed consistently throughout the ES Chapter and where a substantial or less than substantial harm is identified, this needs to be robustly justified. • For example, during construction, the ES does not conclude on whether there would be residual substantial or less than substantial harm to heritage assets following mitigation for Impact 2. It only refers to potential for substantial harm when determining the magnitude of harm, it does not conclude whether there would be substantial or less than substantial harm during construction following mitigation. This is also the case for Impacts 3 and 4. For Impacts 7 and 8, the ES does not detail the level of harm pre- and post-mitigation for each heritage asset, only some. The ExA recommends that a table is produced, listing the heritage assets, the effects and the attributed level of harm (i.e. substantial or less than substantial harm) pre- and post-mitigation. For example, this information could	The Applicants have considered this request and intend to provide a more detailed tabulation of potential effects on heritage assets at Deadline 2. With regard to the request to justify any harm, the balancing exercise requiring 'clear and convincing' justification of harms to designated heritage assets required by NPS EN-1 5.9.28 and implicit is a complex matter that cannot be addressed with reference to effects on heritage assets alone. Site selection has been subject to a process of options appraisal that has sought to understand the potential for harms to all environmental receptors and engineering concerns. These exercises are set out in **Chapter 4 Site Selection & Assessment of Alternatives (Revision 2)** (AS-017). Consultation on these exercises, was carried out in the ETG with Historic England, ERYC and the Humber Archaeology Partnership on 15th September 2021 (to discuss methodology) and 4th May 2022 (to review the exercise) and the relevant agreements are recorded in the relevant SoCGs submitted at Deadline 1. The **Planning Statement** (APP-226) sets out the overall balancing exercise, concluding at paragraph 394 that *'In recognising that the Projects will result in residual effects which are of a 'less than substantial' nature, the key policy test (as written into the NPPF), is that such harm is weighted against the public benefits. Given the clear and urgent need to deploy renewable energy at speed and scale, the Projects demonstrably give rise to substantial public benefits which outweigh the less than substantial harm identified'.*

Number	Subject	Question / Clarification	Applicants' Response
		be worked into Table 22-18, but it must identify the effects on each heritage asset, rather than in groups. This can be provided at Deadline 2 if it is not possible to provide this by Deadline 1.	
ISH2.10.11	Mitigation	Noting that the outline Code of Construction Practice [AS-094] only appears to refer to mitigation measures for buried archaeology (the outline Written Scheme of Investigation [APP-239]) during construction, how would the protection of the two above-ground, non-designated heritage assets in the onshore development landfall area be ensured (the two World War II pillboxes identified in Table 22-12 of ES Chapter 22 [AS-092])?	Section 8.6 of the **Outline Onshore Written Scheme of Investigation** [APP-239] details the commitment of the Applicants to 'Sensitive and Precautionary Approaches to Construction Works' to ensure that no inadvertent damage or accidental physical interactions occur with identified existing sensitive structures and features (of a historic nature) in identified areas; this approach would also be used to secure the avoidance of archaeological remains that were identified as to be preserved *in situ*. Specific constrained areas, such as those for the two World War II pillboxes at Landfall, would be identified in the post-consent detailed design stage and proposals for the demarcation of such areas would be set out in the contractor's Construction Stage Plan(s), Contractor Environmental Action Plan(s), or similar. These measures will be secured in the final **Onshore Written Scheme of Investigation**, secured through **Draft DCO (Revision 5)** [document reference: 3.1] Requirement 18.
ISH2.10.13	Historic England recommendations	In your response to Historic England's RR [RR-022], you state that proposals for interpretation and investigation of the heavy anti-aircraft gunsite at Butt Farm have been shared and that a site visit was planned to further discuss the proposals. Can you provide an update on this and whether the site visit has been undertaken?	A site meeting was held with Historic England at Butt Farm on 18th October 2024, to discuss proposals for interpretation and investigation of the heavy anti-aircraft gunsite previously shared with Historic England via email on 28/03/24, 06/08/24 and 10/09/24). The options discussed included: • Physical enhancements to the monument - This option would involve the Applicant funding clearance, consolidation and/or restoration works of elements of the gun battery which are currently in disrepair/buried (such as the 6th gun emplacement). Further discussion would be required as to if these works would be permitted by landowners and how these works would be secured and funded with HAP/Historic England. • Digital 3D Model - This option would seek to create a digital reconstruction of the gun battery, including the 1943-gun emplacements, radar mat and associated accommodation on the domestic site. There are possibilities of signposting this on information boards from PRoW and/or Project-controlled land and opportunities for incorporation into augmented reality / virtual tours once the model is constructed. Agreements would be required on where the platform is hosted and the lifecycle of funding and maintenance. There are options to tie this into wider themes of the defence of Hull in WWII, and how the site fits into a wider network, along with specific questions in the Projects' Research Agenda. • Archaeological and Historical Research – This option would involve possible research ideas suggested by Historic England for community engagement concerning the wider context of the gun site – Women's quarters, missing buildings, moved buildings, wider WW2 defence context. Historic England have stated that they would provide comment on these proposals in their Written Representation to be submitted at Deadline 1.
ISH2.10.14	Historic England recommendations	Are there any current cross-project forums or meetings that take place and, if so, could public outreach and community engagement aims regarding the mitigation and enhancements of heritage assets (as recommended by Historic England [RR-022]) be considered at these? Could there be a commitment in the draft DCO or any of the supporting documents to try to facilitate cross-project working?	The Applicants have engaged with a number of other key schemes in the vicinity of the Onshore Converter Stations, including: • Hornsea Four; • Dogger Bank D; • Continental Link; • National Grid (in relation to the new Birkhill Wood Substation, North Humber Marnham; and • Dogger Bank A&B. Engagement meetings have focused on sharing information on siting/routeing, baseline data sharing, use of shared accesses, crossings of infrastructure, and opportunities to co-ordinate during construction phases.

Number	Subject	Question / Clarification	Applicants' Response
			The Applicants would be open to participating in cross-project forums relating to delivering outreach and community engagement aims, if requested (and organised) by Historic England. It is proposed that this could be delivered through adding reference to participation in Historic England-led cross-project forums and meetings in the Public Outreach and Engagement section (Section 9) of the **Outline Onshore Written Scheme of Investigation** [APP-239]. If this approach is agreed, the Applicants can supply an updated OWSI at the next appropriate deadline. Historic England have indicated that they will provide commentary on proposals for outreach and engagement activities in their Written Representations, to be received at Deadline 1.
ISH2.10.15	Historic England recommendations	Could a commitment to consider offshore and onshore cultural heritage holistically be captured by the draft DCO or supporting documents, such as the outline Written Scheme of Investigation [APP-239] for example (as recommended by Historic England [RR-022])?	The Projects are open to further discussions with Historic England around further developing the outreach scheme and research agenda presented in section 9 of the **Outline Onshore Written Scheme of Investigation** [APP-239] to better address the effects of the proposed development. Any such development must, however, be based on opportunities that are germane to and offered by the scheme and any associated archaeological mitigation to retain the focus on mitigating any harm to those heritage assets within the onshore zone that would be affected by the proposed scheme. The Applicant is prepared to consider amendment of the Public Outreach and Engagement strategy set out in the onshore **Outline Onshore Written Scheme of Investigation** [APP-239] to capture this request and is awaiting detailed comments from Historic England on this matter as set out in the response to ISH2.10.14.
ISH2.10.16	Viewpoints	Did you agree to all the cultural heritage viewpoints prior to submission of the application as suggested by the Applicants' [PDA-013]? If not, please explain any additional viewpoints you requested and why.	While this question was raised for Historic England and ERYC, the Applicants thought it would be beneficial to outline the following. Cultural heritage specific viewpoints were presented and discussed at a Joint Landscape and Visual Impact Assessment and Archaeology and Cultural Heritage ETG meeting on 13th December 2022 where all viewpoint locations were agreed (section 22.5.2, **Appendix 22-5 Onshore Infrastructure Settings Assessment** [APP-178]. This agreement is noted in the SoCGs submitted at Deadline 1.
Agenda Item 11: Onshore Water Environment			
ISH2.11.1	Assessment definitions	Can you provide a specific refence for 'Standards for Highways, 2020' in Table 20-6 of Chapter 20 of the ES [APP-163]? This should include the relevant Design Manual for Road and Bridges document and clause numbers.	The reference to Standards for Highways (2020) in Table 20-6 is incorrect. The correct reference is Transport Analysis Guidance (TAG) Unit A3 Environmental Impact Appraisal (Department for Transport, 2024). **Chapter 20 Flood Risk and Hydrology** [APP-163] has been updated to reflect the change and submitted for Deadline 1.
ISH2.11.2	Assessment definitions	Can you provide references for the receptor sensitivity, magnitude of impact and significance of effect definitions provided respectively in Tables 20-7, 20-8 and 20-9 in Chapter 20 of the ES [APP-163]?	The definitions of sensitivity and magnitude of impact have been informed by the following guidance documents: • Table 13 and Table 14 of TAG Unit A3 Environmental Impact Appraisal (Department for Transport, 2024); • Table 3.70 and Table 3.71 of the Design Manual for Roads and Bridges LA113 Road drainage and the water environment (Standards for Highways, 2020); and • National Planning Policy Framework (Annex 3 Flood Risk Vulnerability Classification) (Department for Levelling Up, Housing and Communities, 2023). For sensitivity, the guidance documents provide a limited amount of detail with regard to the different types of receptors that fall within each category. The definitions set out in Table 20-6 of **Chapter 20 Flood Risk and Hydrology** [APP-163] have been expanded based on professional judgement to include more explicit reference to each type of water receptor. Revision 2 of **Chapter 20 Flood Risk and Hydrology** [APP-163] has been submitted for Deadline 1 to reflect this change. In addition, the TAG and Design Manual for Roads and Bridges guidance both set out definitions for receptor sensitivity based on four categories ranging from 'Very High' to 'Low'. However, to align with the approach described in **Chapter 6 EIA Methodology** [APP-076], the methodology used in this chapter instead defines the categories from 'High' to 'Negligible'. However, the 'Very High', 'High',

Number	Subject	Question / Clarification	Applicants' Response
			'Medium' and 'Low' categories of the guidance documents are equivalent to the 'High' 'Medium', 'Low' and 'Negligible' categories used in this assessment. These definitions have been used by Royal HaskoningDHV on a number of consented wind farms (Hornsea Project Four Offshore Wind Farm; Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects; Norfolk Vanguard Offshore Wind Farm, Norfolk Boreas Offshore Wind Farm). For Table 20-9 Effect Significance of **Chapter 20 Flood Risk and Hydrology** [APP-163], these definitions are industry best practice and a standard approach. An overview is provided by IEMA (2023): EIA and the search for significance (EIA and the search for significance). Revision 2 of **Chapter 20 Flood Risk and Hydrology** [APP-163] has been submitted for Deadline 1 to reflect this response.
ISH2.11.3	Assessment methodology	Can you provide a reference for the methodology adopted to identify the magnitude of impact for trenched watercourse crossings as detailed in paragraph 106 of Chapter 20 of the ES [APP-163]?	The definitions for assessing magnitude of impact for trenched water course crossings (paragraph 106) of **Chapter 20 Flood Risk and Hydrology** [APP-163] have been developed based on expert judgement by Royal HaskoningDHV and have been used on a number of consented wind farms (Hornsea Project Four Offshore Wind Farm; Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects; Norfolk Vanguard Offshore Wind Farm, Norfolk Boreas Offshore Wind Farm).
ISH2.11.4	Assessment methodology	Can you provide a reference for the methodology adopted to identify the magnitude of impact resulting from exposed land in a waterbody catchment detailed in paragraph 124 and Table 20-16 in Chapter 20 of the ES [APP-163]?	The definitions for assessing magnitude of impact resulting from exposed land (paragraph 124; Table 20-16) of **Chapter 20 Flood Risk and Hydrology** [APP-163] have been developed based on expert judgement by Royal HaskoningDHV and have been used on a number of consented wind farms (Hornsea Project Four Offshore Wind Farm; Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects; Norfolk Vanguard Offshore Wind Farm, Norfolk Boreas Offshore Wind Farm).
ISH2.11.5	Groundwater mapping	Can you provide updated groundwater body Figures 20-3-2a to 20-3-2c [AS-075] to better identify source protection zone 1? The current colour scheme may lead to confusion between source protection zone 1 and the proposed onshore development area.	**Chapter 19 Figure 19-8a to 19-8c Hydrogeology and Hydrology** [APP-159] identifies the source protection zones (SPZ) along the Onshore Cable Corridor, including SPZ1. As a result, it is not deemed necessary to update **Appendix 20-3** Figures 20-3-2a to 20-3-2c [AS-075].
ISH2.11.6	Groundwater mapping	In response to the Environment Agency's RR [RR-015], can you provide, or signpost to, the following: ○ the location of source protection zone 1 within or less than 250 metres outside the proposed Order Limits; and ○ any groundwater abstractions intended for human consumption or food production purposes within or less than 50m of the proposed Order Limits. These should be clearly distinguished from instances at greater distances from the proposed Order Limits.	Figure 20-3-2 of the WER Compliance Assessment does not currently show the specific location of SPZ 1 within or less than 250 metres outside the proposed Order Limits, or abstractions within 50 m. A250m buffer was however already shown on shown on Figure 19-8a to 19-8c of **Chapter 19 Geology and Land Quality Figure 19-1 to Figure 19-9** [APP-159]. To assist in answering the supplementary agenda question, Figure 19-8 has been updated to include a 50m buffer. This has been submitted for Deadline 1. **Figure 19-8 (Revision 2**) shows the source protection zone 1 on Sheet C, in the location of the Proposed Birkhill Wood National Grid Substation. The additional 50m buffer assists in identifying groundwater abstractions within 50m of the Onshore Export Cable Corridor. These are labelled licence numbers: • 2/26/32/189 • 2/26/32/221 • 2/26/32/253 • 2/26/32/189 • 2/26/32/221

Number	Subject	Question / Clarification	Applicants' Response
			As a result of this additional detail on Figure 19-8, it is not deemed necessary to update Figures 20-3-2a to 20-3-2 **in Appendix 20-3 Water Environment Regulations Compliance Assessment (Revision 3)** [AS-075].
Agenda Item 12: Onshore Ecology			
ISH2.12.1	Proposed Trees and Hedgerows Removal	The line of trees identified as H0036 on page 14 of the Tree Preservation Order (TPO) and Hedgerows Plan (Rev 3) [AS-026] is shown for removal, whereas Sheet 10 of Appendix 5: Preliminary Tree Impact Plan of the Arboricultural Survey Report Preliminary Arboricultural Impact Assessment and Outline Arboricultural Method Statement (Rev 2) [AS-036 and AS-037] show the same line of trees to be retained through the use of trenchless crossing techniques. Could you clarify what is proposed here and update the documents accordingly?	As shown on the **Obstacle Crossing Register** [AS-053], Hedgerow H0036 on the **Tree Preservation Order (TPO) and Hedgerow Plan (Revision 3)** [AS-026] relates to crossing EoX-042 on p.13/14, this is a committed trenchless crossing (no option for open cut), however a haul road crossing is still required. As there is already a substantial gap in the hedge and trees which will be suitable, no further hedgerow required removal. Sheet 10 of Appendix 5: **Preliminary Tree Impact Plan of the Arboricultural Survey Report Preliminary Arboricultural Impact Assessment and Outline Arboricultural Method Statement (Revision 2)** [AS-036] is correct. The **TPO and Hedgerow Plan (Revision 3)** [AS-026] has been updated accordingly and resubmitted for Deadline 1 as Revision 4 to show a line of trees not impacted rather than a line of trees removed. The **Draft DCO** (Revision 4) [AS-130] Schedule 17 has also been updated for Deadline 1 to remove reference to the removal of the line of trees H0036.
ISH2.12.2	Proposed Trees and Hedgerows Removal	Sheet 11/12 of Appendix 5: Preliminary Tree Impact Plan of the Arboricultural Survey Report, Preliminary Arboricultural Impact Assessment and Outline Arboricultural Method Statement (Arboricultural Report) (Rev 2) [AS-036 and AS-037] shows the proposed removal of a number of trees (T151 to T166, and G37 and G38) at the crossing at Catwicks Head. However, on page 16 of the TPO and Hedgerows Plan (Rev 3) [AS-026], the crossing is only identified for the removal of hedgerows. Could you explain whether the use of trenchless crossing techniques would be more appropriate in this location?	The obstacle crossing methodology at Catwicks Head Lane have been selected based on balancing a combination of ecological, landscape and engineering constraints and open trench has been selected as the preferred methodology however either option is available but open cut represents the worst case option. This is referenced as crossing RX-015 with an off route haul road crossing required, RX-015A, as shown in **Appendix 5-2 Obstacle Crossing Register (Revision 2)** [AS-053] sheet 15 of 37. The **Arboricultural Survey Report, Preliminary Arboricultural Impact Assessment and Outline Arboricultural Method Statement (Revision 2)** [AS-036] has identified a line of trees in this location however the **TPO and Hedgerows Plan (Revision 3)** [AS-026] has identified the removal of a line of hedgerow. The Arboricultural Survey information represents a more recent baseline. As such the **TPO and Hedgerows Plan (Revision 3)** [AS-026] has been updated to represent a line of trees for removal in this location and submitted for Deadline 1. This is also represented in Schedule 17 of the **Draft DCO (Revision 5)** [document reference: 3.1] submitted for Deadline 1. In terms of the extent of tree removal, the **TPO and Hedgerows Plan (Revision 3**) [AS-026] indicates a worst case scenario regarding tree and hedgerow loss. The location of the off route haul road crossing that is required at this location will target existing gaps in the trees/hedgerows such as existing field entrances and would be limited to 5m in width. Except for T164 which is a Cat B1 tree located at the southern end of the Onshore Export Cable Corridor at that location and may not be required to be felled, all of the tress numbered T151 to T163 as well as G37 and G38 are of low quality (e.g. Category C and U). The anticipated maximum width for tree removal is up to 24m for the Onshore Export Cable Corridor in this location.
ISH2.12.3	Proposed Trees and Hedgerows Removal	In relation to the replacement of existing trees, please could you define the term 'like for like' referenced in paragraph 44 of the Outline Ecological Management Plan (Rev 3) [AS-114] and [AS-115]?	The term was used in this case to highlight that trees which are removed will be replaced with locally native species to match those removed, where feasible. The exception would be the replacement of ash trees that will be replaced by a different species because of ash dieback biosecurity measures.
ISH2.12.5	Biodiversity Net Gain	Section 4.6.7 of the Overarching National Policy Statement (NPS) for Energy (NPS EN-1) states that applicants, 'should use the latest version of the biodiversity metric to calculate the baseline	The statutory metric (version published by Department for Environment, Food & Rural Affairs, 29 November 2023) was used to generate the results reported in **Appendix 18-10 Biodiversity Net Gain Strategy** [APP-157]. An interactive version of the completed

Number	Subject	Question / Clarification	Applicants' Response
		present planned biodiversity net gain outcomes', and 'should be presented in full as part of their application'. Could you clarify whether the Biodiversity Net Gain (BNG) Strategy uses the latest Defra statutory metric tool and confirm that moving forward, in line with paragraph 120 of the BNG Strategy [APP-157], full details of the interactive metric calculator (in excel) will be provided?	metric calculator (in excel format) [document reference 11.8 and 11.9] has been submitted for Deadline 1 at the request of the ERYC within their Local Impact Report [PDC-007]. Any future calculations will be based on latest versions.
ISH2.12.6	Biodiversity Net Gain	Section 4.6.10 of the Overarching NPS for Energy EN-1 states that, '*BNG should be applied after compliance with the mitigation hierarchy and does not change or replace existing environmental obligations, although compliance with those obligations will be relevant to the question of the baseline for assessing net gain and if they deliver an additional enhancement beyond meeting the existing obligation, that enhancement will count towards net gain*'. Could you confirm that there is no overlap or double counting in relation to the proposed mitigation measures to reduce impact, and the proposed additional BNG planting? Please could you provide a post-development habitat plan setting out indicative BNG proposals with a clear distinction between environmental obligations and mitigation proposals? Please also confirm when the plan would be provided?	There is no specific on-site mitigation proposed for European protected species which has been accounted for within the Biodiversity Metric Calculations. Therefore, there has been no double counting in relation to this. Planting that has been proposed for landscaping purposes has been included within the Metric calculations. There is no guidance to suggest that this could be considered double counting.
ISH2.12.7	Biodiversity Net Gain	Do you intend to include land in the onshore cable corridor as part of the implementation of the proposed BNG Strategy? If so, could you explain if and how any existing agri-environment scheme land would be considered? How would you ensure that an enhancement funded by an agri-environment scheme would not be used to fulfil a BNG commitment? How is the 30-year management requirement secured if land is returned to previous landowners? Who would be responsible?	Yes, the current **Appendix 18-10 Biodiversity Net Gain Strategy** [APP-157] accounts for habitats within the Onshore Export Cable Corridor as part of the baseline. Habitat reinstatement of the majority of those habitats has also been accounted for in the post development scenario. This is with the exception of areas where permanent infrastructure has been proposed within the Onshore Development Area. It has been assumed that habitats are returned to their original type and condition post development. Agri-environmental schemes are not considered in **Appendix 18-10 Biodiversity Net Gain Strategy** [APP-157]. Any habitat under an agri-environmental scheme that has been enhanced e.g. with wildflower mix or hedgerow improvements would either, already be identified in **Appendix 18-2 - Habitat Survey Report** (Revision 2) [PDC-004] or, will be identified in pre-construction habitat surveys. Should habitat in an agri-environmental schemes be removed during construction it would be reinstated and included in the updated, final Biodiversity Net Gain Strategy in the same way as any other habitat. It will be the responsibility of the landowner to cease any agri-environmental scheme related funding from the rural payment agency for the duration of the construction works. The current **Appendix 18-10 Biodiversity Net Gain Strategy** [APP-157] states that in paragraph 88 '*Where reinstatement in proposed, it is assumed that it will be returned to the same habitat type, condition and land use as established by the baseline studies. Management of the land will revert to the landowners.'* All land within the Onshore Substation Zone will be managed for the operational lifetime of the Projects (30+ years), as stated in the **Outline Landscape Management Plan (Revision 2)** [As-096].

Number	Subject	Question / Clarification	Applicants' Response
			In respect of cropland or agricultural grassland that is to be returned to its original use within 2 years, the impacts are considered to be temporary loss (as per Statutory biodiversity metric: user guide (Defra, 2024)) and will be recorded as retained within the Metric. Note that for agricultural grassland and cropland, original use is considered to be topsoil reinstated and ready to be sown (in view of the fact that rotational agricultural practices and season have a determining role in agricultural land use). After reinstatement, cropland will return to its previous land use, will remain the responsibility of the landowner and will not be subject to monitoring or management as part of the final Biodiversity Net Gain Strategy or associated Habitat Management and Monitoring Plans. The **Appendix 18-10 Biodiversity Net Gain Strategy** [APP-157] was agreed with the ERYC who will approve the detailed Biodiversity Net Gain Strategy, when it is recalculated with the final design, prior to construction, as stated in the **ERYC SoCG** [document reference: 9.2]. The approach to habitat management along the Onshore Export Cable Corridor was discussed at the Ecology Environmental Technical Group Meetings, prior to submission of the application. Requirement 11 of the **Draft DCO** (Revision 4) [AS-130] requires that the success of planting will be monitored for five years after planting, with the exception of the Substation one where planting will be managed for the lifetime of the Projects (30+) years. During this period any plants which fail, die, are removed, or become seriously damaged or diseased, in the opinion of East Riding of Yorkshire Council, shall be replaced in the first available planting season with a specimen of the same species and size as that originally planted. At the end of the five-year maintenance period, all stakes, ties and plant shelters will be removed from the planting area. The final maintenance schedule will be agreed in the with Landscape Management Plan with the ERYC, prior to construction based on the **Outline Landscape Management Plan (Revision 2)** [As-096] which has also been agreed in the **ERYC SoCG** [document reference: 9.2].
Agenda Item 13: Land Use and Ground Conditions			
ISH2.13.1	Assessment definitions	Can you provide references for the receptor sensitivity, magnitude of impact and significance of effect definitions provided respectively in Tables 19-7, 19-8 and 19-9 in Chapter 19 of the ES [APP-158]?	**Chapter 19 Geology and Land Quality** [APP-158], paragraph 55 indicates that Table 19-7 definition of sensitivity for a Geology and Land Quality Receptor is based on professional judgement. Table 19-7 and Table 19-8 have been assembled with reference to Highways England (now known as National Highways) LA 104 Environmental Assessment and Monitoring Rev 1: , The Environment Agency's Approach to Groundwater Protection Position Statements 2018 (under review), Land Contamination Risk Management Framework 2023 and CIRIA 552 'Contaminated Land Risk Assessment, A Guide to Good Practice' 2001. It is worth noting that contaminated land guidance is applied to **Appendix 19-2 Geo-Environmental Desk Study and Preliminary Risk Assessment Report** [APP-161] when considering receptor sensitivity, however this does not align with Environmental Impact Assessment on the basis that the sensitivity is linked to the actual contaminant of concern and different risk tables apply. These are roughly translated across into **Chapter 19 Geology and Land Quality** [APP-158] in Table 19-7 and Table 19-8 using professional judgement as has been used by Royal HaskoningDHV, on a number of consented wind farms (Hornsea Project Four Offshore Wind Farm; Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects; Norfolk Vanguard Offshore Wind Farm, Norfolk Boreas Offshore Wind Farm).. This approach was set out in the Projects' Scoping Report and the methodology was agreed as recorded in the **Scoping Opinion** [APP-232].
ISH2.13.2	Assessment definitions	Can you provide references for the receptor sensitivity, magnitude of impact and significance of effect definitions provided respectively in Tables 21-6, 21-8 and 21-10 in Chapter 21 of the ES [AS-111]?	The following guidance has been considered when defining the sensitivity and magnitude for agricultural receptors: • Natural England's Technical Information Note TIN049 'Agricultural Land Classification: Protecting the Best and Most Versatile Agricultural Land'; • "Institute of Environmental Management & Assessment Guide: A New Perspective on Land and Soil in Environmental Impact Assessment" (IEMA, 2022) ; and • "Design Manual for Roads and Bridges, LA 109 Geology and Soils" (Highways England, 2019). However, where guidance is not available the definitions for assessing receptor sensitivity and magnitude of impact have been developed based on expert judgement by Royal HaskoningDHV. These definitions have been used on a number of consented wind farms (Hornsea Project Four Offshore Wind Farm; Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects; Norfolk

Number	Subject	Question / Clarification	Applicants' Response
			Vanguard Offshore Wind Farm, Norfolk Boreas Offshore Wind Farm).While each project adopts slightly different approaches, none are significantly different. Section 21.4.3.3 of **Chapter 21 Land Use (Revision 2)** [AS-111] sets out how the Applicants have considered the Significance of Effect in Table 21-9 Land Use Significance of Effect Matrix. This is based on the standard methodology for defining significance of effects as set out in **Chapter 6 EIA Methodology** [APP-076] set out in section 6.7.2 - Assessment of Likely Significant Effects. This approach is as set out in the Projects' Scoping Report and the methodology was agreed as recorded in the **Scoping Opinion** [APP-232].
ISH2.13.3	Agricultural land loss during construction	Can you quantify the area of land temporarily restricted for agricultural use for longer than two years (the temporary construction compounds along the onshore export cable corridor, transition jointing bay compound in the landfall zone, the jointing bays located approximately every 750m to 1500m, and sections of haul road) [AS-111, paragraph 104]? This should include a plan to identify the sections of haul road that this applies to.	Excluding the Onshore Substation Zone, a total of 40.98ha of agricultural habitats would be temporarily restricted for agricultural use for longer than 2 years along the Onshore Export Cable Corridor. This area would however be reinstated within 6 years of construction. This includes field margins, horticulture and productive agricultural land.
Agenda Item 15: Noise and Vibration			
ISH2.15.1	Assessment Methodology	The construction phase noise assessment methodology in ES Chapter 25 [APP-201] confirms that noise levels for the construction phase are based on methods and guidance in BS 5228-1. Annex E of BS 5228-1 states that, for Category C, a level of 55dB (for night-time), 65dB (for evening and weekends) or 75dB (for daytime and Saturday morning), depending on time of day, is deemed to be potentially significant (if the total noise level for the period increases by more than 3dB due to site noise). However, as noted, an additional 5dB to 10db have been applied to identify high magnitude of impact during different times of night and day (Table 25-10, Construction Noise Magnitude of Impact Criteria [APP-201]). The baseline noise results (Table 25-17, Baseline Noise Monitoring Results [APP-201]) indicate low existing noise levels (Category B thresholds) for the measurement locations near the proposed converter station. By using Category C thresholds plus an additional 5dB to 10db (Table 25-10 [APP-201]), the magnitude of change between the baseline (Table 25-17) and	The prediction of construction noise levels has been undertaken using modelling software that implements the guidance in BS 5228-1. The assessment of impacts has been informed by BS 5228-1 but also takes into account the noise criteria used on recent nationally significant infrastructure projects and information provided in relevant industry guidance that has been published since the most recent version of BS 5228-1 (i.e. the 2014 amendment). The assessment methodology therefore differs slightly from the example methodologies included in Annex E of BS 5228-1. It is important to note that Annex E of BS 5228-1 is 'informative' only (not 'normative'), and several different example assessment criteria are offered in the Annex. The following paragraphs provide information on the projects and guidance documents that were used to inform the basis of the construction noise impact assessment methodology. High Speed 2 (HS2) High Speed 2 Phases 1 and 2 use 75, 65, and 55 dB $L_{Aeq,T}$ as the daytime, evening and night-time 'significant observed adverse effect level' respectively, for permanent residential receptors (SOAEL ref. the Noise Policy Statement for England). The relevant table that describes the impact criteria used in the HS2 assessment has been taken directly from the '*HS2 Phase 2b: Crewe to Manchester and West Midlands to Leeds Environmental Impact Assessment Report Scope and Methodology Report*' and is provided below:

Number	Subject	Question / Clarification	Applicants' Response
		activity (Table 25-10) is therefore consequently high. Can you provide justification for the departure from the strict application of the ABC Method in BS 5228-1 and explain why it was not followed in applying (potentially lower) thresholds? Clarify why the approach taken is considered to be appropriate in this context and highlight any recent and relevant precedents using the same or a similar approach.	Table 42 - Airborne noise from construction of the Proposed Scheme – adverse effect thresholds for environmental impact assessment stage for permanent residential buildings (façade levels) **Time of day** | **Lowest Observed Adverse Effect Level LOAEL(1)** | **Significant Observed Adverse Effect Level SOAEL** Day (07:00-19:00) $L_{pAeq,\ 12hr}$ | 65 dB | 75 dB or the ambient sound level, whichever is the higher Evening (19:00–23:00) $L_{pAeq,\ 4hr}$ | 55 dB $L_{pAeq,T}$ | 65 dB or the ambient sound level, whichever is the higher Night (23:00 – 07:00) $L_{pAeq,\ 8hr}$ | 45 dB $L_{pAeq,T}$ | 55 dB or the ambient sound level, whichever is the higher Note: (1) consistent with the BS5228 ABC Method, the LOAEL is increased by 5 or 10 dB in higher baseline noise environments. The HS2 report then goes on to say in paragraph 18.3.35: *Where the predicted construction or operational noise level exceeds the relevant SOAEL values then a likely significant adverse effect will be reported for each receptor affected.* ANC 'Construction Noise - A good practice guide to the preparation, submission and management of Section 61 consents' (March 2021) and Thames Tideway Project The Association of Noise Consultants (ANC[2]) has recently produced guidance on construction noise and vibration in the 'Construction Noise - A good practice guide to the preparation, submission and management of Section 61 consents' (March 2021) document. This document includes guidance on the application of government policy on noise impacts and provides example criteria for significant observed adverse effects for construction noise. In relation to noise impact criteria the document cites the example of the Thames Tideway Tunnel project and provides a summary of the significant observed adverse effect level criteria used this project for individual residential receptors (relevant text has been taken directly from the document and is provided below: **Example SOAELs and LOAELs for Residential properties – Thames Tideway Tunnel** SOAELs for daytime, evening and night-time periods from construction noise at **individual residential properties**, where, the construction noise is greater than the specified daytime, evening or night levels for 10 days in any 15 days, 40 days in any six months or the average monthly level are defined in the application as: • Daytime 75 dB (L_{pAeq})[9], or above the existing ambient if this is higher. • Evening 65 dB (L_{pAeq})[10], or above the existing ambient if this is higher. • Night 55 dB (L_{pAeq})[11], or above the existing ambient if this is higher. Where construction noise levels are greater than the level and temporal values defined above, there may be a requirement to provide off-site mitigation. Further information regarding such mitigation is discussed in Section 2.3.3.

[2] The ANC is the trade association for acoustic, noise and vibration consultancy practices in the UK. One of the main aims of the ANC is to 'maintain and, where possible, improve the standards of conduct and competence of consultants concerned with noise, acoustics and vibration'. To this effect the association regularly produces guidance on a range of acoustics, noise and vibration topics written by experts in the relevant field.

Number	Subject	Question / Clarification	Applicants' Response

LOAELs for daytime, evening and night-time periods from construction noise at **individual residential properties**, are defined as:

- Daytime 65 dB (L_{pAeq})[12], or above the existing ambient if this is higher.
- Evening 55 dB (L_{pAeq})[12], or above the existing ambient if this is higher.
- Night 45 dB (L_{pAeq})[12], or above the existing ambient if this is higher.

The footnotes relevant to the above guidance are provided below:

9 The daytime SOAEL of 75 dB L_{pAeq} is based upon experience from other construction projects such as High Speed 1 (formerly Channel Tunnel Rail Link), Crossrail and Thameslink.

10 For the evening the SOAEL is set 10 dB lower than the daytime level and 10dB above the night-time level.

11 For night-time, the World Health Organization's Night Noise Guidelines for Europe introduced an Interim Target of 55 dB L_{night} measured outdoors and could be interpreted as a SOAEL threshold.

London Good Practice Guide: Noise and & Vibration Control for Demolition and Construction

This document was produced by representatives of the London Authorities Noise Action Forum (LANAF) which works under the umbrella of the Chartered Institute of Environmental Health (CIEH), in collaboration with acoustic consultants who work in controlling noise from construction activities.

In Appendix 3, the document provides guidance on complying the national noise policy (i.e. the Noise Policy Statement for England) and provides the guidance on significant adverse observed effect levels for residential properties that align with those identified above. The SOAEL for construction noise provided in the LANAF document are reproduced below

Daytime	75 dB (L_{pAeq})[16], or above the existing ambient if this is higher.
Evening	65 dB (L_{pAeq})[17], or above the existing ambient if this is higher.
Night	55 dB (L_{pAeq})[18], or above the existing ambient if this is higher.

The relevant footnotes for the above text are reproduced below:

[16] The daytime SOAEL of 75 dB L_{PAeq} is based upon experience from other construction projects such as High Speed 1 (formerly Channel Tunnel Rail Link), Crossrail and Thameslink.
[17] For the evening the SOAEL is set 10 dB lower than the daytime level and 10dB above the night-time level.
[18] For night-time, the World Health Organization's Night Noise Guidelines for Europe introduced an Interim Target of 55 dB L_{night} measured outdoors, and could be interpreted as a SOAEL threshold.

Justification of Noise Impact Criteria

Based on the information provided, the values of 75 dB, 65 dB, and 55 dB $L_{Aeq,T}$ for daytime, evening, and night-time respectively, have been used to identify a medium impact, that when assessed against the EIA significance matrix would result in a moderate (significant) effect at residential and other medium sensitivity receptors. Therefore, an exceedance of the SOAEL at a residential property leads to a significant effect in the ES (subject to duration).

Significant effects were not identified where predicted noise levels were below these values (although non-significant adverse effects could still occur).

Where levels were 5dB above the medium impact values, these were deemed as a high impact and would result in a major (significant) effect for medium sensitivity / residential receptors.

The noise impact assessment methodology used in the assessment is therefore based on BS 5228-1 but is aligned with that used on recent nationally significant infrastructure projects and takes account of recent relevant industry guidance (including guidance provided by the CIEH) on potentially significant effects.

Number	Subject	Question / Clarification	Applicants' Response
			The potentially significant effects that were determined through the numerical modelling-based assessment and then were reviewed based on a number of additional factors (including duration of impact, receptor design etc.). Additional Information on Construction Noise Impacts As discussed in the ES, the noise impact assessment for construction noise is based on the best information available at the time of the assessment. This identifies where adverse impacts are likely to occur as a result of the proposed construction works. However, construction noise can be complex and variable and as new information becomes available, the required construction activities may be subject to change. This is common to all construction projects (especially complex projects such as this). It is generally accepted for construction sites where works are close to receptors, where noise or vibration impacts are likely to occur, or where management of the construction programme is a key consideration (e.g. at especially sensitive receptors etc.), that seeking prior consent under Section 61 of the Control of Pollution Act 1974 can be an effective way of ensuring that the desired project outcomes are achieved whilst affording the necessary level of protection to those potentially at risk from construction noise and vibration effects. Section 61s often include a commitment to construction noise monitoring (where required) and a set of actions that are triggered on-site, should agreed noise thresholds be exceeded. This type of consent is unlikely to be required for the majority of construction activities / sites that form part of this scheme but, as outlined in the **OCoCP (Revision 2)** [AS-094] the Projects would be happy to seek prior consent to work under Section 61 for work sites / activities where there is an increased risk of adverse impact (e.g. those close to receptors or where work is required at night). This approach has been used on HS2 (and other projects) and a simple construction noise / vibration risk assessment process is used to identify where Section 61 consent is required. Local Authority Powers in Relation to Construction Noise It is the Applicants' understanding that the DCO will not interfere with the local authorities powers under Section 60 of the Control of Pollution Act ('Control of noise on construction sites'); the Local Authority will still retain their ability to control noise from construction activities should they feel it necessary, and can exercise these powers by serving a notice under Section 60 of the Control of Pollution Act (e.g. this can specify the level of noise that can be emitted by the works or the hours during which the works can be carried out). As, currently, the construction information is inherently early stage/ high-level, controls at the pre-construction and construction stage (Section 61s and noise monitoring) are considered the most effective way of managing construction noise.
ISH2.15.2	Assessment Methodology	Following on from above, paragraph 73 of the construction phase noise assessment methodology of ES Chapter 25 [APP-201] lists other project-specific factors that could be considered to determine the magnitude of impact, receptor sensitivity and significance. However, no further explanation is provided in relation to the individual receptors. For example, the magnitude of impact for Receptor (R) 19 is stated as 'high' in paragraph 154, 'medium' in Table 25-19 of [APP-201] and 'low' in Table 25-3-5 (of Appendix 25-3 Construction Noise Assessment [APP-205]). In addition, in relation to R38, Table 25-19 of [APP-201] identifies a low magnitude of impact and Table 25-3-5 of [APP-205] identifies a high	Questions ISH2.15.2 and ISH2.15.3 are related and have been addressed together. The assessment of effects presented in **Chapter 25 Noise** [APP-201] takes into account magnitude of impact, receptor sensitive and significance. There are a number of other factors that could be considered once an impact is identified when determining if a significant effect is likely to occur. These are described in Paragraph 73. For construction noise, the main additional factor considered was the duration of the identified impact and, specifically for potential night-time working for Horizontal Directional Drilling (HDD) at trenchless crossings, the duration and likelihood of 24h working was considered when assessing effects. The engineering requirement for 24h working is not confirmed for HDD sites, however it is more likely to be required for longer crossings. In summary, the longer the crossing the more likely 24h working will be required, and the longer the potential duration if it is required. This factor was incorporated in the assessment of effects for night-time HDD construction, based on information provided by Project engineers, and is presented in Table 25-19 of **Chapter 25 Noise** [APP-201]. For crossings less than 200m there is a low likelihood of a requirement for 24h working and the effect of HDD noise is not expected to be significant (i.e. minor adverse at worst) as the duration of 24h working (if required) would be controlled to a limited number of nights.

Number	Subject	Question / Clarification	Applicants' Response
		magnitude of impact. Can you clarify how the different magnitude of impact levels have been arrived at and how this has resulted in the stated significance levels?	For longer crossings (>200m) there is a medium likelihood of 24h working but it is expected that works can be completed within a relatively limited number of nights (i.e. 10 or less days out of a 15 day period). The assessment of effects has taken account of this and reduced effects accordingly. It is considered unlikely that a night-time noise of a medium impact would lead to a significant effect over this limited duration. However, where there are high impacts identified, there is still potential for a significant temporary adverse effect, which may require mitigation. This is reflected in the assessment of effects in Table 25-19 of **Chapter 25 Noise** [APP-201]. The questions have highlighted a non-material error in the reporting of potential Horizontal Directional Drilling construction noise impacts in Table 25-3-5 of Appendix 25-3 Construction Noise Assessment. The predicted noise levels presented in this table are correct but the impacts reported are misaligned in some cases due to a formatting error (e.g. R19 was shown as a 'low' impact). A corrected version of this table has been provided in the updated **Chapter 25 Noise** [APP-201] submitted at Deadline 1. This does not change the overall findings of the assessment. Table 25-19 has also been updated and R48 has been replaced with R58, which was previously omitted. It is noted that receptor was not significantly affected (and therefore the findings remain the same). The corrected Table 25-3-5 of **Appendix 25-3 Construction Noise Assessment** [APP-205] has also been updated to include R58. A discrepancy between the text in paragraph 154 and Table 25-19 of **Chapter 25 Noise** [APP-201] has also been highlighted in relation to receptor R19. This receptor had predicted night-time noise levels of 60 dB $L_{Aeq,T}$, which according to the criteria in Table 25-10 of **Chapter 25 Noise** [APP-201] is on the border between a medium and high impact, but for consistency, should have been reported as a high impact, and a moderate pre-mitigation effect. This has been included in the updated Table 25-19. The pre-mitigation significant effect at R19 will be mitigated using the measures detailed in Paragraph 163 of **Chapter 25 Noise** [APP-201]), reproduced below. Therefore, there are no residual significant effects at R19 (or any receptor), and the overall findings of the assessment remain unchanged. *[APP-201] Paragraph 163:* *Potential temporary moderate adverse (significant) effects have been predicted at R3,* [R19,] *R43 and R66 due to HDD works at night. These activities are likely to be able to be controlled to no more than 10 nights if 24-hour working is required and therefore any impacts will only occur for a relatively short period of time. However, these activities still have the potential to cause effects such as sleep disturbance during that time. To mitigate these potential significant effects the following additional mitigation measures will be considered:* • *Further screening of noise: Localised screening around specific equipment is included within the numerical noise predictions used in this assessment. Where practicable, further screening in the form of noise barriers at the site boundary or in proximity to the affected properties will be used (e.g. between the HDD works area at crossing ID-00003 and R3).* • *Programming of works: The effect of night-time construction will be minimised by ensuring that HDD at crossings ID-00003 (R3) [, ID-00064 (R19)] and ID-00131 (R43, R66) are programmed to avoid times of the year when the climate is warmer (e.g. summer) and residents may open windows at night to avoid overheating. When windows are closed, noise levels inside dwellings will be significantly reduced.* An updated version of **Chapter 25 Noise** [APP-201] and **Appendix 25-3 Construction Noise Assessment** [APP-205] has been provided at Deadline 1, reflecting these updates.
ISH2.15.3	Construction Noise from night-time HDD working	Receptor R58 is located within the construction noise buffer and adjacent to the Order Limits where horizontal directional drilling (HDD) is proposed (as shown on Figure 25-1c [APP-202]). However, the receptor is not considered in Table 25-3-5 (Predicted Construction Noise Levels - Trenchless Crossing Locations) of Appendix 25-3, Construction Noise Assessment [APP-205]. Please could you justify why R58 has not been assessed in relation to night-time HDD working? Is there a requirement to consider additional mitigation for the receptor? Clarify how this would be secured.	

RWE Renewables UK Dogger Bank
South (West) Limited

RWE Renewables UK Dogger Bank
South (East) Limited

Windmill Business Park
Whitehill Way
Swindon
Wiltshire, SN5 6PB