DOGGER BANK D WIND FARM

Preliminary Environmental Information Report

Volume 2
Appendix 21.1 Consultation Responses for Water Resources and Flood Risk

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Glossary

Term	Definition
Birkhill Wood Substation	The onshore grid connection point for DBD identified through the Holistic Network Design process. Birkhill Wood Substation which is being developed by National Grid Electricity Transmission and does not form part of the Project.
Design	All of the decisions that shape a development throughout its design and pre-construction, construction / commissioning, operation and, where relevant, decommissioning phases.
Development Consent Order (DCO)	A consent required under Section 37 of the Planning Act 2008 to authorise the development of a Nationally Significant Infrastructure Project, which is granted by the relevant Secretary of State following an application to the Planning Inspectorate.
Effect	An effect is the consequence of an impact when considered in combination with the receptor's sensitivity / value / importance, defined in terms of significance.
Environmental Impact Assessment (EIA)	A 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 and includes the publication of an Environmental Statement.
Environmental Statement (ES)	A document reporting the findings of the EIA which describes the measures proposed to mitigate any likely significant effects.
Evidence Plan Process (EPP)	A voluntary consultation process with technical stakeholders which includes a Steering Group and Expert Topic Group (ETG) meetings to encourage upfront agreement on the nature, volume and range of supporting evidence required to inform the EIA and HRA process.
Expert Topic Group (ETG)	A forum for targeted technical engagement with relevant stakeholders through the EPP.
Impact	A change resulting from an activity associated with the Project, defined in terms of magnitude.
Mitigation	Any action or process designed to avoid, prevent, reduce or, if possible, offset potentially significant adverse effects of a development. All mitigation measures adopted by the Project are provided in the Commitments Register.
Onshore Converter Station (OCS)	A compound containing electrical equipment required to stabilise and convert electricity generated by the wind turbines and transmitted by the export cables into a more suitable voltage for grid connection into Birkhill Wood Substation.

Term	Definition
Onshore Converter Station (OCS) Zone	The area within which the Onshore Converter Station and Energy Storage and Balancing Infrastructure will be located in vicinity of Birkhill Wood Substation.
Onshore Development Area	The area in which all onshore infrastructure associated with the Project will be located, including any temporary works area required during construction and permanent land required for mitigation and enhancement areas, which extends landward of Mean Low Water Springs. There is an overlap with the Offshore Development Area in the intertidal zone.
Onshore Export Cable Corridor (ECC)	The area within which the onshore export cables will be located, extending from the landfall to the Onshore Converter Station zone and onwards to Birkhill Wood Substation.
Onshore Export Cables	Cables which bring electricity from the transition joint bay at landfall to the Onshore Converter Station zone (HVDC cables) and from the Onshore Converter Station zone onwards to Birkhill Wood Substation (HVAC cables).
Scoping Opinion	A written opinion issued by the Planning Inspectorate on behalf of the Secretary of State regarding the scope and level of detail of the information to be provided in the Applicant's Environmental Statement. The Scoping Opinion for the Project was adopted by the Secretary of State on 02 August 2024.
Scoping Report	A request by the Applicant made to the Planning Inspectorate for a Scoping Opinion on behalf of the Secretary of State. The Scoping Report for the Project was submitted to the Secretary of State on 24 June 2024.
The Applicant	SSE Renewables and Equinor acting through 'Doggerbank Offshore Wind Farm Project 4 Projco Limited'.
The Project	Dogger Bank D (DBD) Offshore Wind Farm Project, also referred to as DBD in this PEIR.

21.1 Consultation Responses for Water Resources and Flood Risk

1. **Volume 1, Chapter 21 Water Resources and Flood Risk** for the Dogger Bank D Offshore Wind Farm (herein referred to as 'the Project' or 'DBD') has been informed by consultation with the Planning Inspectorate and stakeholders following the publication of the Scoping Report (Royal HaskoningDHV, 2024) and the comments contained within the Scoping Opinion (Planning Inspectorate, 2024). This appendix contains details of the relevant comments for **Volume 1, Chapter 21 Water Resources and Flood Risk** and the Applicant's responses in **Table 21.21-1.**

2. The Applicant previously submitted a Scoping Report in 2023 based on project parameters at that time. The 2024 Scoping Report (Royal HaskoningDHV, 2024) and adopted Scoping Opinion (Planning Inspectorate, 2024) have superseded the 2023 Scoping Report and as such consultation responses on the 2023 Scoping Report are not considered further in this document except where they are included in the 2024 consultee responses and remain relevant to the Project.

Table 21.21-1 Consultation Responses for Water Resources and Flood Risk

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the PEIR
The Planning Inspectorate	Scoping Opinion (02/08/24)	Given the current water availability issues within the Humber area, the Applicant's attention is drawn to the EA's scoping consultation response (Appendix 2 of this Opinion) with regard to ensuring that the water demands during the construction phase and the impacts to the water environment are considered.	Limited consumptive groundwater abstraction may be required during construction at the landfall (up to 20 m^3/day) and Onshore Converter Station (OCS) zones (up to 70 m^3/day). Minor abstraction may be required at the OCS zones during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. The Project will comply with the conditions of any abstraction licences that may be required. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (Source Protection Zone (SPZ), Drinking Water Protected Area (DWPA) are

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			assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has been undertaken for the Project. This includes assessment of the Hull and East Riding Chalk groundwater body.
The Planning Inspectorate	Scoping Opinion (02/08/24)	**Direct disturbance of surface water bodies – operation** The Scoping Report proposes to scope this matter out on the basis that post-construction, there will be no mechanisms by which elements of the Proposed Development could directly disturb water bodies. The Inspectorate agrees that significant effects are not likely and that this matter can be scoped out of the ES.	Noted, no response required.
The Planning Inspectorate	Scoping Opinion (02/08/24)	**Increased sediment supply – operation** The Scoping Report proposes to scope out the effects of increased sediment supply during operation. Considering the information contained within paragraph 1139 and given that fine sediment supply from maintenance activities during operation will be included in the supply of contaminants to surface and groundwater impact assessment, the Inspectorate considers that this matter can be scoped out of the assessment.	Noted, no response required.
The Planning Inspectorate	Scoping Opinion (02/08/24)	**Water Framework Directive (WFD)** "Paragraph 1151 of the Scoping Report details that the ES will be supported by a Water Environment Regulations (WER)	A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has

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		Compliance Assessment which would assess impacts on all onshore water bodies crossed by the Proposed Development, and coastal water bodies out to one nautical mile. Groundwater bodies have not been referred to. For the avoidance of doubt, an assessment should also assess impacts to any relevant WFD groundwater bodies. The Applicant's attention is drawn to the Inspectorate's Advice Note Eighteen: The WFD in this regard. The ES should explain the relationship between the Proposed Development and any relevant water bodies in relation to the current relevant River Basin Management Plan."	been undertaken for the Project. This includes all surface (river, canal, transitional, coastal) and groundwater bodies that could be affected by the Project.
The Planning Inspectorate	Scoping Opinion (02/08/24)	**Water demands during construction** The assessment of supply of contaminants to surface and groundwater should consider the risk and impacts of pollutants resulting from potential fires at the OCS(s).	A Battery Safety Management Plan (BSMP) (Commitment ID CO79) is proposed as detailed in **Table 21-4** and **Table 21-5** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. The BSMP will include specific measures to contain firewater with appropriate layers of protection. The development of a BSMP has been taken into account when assessing operation of the Project in **Section 21.7.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk.**
The Planning Inspectorate	Scoping Opinion (02/08/24)	**Supply of contaminants to surface and groundwater** The ES should assess the potential for impact to designated sites through surface water run-off from the development site, this should include the potential for increased nutrient and other pollutants input. Appropriate mitigation should be provided for designated sites hydrologically linked to the site. The Applicants attention is drawn to NE's scoping consultation response (Appendix 2 of this Opinion) regarding designated sites that are	**Section 21.7.1.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk** assesses the impact of increased sediment supply during construction to surface water catchments; **Section 21.7.1.3** assesses the supply of contaminants to surface and groundwater; **Section 21.7.1.4** assesses changes in surface and groundwater flows and flood risk. **Section**

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		within close proximity and are potentially hydrologically linked to the Proposed Development site	**21.7.2** assesses impacts during operation. Designated sites are assessed for each impact. In addition, potential impacts on water body water-dependent protected areas are assessed in **Appendix 21.4 Water Environment Regulations Compliance Assessment**. Designated sites are also assessed in **Volume 1, Chapter 23 Onshore Ecology and Ornithology** and in the **Report to Inform Appropriate Assessment** (document reference 5.3).
The Planning Inspectorate	Scoping Opinion (02/08/24)	**Water quality impacts at designated sites** The ES should include assess impacts from drilling fluid breakout during HDD works on water resource receptors, where significant effects are likely to occur. The Applicant's attention is drawn to the EA's scoping consultation response (Appendix 2 of this Opinion) regarding designated sites that are within close proximity and are potentially hydrologically linked to the Proposed Development site.	A Drilling Fluid Management Breakout Plan (Commitment ID CO38) will be developed for the Project as part of the Code of Construction Practice (CoCP) (Commitment ID CO39) (see **Table 21-4** and **Table 21-5** within **Volume 1, Chapter 21 Water Resources and Flood Risk**). The management plan will put in place measures to limit the potential for a breakout. Potential impacts on designated sites crossed by or close to the Onshore Development Area are discussed in **Section 21.7** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. Potential impacts on water dependent protected areas associated with water body catchments are also assessed in **Appendix 21.4 Water Environment Regulations Compliance Assessment.** Designated sites are also assessed in **Chapter 23 Onshore Ecology and Ornithology** and in the **Report to Inform Appropriate Assessment**

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			(document reference 5.3).
Environment Agency	Scoping Opinion (02/08/24)	In respect to the proposed assessment approach, we would expect that a Water Framework Directive (WFD) compliance assessment be completed for the offshore works, as set out in National Policy Statement (NPS) EN-1 4, section 5.16. Please also see Advice Note 185 for further information on how WFD should be considered. The WFD assessment should: Consider the impact of the proposal on the WFD status of the Yorkshire South Coastal waterbody (GB640402491000) and any linked water bodies Identify all potential risks to the following receptors: hydromorphology, biology habitats, biology – fish, water quality, WFD protected areas and invasive non-native species Ensure that there is no deterioration resulting from the proposed activities Demonstrate how the development / activity will avoid adverse impacts Describe how any identified impacts will be mitigated for or suggest compensation for loss Guidance on how to assess the impact to WFD is available on Gov.uk https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters	A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has been undertaken for the Project. This includes all surface (river, canal, transitional, coastal) and groundwater bodies that could be affected by the Project. The Environment Agency guidance 'Clearing the Waters for All' has been followed in the assessment. The assessment covers three stages (screening, scoping and detailed impact assessment) and assesses biological, physico-chemical and hydromorphological quality elements. Potential impacts on water body mitigation measures and water-dependent protected areas have also been assessed.

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Environment Agency	Scoping Opinion (02/08/24)	The water resources section of the report does not consider the demand for any consumptive uses of water or dewatering. Consumptive uses may include potable and domestic water, and water used for dust suppression, concrete production or machinery / wheel wash down.	Limited consumptive groundwater abstraction may be required during construction at the landfall (up to 20 m^3/day) and OCS zone (up to 70 m^3/day). Some minor abstraction may be required at the OCS zone during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. The Project will comply with the conditions of any abstraction licences that may be required. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (SPZ, DWPA) are assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has been undertaken for the Project. This includes assessment of the Hull and East Riding Chalk groundwater body.
Environment Agency	Scoping Opinion (02/08/24)	Para 5.16.12 of EN-1 *"The Secretary of State will need to give impacts on the water environment more weight where a project would have an adverse effect on the achievement of the environmental objectives established under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017."* We have identified potential risks to achieving WFD objectives in the Hull, and the East Yorkshire Chalk Wolds area. The water undertaker has a duty to supply potable and domestic supply. However, increases in uptake of	A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has been undertaken for the Project. This includes all surface (river, canal, transitional, coastal) and groundwater bodies that could be affected by the Project. Limited consumptive groundwater abstraction

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		water supplied from Yorkshire Water's abstractions in this part of the catchment has the potential to deteriorate these waterbodies. Additionally, abstraction from local surface water will be subject to restrictive licence conditions which may prevent access to water in the summer or during low and medium flows	may be required during construction at the landfall (up to 20 m^3/day) and OCS zone (up to 70 m^3/day). Some minor abstraction may be required at the OCS during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. The Project will comply with the conditions of any abstraction licences that may be required. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (SPZ, DWPA) are assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**.
Environment Agency	Scoping Opinion (02/08/24)	We recommend that the water demands for the construction phase are considered fully and the impacts to the water environment are scoped into the ES accordingly. This may refer to direct abstraction from local surface water or it may refer to increased uptake of water company supply. Water availability is one of the biggest challenges for the Humber area. In light of the potential for competing demands, we encourage continued dialogue with the water company in order to ensure that the water needed is available from Yorkshire water as the design develops and quantities become known and plans for alternative sources of water to be explored for non-potable uses.	Limited consumptive groundwater abstraction may be required during construction at the landfall (up to 20 m^3/day) and OCS zone (up to 70 m^3/day). Some minor abstraction may be required at the OCS zone during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. The Project will comply with the conditions of any abstraction licence(s) that may be required. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (SPZ, DWPA) are assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. Further Expert Topic Group (ETG) meetings will

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			be held with the relevant stakeholders as the project progresses. It is anticipated that water demands will be discussed, and appropriate measures implemented to avoid potential impacts on groundwater resources.
Environment Agency	Scoping Opinion (02/08/24)	The nature and extent of the potential for dewatering during below ground construction or cable corridors are not yet apparent from the scoping report in the Description, Groundwater or Water Resources sections. The approach to licensing groundwater abstraction from chalk is complex in this area due to the risk of saline intrusion. Details of whether excavations would be limited to superficial deposits or from chalk will affect the likelihood of an abstraction licence being granted. Furthermore, consideration for discharges, treatment and any intervening uses which affect consumptiveness or continuity (water lost to the environment) should be taken into account. The impact of groundwater abstraction for dewatering, to receiving surface water bodies, other surface water features, licensed abstractions and to the groundwater body itself, should therefore be scoped into the ES in order to identify potential issues early in the process. This should expedite the permitting process later and allow sufficient time for any problem solving or design implications before then.	Limited consumptive groundwater abstraction may be required during below ground construction at the landfall (up to 20 m^3/day) and OCS zone (up to 70 m^3/day). There may also be the requirement for local, small-scale dewatering associated with excavations. Minor abstraction may be required at the OCS during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. It is anticipated the OCS would be unstaffed and water use would be minimal. The Project will comply with the conditions of any abstraction licences that may be required. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (SPZ, DWPA) are assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**.
Environment Agency	Scoping Opinion (02/08/24)	We stress the importance of considering all groundwater abstractions within the vicinity of the scheme. The abstractions have a default 50m SPZ1 around them. When the scheme details get finalised, it will be important to ensure that the proposed	Groundwater abstraction data have been received from the Environment Agency and East Riding of Yorkshire Council. Details of groundwater abstractions within 100m of the

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		activities are compliant with our groundwater protection policies (referenced above), in particular, in relation to SPZs.	Onshore Development Area are provided in **Section 21.6** of **Volume 1, Chapter 21 Water Resources and Flood Risk** and assessed in **Section 21.7** of the chapter. Potential impacts on SPZs are also assessed in **Volume 1, Chapter 21 Water Resources and Flood Risk** and assessed in **Section 21.7.**
Environment Agency	Scoping Opinion (02/08/24)	The report states that the Onshore Converter Station (OCS) zone may incorporate energy storage and balancing infrastructure, such as battery banks. Battery Energy Storage Systems (BESS) have the potential to pollute the environment. Applicants should consider the impact to all environmental receptors during each phase of development. Particular attention should be applied in advance to the impacts on groundwater and surface water from the escape of firewater / foam and any contaminants that it may contain. Suitable environmental protection measures should be provided including systems for containing and managing water run -off. The applicant should ensure that there are multiple 'layers of protection' to prevent the source-pathway-receptor pollution route occurring. Further Government guidance on considering potential risks of BESS in planning applications is available online.	A BSMP (Commitment ID CO79) is proposed as detailed in **Table 21-4** and **Table 21-5** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. The BSMP will include specific measures to contain firewater with appropriate layers of protection. The development of a BSMP has been taken into account when assessing operation of the Project in **Section 21.7.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk.**
Environment Agency	Scoping Opinion (02/08/24)	The Applicant has not specifically discussed their intention to provide a Water Framework Directive (WFD) Compliance Assessment and we would normally expect to see provision of such a document, or the equivalent assessment within the ES. The Applicant must demonstrate that their mitigation measures are robust enough to not degrade the surrounding surface	A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has been undertaken for the Project. This includes all river, canal, transitional, coastal and groundwater bodies that could be affected by the

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		waters, and this is something that a WFD assessment would highlight. It may be appropriate for them to carry out water samples before, during and after construction to ensure that they have not deteriorated the water quality.	Project.
Environment Agency	Scoping Opinion (02/08/24)	The cable route has also not yet been defined, but the crossing of main rivers is likely to be required, and as such consideration of this should be included in a WFD assessment. This approach is supported by section 5.15 of NPS EN-1, which states that 'the ES should in particular describe... any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive'.	A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has been undertaken for the Project. This includes all river, canal, transitional, coastal and groundwater bodies that could be affected by the Project.
Environment Agency	Scoping Opinion (02/08/24)	We support the Applicant's decision to scope in flood risk impacts across all phases of the development.	Noted, no response required.
Environment Agency	Scoping Opinion (02/08/24)	A key point of concern resulting from the change in scoping boundary is the increased number of Main Rivers potentially within the onshore Export Cable Corridor and potential effects of the associated flood risk. We are keen to ensure that proposed cable depths do not inhibit future repair or improvement of flood defense assets, for example, by preventing use of piles. We recommend the Applicant liaises with us at the earliest opportunity regarding the placement of above and below ground infrastructure, in terms of vertical and horizontal proximity to assets and watercourses. The formation of a crossings register, which details the location of watercourse crossings, the	The number and type of watercourse crossings in each surface water catchment are assessed in **Section 21.7.1.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. This includes open-cut (trenched) crossings, trenchless crossings and temporary crossings (haul road). The majority of crossings will be trenchless and there are only a small number of trenched crossings associated with the Project. **Figure 21-7** and **Figure 21-8** of the chapter show the indicative locations of all watercourse crossings.

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		responsible management authority for the waterbody, and the type of crossing, may be a good starting point. Crossings of Monk Dyke, Routh & Meaux East Drain, River Hull, Beverley and Barmston Drain are of particular concern in terms of cable depth due to the sensitivity of the assets. Depending on proximity to assets, monitoring may be required to ensure no detriment from the works. Further to this we will need access to the watercourses and flood defences at all times, for inspection, remediation, and replacement of structures. We expect nonintrusive trenchless methods (e.g. Horizontal Directional Drilling) to be implemented for the cable crossing of main rivers. For vehicle crossings, the Applicant should be aware of our position on culverting, which is that we oppose the culverting of any watercourses and instead prefer the installation of clear-span bridge crossings. We will normally only grant a flood risk activity permit for a culvert if there is no reasonably practical alternative, and if the detrimental effects would be sufficiently minor that a more costly alternative would not be justified or there are reasons of overriding public / economic interest. The Applicant should consider the effects of proposed crossings on hydrology and geomorphology and may need to model the impacts of any crossings on flood risk. The soffit of any bridge should be at least 600mm above the design flood level, with consideration of climate change.	All crossings are detailed in **Appendix 4.3 Crossing Schedule - Onshore**. Further ETG meetings will be held with the relevant stakeholders as the project progresses. It is anticipated watercourse crossings, their siting and potential impact on any assets, will be discussed, and appropriate mitigation / monitoring measures incorporated into the Project design to avoid any potential impacts and future use. All Main Rivers will be crossed using trenchless techniques (Commitment ID CO32, see **Table 21-4** of **Volume 1, Chapter 21 Water Resources and Flood Risk**). Temporary watercourse crossings for haul road access are assessed in **Section 21.7.1.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk** and shown on **Figure 21-7** and **Figure 21-8**. A Watercourse Crossing Method Statement is proposed as detailed in Commitment ID CO35, see **Table 21-4** and **Table 21-5** in **Volume 1, Chapter 21 Water Resources and Flood Risk**, which provides measures to maintain the flow of water along watercourses which require culverts for haul road crossings. As part of this commitment, where Environment Agency's Main Rivers are to be crossed by temporary haul roads, bailey or similar clear span bridges will be used. For other watercourses, temporary culverts with an overlying haul road will be used where existing access is not available and where temporary

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			bridges are not practicable. The flood risk implications of watercourse crossings are assessed in **Appendix 21.3 Flood Risk Assessment**.
Environment Agency	Scoping Opinion (02/08/24)	Site selection must take current and future flood risk into account to comply with the Sequential Test. Given the location, the Applicant should ensure they consider the integrated risks associated with a reliance on assisted pumping and how these risks will be mitigated. In line with the PPG, the Applicant should assume a design life of at least 75 years in their assessment of the effects of climate change in relation to coastal erosion and flood risk, using the latest guidance on climate change projections. If the Applicant proposes a design life of less than 75 years, we will require a detailed justification and a time-limiting Requirement as part of this proposal. A sequential approach should be taken to determine the final site design, with sensitive equipment (such as substations) located outside of the design flood plus climate change flood extent or positioned 600mm above the design flood with consideration of climate change. Depending on the placement of infrastructure, flood storage compensation may be required. This should be in the context of the design flood, which should account for climate change. Flood storage compensation should be level-for-level, volume-	**Section 21.3.12** of **Appendix 21.3 Flood Risk Assessment** sets out consideration of the Sequential Test and, where necessary, the Exception Test. Currently there is no reliance on pumping within the Project; however, should pumping be required the associated risks and any mitigation measures would be incorporated into the Outline CoCP (Commitment ID CO39, see **Table 21-4** and **Table 21-5** of **Volume 1, Chapter 21 Water Resources and Flood Risk**). **Section 21.3.11** of **Appendix 21.3 Flood Risk Assessment** considers the design life of the Project. However, it is noted that this is applicable only to the above ground infrastructure, once operational, and therefore is specifically of relevance to the OCS and Energy Storage and Balancing Infrastructure (ESBI). Should it be required to take a sequential approach within the final site design, specifically of relevance to the OCS and ESBI, it is confirmed in **Section 21.3.12** of **Appendix 21.3 Flood Risk Assessment** that this approach will be adopted

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		for volume, localised and should not inhibit flood flow routes	within the OCS zones. Additionally, the requirement for flood storage compensation will be considered once a preferred OCS zone has been selected and the layout of infrastructure within that zone has been confirmed.
Environment Agency	Scoping Opinion (02/08/24)	We support the decision to scope in 'supply of contaminants to surface and groundwater'. However, within that assessment we will expect to see consideration of the risk from potential fires occurring at the OCS. Transformers at these stations pose a reasonably foreseeable risk of fires, which could result in significant losses of oil, firewater and other polluting material to the environment. The impacts from fires, and associated mitigation, should also be considered. Furthermore, we would expect to see a Bentonite Breakout Plan within the ES Table 8-6 confuses the water quality elements with Reasons for Not Achieving Good Status (RNAGs). Specific water quality elements (such as phosphate, ammonia, dissolved oxygen etc.) are not RNAGs. The Applicant may instead wish to provide the classification for each of these element classes and list the RNAGs by activity or category (i.e. "Private Sewage Treatment" or "Water Industry").	Potential impacts from the supply of contaminants to surface and groundwater are assessed in **Section 21.7.1.3** and **Section 21.7.2.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. A BSMP (Commitment ID CO79) is proposed as detailed in **Table 21-4** and **Table 21-5** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. The BSMP will include specific measures to contain fire water with appropriate layers of protection. Mitigation measures that will be in place to manage firewater have been considered when assessing operation of the Project in **Section 21.7.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk.** A Drilling Fluid Breakout Management Plan will be developed for the Project (Commitment ID CO38, see **Table 21-4** and **Table 21-5** of **Volume 1, Chapter 21 Water Resources and Flood Risk**). Baseline water body status for each water body crossed by the Project is presented in **Section 21.6.1.1.3** (**Table 21-14**) of **Volume 1, Chapter**

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the PEIR
			21 Water Resources and Flood Risk. The table has been amended to show RNAGs by activity and classification elements affected.
Environment Agency	Scoping Opinion (02/08/24)	Works in, over, under, or close to main rivers or flood risk infrastructure are also likely to require Flood Risk Activity Permits under the Environmental Permitting Regulations (EPR) 2016. The Applicant will need to determine whether they wish to disapply EPR through the DCO process, and we recommend early discussions with us regarding this. We are likely to request the use of Protective Provisions if we do agree to disapply We ask that a buffer of at least 20 metres is maintained around main rivers, and a similar distance where existing flood defences (e.g. outfalls or flood embankments) are present. The Applicant should also discuss their proposals with other Risk Management Authorities with regard to flood and coastal infrastructure on the coast, for example, hard defences in the vicinity of existing settlements. There is no mention at this stage regarding whether the applicant will seek to disapply the EPR. Whilst disapplication is common practice in DCO proceedings, we still require to be formally notified of this intention. If disapplication is formally notified to us, we still require discussions with the applicant around the proposals and will secure our interests by way of approval of plans through Protected Provisions. There is no guarantee that we will agree to dis-apply EPR. If disapplication is the Applicant's intention, early engagement with us is recommended, along with a permit schedule to confirm which permits / consents they will require.	The Environment Agency comment related to the EPR and the use of Protective Provisions (PP) is noted. Currently the Project has not confirmed the approach that will be adopted within the DCO application, regarding the adoption of PP. However, it is confirmed that the requirements set out by the Environment Agency, related to the 20m buffer, are included within **Volume 1, Chapter 21 Water Resources and Flood Risk, Table 21-4** as Commitment ID CO33. Further ETG meetings will be held with the relevant stakeholders as the project progresses. It is anticipated that discussions related to the approach to be adopted for EPR and PP will be progressed during these meetings.
Environment	Scoping	If dewatering is required, it may require an environmental permit	Limited consumptive groundwater abstraction

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Agency	Opinion (02/08/24)	if it doesn't meet the exemption in The Water Abstraction and Impounding (Exemptions) Regulations 2017 Section 5: Small scale dewatering in the course of building or engineering works. Our position statement on temporary dewatering is available online. If a full abstraction licence is required, the Applicant should be aware that some aquifer units may be closed for new consumptive abstractions in this area. More information can be found on Gov.uk The applicant may wish to consider whether a scheme-wide dewatering application rather than individual applications would be beneficial. We suggest talking to our National Permitting Service early in the project planning. The Applicant is reminded of the need to ensure that any abstraction does not induce further saline intrusion. The Applicant may also need to consider discharge of groundwater, especially if it is contaminated. The use of drilling muds for any directional drilling may require a groundwater activity permit unless the 'de minimis' exemption applies. Early discussion about this is also recommended.	may be required during below ground construction at the landfall (up to 20 m^3/day) and OCS zone (up to 70 m^3/day). There may also be the requirement for local, small-scale dewatering associated with excavations. Minor abstraction may be required at the OCS zone during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. It is anticipated the OCS and ESBI would be unstaffed and water use would be minimal. The Project will comply with the conditions of any abstraction and discharge licences that may be required. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (SPZ, DWPA) are assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**.
Environment Agency	Scoping Opinion (02/08/24)	We would like to better understand the options as part of any subsequent decommissioning phase. Of particular interest will be what happens with infrastructure installed below watercourses and flood defences, and also any watercourse crossings, during the construction phase (which we understand will be temporary).	The final decommissioning policy of the Project's onshore infrastructure, including the landfall, has not yet been decided. As noted in Commitment ID CO56 an Onshore Decommissioning Plan will be developed prior to decommissioning in a timely manner based on the relevant available guidance and legislative requirements at the time. The plan will include provisions for the removal of all onshore above ground

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			infrastructure and the decommissioning of below ground infrastructure, as far as practicable. Details of methodologies and mitigation measures to reduce the impacts of decommissioning works on the environment and communities will be provided in the plan. Temporary crossings for haul road access will be removed once the Project is constructed. The channel bed and banks will be sympathetically restored in line with the CoCP which is in accordance with the Outline CoCP (Commitment ID CO39, see **Table 21-4** and **Table 21-5** within **Volume 1, Chapter 21 Water Resources and Flood Risk**).
Environment Agency	Scoping Opinion (02/08/24)	There are some areas of land, specifically around main rivers, which are land owned by the Environment Agency. Due to the large scoping area, it is unclear at this stage whether this land will be affected by the proposals, but we would welcome ongoing discussions with the applicant about this.	Further Expert Topic Group (ETG) meetings will be held with the relevant stakeholders including the Environment Agency as the project progresses. It is anticipated that land ownership issues will be discussed, and appropriate measures implemented to avoid potential impacts.
Yorkshire Water	Scoping Opinion (02/08/24)	Overall, Yorkshire Water (YW) is satisfied with the proposed scope of the Environmental Statement (ES) as outlined in Chapter 8, 'Water Resources and Flood Risk'. The onshore scoping area includes groundwater Source Protection Zones (SPZs) 1, 2 and 3 and accordingly the supply of contaminants to surface water and groundwater will be scoped into the EIA. Chapter 8 also advises that any subsequent EIA will be	Potential impacts from the supply of contaminants to surface and groundwater are assessed in **Section 21.7.1.3** and **Section 21.7.2.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. A Water Environment Regulations Compliance Assessment (**Appendix 21.4 Water Environment Regulations Compliance Assessment**) has

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		supported by a Flood Risk Assessment (FRA) and stipulate any flood risk mitigation measures. Given the proposal will involve HDD (Horizontal Directional Drilling) it is essential that the FRA identifies, during the construction stage, YW assets along the defined ECC (Export Cable Corridor) route and outline mitigation measures. Chapter 4, Site selection, defines the criteria used for ECC route options. Key site selection design principles for the ECC route included, among other elements, minimising the number of utility, road, rail and watercourse crossings, an approach agreeable to YW.	been undertaken for the Project. This includes assessment of the Hull and East Riding Chalk groundwater body. An FRA has been undertaken for the Project (**Appendix 21.3 Flood Risk Assessment**) which includes relevant proposed mitigation measures. Further consultation meetings will be held with the relevant stakeholders as the project progresses. It is anticipated that any issues around crossing other stakeholder assets will be discussed, and appropriate measures implemented to avoid potential impacts. Potential impacts from watercourse crossings are assessed **Section 21.7.1.1** of the chapter.
Natural England	Scoping Opinion (02/08/24)	Increases in suspended sediment concentrations (SSC) during construction and operation (e.g. future dredging works) have the potential to smother sensitive habitats. The ES should include information on the sediment quality and potential for any effects on water quality through suspension of contaminated sediments. The EIA should also consider whether increased suspended sediment concentrations resulting are likely to impact upon the interest features and supporting habitats of the designated sites as listed above. The ES should consider whether there will be an increase in the pollution risk as a result of the construction or operation of the development. For activities in the marine environment up to 1 nautical mile out at sea, a Water Framework Directive (WFD) assessment is	**Section 21.7.1.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk** assesses the impact of increased sediment supply to surface water catchments, including designated sites in each catchment. **Section 21.7.1.3** and **Section 21.7.2.1** of the chapter assess impacts from the supply of contaminants to surface and groundwater. Mitigation measures to limit the supply of sediment and contaminants to watercourses and groundwater are detailed in **Section 21.4.3** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. A Water Environment Regulations Compliance Assessment (**Appendix 21.4**) has been undertaken for the Project. This includes all river,

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		required as part of any application. The ES should draw upon and report on the WFD assessment considering the impact the proposed activity may have on the immediate water body and any linked water bodies	canal, transitional, coastal and groundwater bodies that could be affected by the Project. Water body water-dependent protected areas are also assessed in **Appendix 21.4.**
Natural England	Scoping Opinion (29/08/24)	Following the meeting Natural England advise the following with regards to option CC9-2Alt. The mapping provided for the proposed cable route location demonstrates that there is potential for a hydrological connection between the development site and Tophill Low SSSI due to the overlap with the reservoir flood extent. Potential risk of construction pollutants to be drawn back into the reservoir should be considered as part of an ecological assessment, as the reservoirs provide supporting habitat for the notified bird features of the SSSI.	The potential impact of pollution of the Tophill Low Site of Special Scientific Interest (SSSI) (taking into consideration reservoir flood risk) is assessed in **Section 21.7.1.3** (**Table 21-27**) of **Volume 1, Chapter 21 Water Resources and Flood Risk**. The risk of a reservoir failure and associated flooding is likely to be extremely low. The onshore ECC at this location is only in the reservoir flood extent during a wet weather scenario (i.e., when there is also a fluvial event in progress). The Tophill Low reservoir flood extent is similar to the fluvial flood extent and therefore flooding is more likely to be related to the fluvial element in this location (see response to Environment Agency's comment above). In addition, reservoir flooding would occur downstream of the reservoir, i.e., water flowing away rather than towards the reservoir in the event of overtopping. As such, there is unlikely to be a pollution pathway from construction works within the onshore ECC to the Tophill Low Reservoir SSSI, which is located upstream. Best practice pollution prevention measures, such as avoiding the storage of fuels, oils and lubricants in the affected area if extreme wet weather is forecast, will be incorporated within

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			the Outline CoCP (Commitment ID CO39, see **Table 21-4** and **Table 21-5** within **Volume 1, Chapter 21 Water Resources and Flood Risk**). A draft version of the **Outline CoCP** (document reference 8.9) is also provided with the PEIR. Further discussion on flood risk matters has been undertaken as part of ETG10.
Beverley and North Holderness Internal Drainage Board (IDB)	ETG10 (24/09/24)	Any Water Abstraction above 20 m^3 per day will require an EA permit and the Boards consent approval.	Limited consumptive groundwater abstraction may be required during construction at the landfall (up to 20 m^3/day) and OCS zone (up to 70 m^3/day). Some minor abstraction may be required at the OCS during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. The Project will comply with the conditions of any abstraction licences that may be required. The Project will seek consent from The Board for any abstractions in excess of 20 m^3 per day. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (SPZ, DWPA) are assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. A Water Environment Regulations Compliance Assessment (**Appendix 21.4**) has been undertaken for the Project. This includes assessment of the Hull and East Riding Chalk groundwater body.

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		All watercourse crossings need to be trenchless.	The majority of watercourse crossings are trenchless (including Main Rivers and IDB drains, see Commitment ID CO32, see **Table 21-4** of **Volume 1, Chapter 21 Water Resources and Flood Risk**) and there would be a low number of trenched crossings in some catchments. The number and type of watercourse crossings in each surface water catchment are assessed in **Section 21.7.1.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. This includes open-cut (trenched) crossings, trenchless crossings and temporary crossings (haul road). The majority of crossings will be trenchless and there are only a small number of trenched crossings associated with the Project. **Figure 21-7** and **Figure 21-8** show the indicative locations of all watercourse crossings. All indicative crossings are detailed in **Appendix 4.3 Crossing Schedule - Onshore**.
		All cable depths to be a minimum agreed distance below the existing hard bed of any watercourse.	The onshore export cables will be set below the channel bed at a depth dependent on local geology and geomorphological risks (Commitment ID CO36 see **Table 21-4** of **Volume 1, Chapter 21 Water Resources and Flood Risk**). This would avoid exposure during periods of higher energy flow when the bed could be mobilised. The depth below channel bed will take into consideration anticipated climate-change related changes in fluvial flows and erosion that will occur over time. Potential geomorphological

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			risks at crossing sites are discussed in **Section 21.7.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. Agreement with the Beverley and North Holderness IDB on this matter will be discussed at further ETG meetings.
		Consideration needs to be given to potential damage by persons unknown or possible cable failure during the project's operation phase and the impact this may have if any excavation or remedial works are required.	Operation and maintenance impacts associated with the Project are assessed in **Section 27.7.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**.
		Riparian watercourses need to be included in the water resources assessment.	All watercourses crossed by the Project are assessed in **Section 21.7.1.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. This includes open-cut (trenched) crossings, trenchless crossings and temporary crossings (haul road). The majority of crossings will be trenchless and there are only a small number of trenched crossings associated with the Project. **Figure 21-7** and **Figure 21-8** show the location of all indicative watercourse crossings. All crossings are detailed in **Appendix 4.3 Crossing Schedule - Onshore**.
		The Geomorphology Walkover Survey methodology is acceptable, subject to the provided comments via a letter received on 19th September 2024: • Towns Drain is an IDB maintained watercourse and not an	Although part of Towns Drain is an IDB maintained watercourse, the part which overlaps with the Onshore Development Area is not maintained by the IDB. See **Figure 21.2-1** within

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		ordinary watercourse as identified on your Table 2.1 Proposed Survey Locations for Affected Waterbodies. • The Board would also suggest that there are also numerous riparian owned watercourses along the proposed cable route that have not been listed and should be included and inspected all as part of your proposed Geomorphology Walkover Survey.	**Appendix 21.2 Fluvial Geomorphology Walkover Survey.** The proposed methodology (**Appendix 21.2 Fluvial Geomorphology Baseline Survey**) focuses on the key assets of the EA and IDB. Other ordinary watercourses have been selected for survey where they interact more significantly with the onshore ECC (e.g. near the OCS zone). Surveying all of the riparian owner drains, many of which are relatively minor artificial features, is unnecessary for the assessment as it would not change the description of the geomorphology baseline. Many of the riparian drains are similar in nature to those covered in the geomorphology survey.
		The Board has concerns about the proximity of the proposed cable route adjacent Hempholme Pumping Station which is a critical infrastructure to the Boards daily operations, The Board requires more detailed information on this proposal.	Noted, discussions have been undertaken with the Environment Agency and further updates will be provided at subsequent ETG meetings.
Environment Agency	ETG10 (24/09/24)	Our only comment specifically in relation to the WER method statement is in reference to paragraph 18. Ensuring that activities do not prevent a quality element from achieving good status applies to all water body quality elements, not just Priority Substances. Conversely, Priority Substances must also not deteriorate in class (ie “Pass” to “Fail”), as is the case with all other water body quality elements.	A Water Environment Regulations Compliance Assessment (**Appendix 21.4**) has been undertaken for the Project. This includes all river, canal, transitional, coastal and groundwater bodies that could be affected by the Project. Water body mitigation measures and water body water-dependent protected areas are also assessed in **Appendix 21.4.**
		The suggested FRA methodology under section 2.2 refers to the	It is noted that reference to the Design Manual for

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		Design Manual for Roads and Bridges in the first instance and essentially states that there is no formal methodology for completing an FRA. We refer you to the Planning Practice Guidance (PPG) on this matter, in particular the Site-specific flood risk assessment.	Roads and Bridges has been considered within the methodology; however, this is largely applicable to the assessment contained of **Volume 1, Chapter 21 Water Resources and Flood Risk**. **Section 21.3.3** of **Appendix 21.3 Flood Risk Assessment** sets out the relevant policy and guidance including National Policy Statements (NPS), National Planning Policy Framework (NPPF) and the supporting PPG for Flood Risk and Coastal Change. It also confirms that, in accordance with planning policy, these have been used when undertaking the assessment of flood risk.
		Paragraph 34 proposes an operational development lifetime of 35 years. While this is noted, a suitable timeframe for climate change assessment should be agreed with us. The PPG states that the lifetime of a non-residential development depends on the characteristics of that development, but a period of at least 75 years is likely to form a starting point for assessment.	**Section 21.3.11** of **Appendix 21.3 Flood Risk Assessment** considers the design life of the Project. However, it is noted that this is applicable only to the above ground infrastructure, once operational, and therefore is specifically of relevance to the OCS and ESBI. Subject to confirmation of the OCS zone to be progressed at ES stage, further clarification on the design life and flood risk implications will be provided, as required.
		We recently reviewed the Geomorphology Walkover Survey Method Statement, referenced PC6250-RHD-XX-ON-TN-EV-	Results from the Geomorphology Walkover Survey (**Appendix 21.2**) are used in **Section**

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		0003, Rev 01, and dated 2 September 2024. The geomorphology baseline assessment outlined within that document is not referenced within the WER Compliance Assessment or the FRA Method Statement. We'd expect this baseline assessment to feed into both of these documents given the overlap between these topics.	**21.7.1.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk** with reference to geomorphological risks at watercourse crossing points. Information contained within **Volume 1, Chapter 21 Water Resources and Flood Risk** has been used to provide context and inform the baseline understanding of flood risk, along with all other relevant data sources, in **Appendix 21.3 Flood Risk Assessment**.
		With regards to Water demand / availability, we suspect the term consumptive has been misconstrued to mean potable (drinking water). The response states that no consumptive abstraction will be required but also states water use including dust suppression and wheel wash as previously identified in the scoping. Dust suppression and wheel wash are consumptive uses of water – there is water lost from the environment through these processes. As such, the source of supply to meet the demand for these purposes should be considered. We recommend a basic water resources assessment which lists demands for consumptive uses (e.g. dust suppression etc); options for sources of supply (e.g. local surface water; de-watering water; groundwater; water company supply); and an appraisal of the abstraction licensing strategy which anticipates the impacts of potential restrictions on the licences that may be needed. It may be the case that no licences are required if all water is to be supplied by Yorkshire water, however this is not stated explicitly. For the construction phase, the applicant should check if they need a licence for dewatering and be aware of our RPS for	Limited consumptive groundwater abstraction may be required during construction at the landfall (up to 20 m^3/day) and OCS zone (up to 70 m^3/day). Some minor abstraction may be required at the OCS zone during operation for general use (taps, toilets), plus an emergency store for non-electrical fire fighting. The Project will comply with the conditions of any abstraction and discharge licences that may be required. Potential effects on the Hull and East Riding Chalk groundwater body, private groundwater abstractions and designed groundwater resources (SPZ, DWPA) are assessed in **Section 21.7.1.4** and **Section 21.7.2.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. A Water Environment Regulations Compliance Assessment (**Appendix 21.4Water Environment Regulations Compliance Assessment**) has been undertaken for the Project. This includes assessment of the Hull and East Riding Chalk

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		temporary dewatering from excavations. If dewatering is required, it will require an abstraction licence if it doesn't meet the criteria for exemption in The Water Abstraction and Impounding (Exemptions) Regulations 2017 Section 5: Small scale dewatering in the course of building or engineering works. It may also require a discharge permit if it falls outside of our regulatory position statement for de-watering discharges. Consumptive abstraction from Groundwater may not be available. If the dewatering activity can be demonstrated to be discharged to the same source of supply without intervening use (i.e. non-consumptive), this will increase the likelihood of a licence being granted.	groundwater body.
		The revised minutes state that all potential water use activities will be assessed in the Water Resources and Flood Risk PEIR / ES Chapter. We recommend a basic water supply strategy be undertaken to present this information. This should identify individual water uses such as those identified during construction (de-watering; dust suppression; wheel wash; bentonite clay mixing for HDD); an indication of potential volumes (if known or able to be estimated); an options appraisal of different sources of supply given that Groundwater and Surface water abstraction is likely to be limited or subject to restrictive conditions meaning on site storage is required to buffer times of unavailability (more information can be found in the Abstraction Licensing Strategy for the catchment), and that there are wider regional issues with increases to supply from water companies in this area of high demand for new development.	Temporary abstraction of groundwater of up to 20 m^3 per day at the landfall area and up to 70 m^3 per day at the OCS zone would be required during construction. In addition, abstraction at the OCS zone may be required during operation of the Project. Although a volume of up to 70 m^3 per day is included as a worst-case scenario, the OCS will be unstaffed and day-to-day water use will be minimal (e.g. general water supply – toilet, taps, hoses). Operational water use would also include emergency storage fighting non-electrical fires, although it is anticipated that emergency stores would only be replenished very infrequently. Abstraction conditions associated with abstraction licenses that may be required would be agreed with the Environment Agency as part of the consenting process. The volumes of water that would be used temporarily during construction, and infrequently during operation,

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			are considered unlikely to significantly alter the movement or level of groundwater in the wider Hull and East Riding Chalk groundwater body (which measures 1,967 km^2) or affect gross patterns of groundwater flow. Further consultation will be undertaken with the Environment Agency through ETGs as the Project progresses.
		Specifically, attention is drawn to the Scorborough Beck (GB104026066901) and High Hunsley to Arram Area (GB104026066841) waterbodies which, are currently also within scope for an investigation carried out by Yorkshire Water on the impacts from groundwater abstraction on their ability to support Good ecological status given resulting flow pressures.	Impacts on changes to surface and groundwater flows during construction and operation and maintenance area assessed in **Section 21.7.1** and **Section 21.7.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. This includes Scorborough Beck and the High Hunsley to Arram Area catchment. Both catchments would only be affected by shallow trenching (1.2 m depth) during cable installation. Only limited dewatering along the trench is anticipated. The Project will comply with the conditions of any abstraction and discharge licences that may be required.
		Defining receptor sensitivity – ensure groundwater abstractions and Drinking Water Groundwater Safeguard Zones are included in the Groundwater resources list.	Receptor sensitivity for catchments crossed by the Project is described in **Section 21.6.1.4** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. This includes groundwater resources.
		The developer may also wish to consult Yorkshire water on its ongoing Water Industry National Environment Programme	Noted, Yorkshire Water will be consulted where relevant.

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		(WINEP) commitments to the aforementioned investigations on groundwater impact in the waterbodies listed above to ensure that the investigation is not affected by any cumulative impacts of (temporary – eg dewatering) groundwater abstraction.	
		The study area for flood risk may coincide watercourses that rely on pumping stations which may help to prevent flooding (e.g. Wilfholme, Tickton, Hempholme, Waterside). The applicant should assess integrated flood risks with considerations such as pumping capacity, redundancy, and resilience. In response to slide 23 row two. We acknowledge the uncertainty within the proposal, and we encourage a parametrised approach to the management of uncertainty. It is important to consider the proposed design life in advance of the ES as it will have knock on affects to climate change projections and therefore the sequential approach to infrastructure and finished floor levels. We are seeking for the applicant to assume a design life of at least 75 years when assessing flood risk.	There appear to be two areas of concern reflected in this comment, which have been addressed respectively below. The first element relates to the impact on pumping stations and their role in limiting flood risk. The Applicant notes that discussions have been undertaken with the Environment Agency, specifically regarding concerns related to pumping stations, specifically Hempholme, and this complexity has been acknowledged and referenced within **Section 21.3.13.1.2** of **Appendix 21.3 Flood Risk Assessment.** With regards to the second element, it is noted that the impact of climate change is primarily related to the OCS and ESBI, as the key long term operational infrastructure. As noted previously, **Section 21.3.11** of **Appendix 21.3 Flood Risk Assessment** considers the design life of the Project. Subject to confirmation of the OCS zone to be progressed at ES stage, further clarification on the design life and the need for flood risk mitigation measures will be provided, as required.

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		We require confirmation as to whether the only above ground infrastructure (AGI) proposed is the OCS zone. A sequential approach will be applicable to all components. For example, ESBI, haul roads, vehicular crossings, and parts of the transition joint bay(s) may be considered AGI. We must also ensure that all relevant components of the proposal have been considered in the context of assessing operational flood risk. Notably, depending on the period proposed for the construction phase, climate change projections pertaining to flood risk, and coastal erosion may need to be considered.	Clarification on the elements of the Project which will include above ground infrastructure has been provided within **Section 21.3.2** of **Appendix 21.3 Flood Risk Assessment** and information on each of these elements has been taken from **Volume 1, Chapter 4 Project Description**. Furthermore, it is noted that all onshore elements of the Project have been assessed in the context of both the construction and operation and maintenance phases of the Project.
		Loss of flood storage is relevant to all phases of the development.	As noted above, all onshore elements of the Project have been assessed in the context of both the construction and operational phases of the Project within **Appendix 21.3 Flood Risk Assessment**. Once further information on the OCS zone to be selected and the location of temporary construction compounds is confirmed the impact on loss of flood storage will be considered in further detail, as required.
		Flood risk associated with a catchment of less than 3km^2 will not be represented by the Flood Map for Planning and should be assessed by the applicant. The developer should consider relevant National Policy Statements.	The Applicant notes the comment in relation to the flood modelling data, provided by the Environment Agency, as part of the data request submitted by the Applicant and referenced in **Section 21.3.4** of **Appendix 21.3 Flood Risk Assessment**. As part of the assessment of flood risk the detail

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			of the modelling data, availability of other local datasets and their relevance to different elements of the Project infrastructure will be subject to ongoing review for applicability. Regarding the reference to National Policy Statements, **Section 21.3.3** of **Appendix 21.3 Flood Risk Assessment** sets out relevant flood risk policy and guidance including NPS, NPPF and the supporting PPG for Flood Risk and Coastal Change which have been subject to review and utilised when undertaking the assessment of flood risk.
		All our models are built for our own specific purposes and are made available as is. It is the responsibility of all applicants to ensure that the models are fit for their intended purposes and in line with government guidance.	The Applicant notes the comment in relation to the flood modelling data, provided by the Environment Agency, as part of the data request submitted by the Applicant and referenced in **Section 21.3.4** of **Appendix 21.3 Flood Risk Assessment**. As part of the assessment of flood risk this data will be subject to ongoing review for applicability.
		As discussed in the ETG10 Meeting 02 (24.09.2024), the developer will submit a technical report for our consideration regarding the proposed proximity to Hempholme Pumping Station	A meeting was held on 26th November 2024 to discuss the Environment Agency's comments related to the Hempholme Pumping Station. This resulted in the wording of Commitment ID CO104 (see **Table 21-4** within **Volume 1, Chapter 21 Water Resources and Flood Risk**) provisionally agreed by the Environment Agency on 11th February 2025
		The Environment Agency do not wish to see any development taking place within the red line boundary shown below (2.3.1). Looking at the scoping boundary originally provided, there is an option to route the cable to the south-east, which avoids the	

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		Hempholme pumping station area and Mickley Dike completely. We would prefer this route to be explored to reduce the risk on current and future works in this area. The land around the pumping station is owned by the Environment Agency. If this southeastern corridor option if not feasible we would expect to see further detail and answers to the following questions before we are able to ascertain whether the proposals are suitable. What is the bore of the ducting and what's the installation method? Clarification of bore depth below Roam Drain rather than Mickley? Roam is part of the low-level drainage system. If the proposals are to go below the low-level system, you must review as-built drawings to ensure no clashes with piles or other infrastructure in place. What diameter is the drive? What monitoring is going to be in place for the movement at ground level / invert level and bank level?	
		The ESBI is likely to be within an SPZ. We would recommend objecting to an ESBI in an SPZ unless there is a sealed drainage system in place to contain and manage any fire-fighting effluent or contaminated surface waters generated by a fire at the site.	A BSMP (Commitment ID CO79, see **Table 21-4 and Table 21-5, Volume 1, Chapter 21 Water Resources and Flood Risk**) will be developed for the Project. The BSMP will include specific measures to contain firewater with appropriate layers of protection. The development of a BSMP has been taken into account when assessing operation of the Project in **Section 21.7.2** of **Volume 1, Chapter 21 Water Resources and Flood Risk.**

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		For watercourse crossings, and anywhere trenchless technologies may be used, we would like the applicant to consider potential impacts on groundwater (especially drilling muds and other chemicals that may be used).	Watercourse crossings are assessed in **Section 21.7.1.1** of **Volume 1, Chapter 21 Water Resources and Flood Risk**. Potential impacts from contamination on surface and groundwater are assessed in **Section 21.7.1.3** and **Section 21.7.1.3** of the chapter. A Drilling Fluid Management Plan and Pollution Prevention Plan will be provided as part of the CoCP in accordance with the Outline CoCP (see Commitment IDs CO38 and CO40 in **Table 21-4** of **Volume 1, Chapter 21 Water Resources and Flood Risk**). These plans have been taken into consideration as embedded mitigation when assessing possible contamination impacts.

References

Royal HaskoningDHV (2024). Dogger Bank D Scoping Report (Part 1 & 2). Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010144/EN010144-000069-EN010144%20-%20Scoping%20Report%20-%20Part%201.pdf & https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010144/EN010144-000070-EN010144%20-%20Scoping%20Report%20-%20Part%202.pdf [Accessed September 2024].

The Planning Inspectorate (2024). Scoping Opinion adopted by the Secretary of State on 02 August 2024. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010144/EN010144-000071-EN010144%20-%20Scoping%20Opinion.pdf [Accessed September 2024].

List of Tables

List of Acronyms

Acronym	Definition
BSMP	Battery Safety Management Plan
CoCP	Code of Construction Practice
DBD	Dogger Bank D Offshore Wind Farm Project
DCO	Development Consent Order
DWPA	Drinking Water Protected Areas
ECC	Export Cable Corridor
EPP	Evidence Plan Process
EPR	Environmental Permitting Regulations
ES	Environmental Statement
ESBI	Energy Storage and Balancing Infrastructure
ETG	Expert Topic Group
IDB	Internal Drainage Board
FRA	Flood Risk Assessment
LSE	Likely Significant Effect
NPPF	National Planning Policy Framework
NPS	National Policy Statements
OCS	Onshore Converter Station
PEIR	Preliminary Environmental Information Report
PP	Protective Provisions
PPG	Planning Practice Guidance
RNAGs	Reasons for Not Achieving Good Status

Acronym	Definition
SPZ	Source Protection Zones
SSSI	Site of Special Scientific Interest