DOGGER BANK D WIND FARM

Preliminary Environmental Information Report

Volume 2 Appendix 19.1 Consultation Responses for Geology and Ground Conditions and Waste

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Glossary

Term	Definition	
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.	
A change resulting from an activity associated with the Project, d 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.	
Principal Aquifer	These are layers of rock or drift deposits that have high intergranular and / or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and / or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifers.	
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.	

APPENDIX 19.1 CONSULTATION REPONSES FOR GEOLOGY AND GROUND CONDITIONS AND WASTE

Term	Definition
Secondary A Aquifer	These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
Secondary B Aquifer	These are predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
Secondary Undifferentiated Aquifer	These are assigned in cases where it has not been possible to attribute either a Secondary A or B aquifer to the soil type due to the variable characteristics. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifers in different locations due to the variable characteristics of the rock type.
Source Protection Zone 1	Inner protection zone - defined as the 50-day travel time from any point below the water table to the abstraction source. This zone has a minimum radius of 50 metres.
Source Protection Zone 2	Outer protection zone - defined by a 400-day travel time from a point below the water table. This zone has a minimum radius of 250 or 500 metres around the abstraction source, depending on the size of the abstraction.
Source Protection Zone 3	Source catchment protection zone - defined as the area around an abstraction source within which all groundwater recharge is presumed to be discharged at the abstraction source.
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.

19.1 Consultation Responses for Geology and Ground Conditions and Waste

- 1. **Volume 1, Chapter 19 Geology and Ground Conditions** 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 19 Geology and Ground Conditions** and the Applicant's responses in **Table 19.1-1**.
- 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.

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the Preliminary Environmental Information Report (PEIR)
The Planning Inspectorate	Scoping Opinion (02/08/24)	Source Protection Zones (SPZ) of private groundwater abstractions The Scoping Report states that "If private groundwater abstractions are present, a 50m SPZ 1 would be enforced around the abstraction". The ES should provide a justification for this approach and explain why it is appropriate to use a specified distance when each possible abstraction would have specific characteristics such as permitted volume, borehole depth and geological information.	The assessment has been carried out with reference to the Environment Agency's Approach to Groundwater Protection Position Statements, 2018, Section B3 – Default source protection zones of private supply. Section 19.5 of Volume 1, Chapter 19 Geology and Ground Conditions discusses this point further.

Table 19.1-1 Consultation Responses for Geology and Ground Conditions

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the Preliminary Environmental Information Report (PEIR)
The Planning Inspectorate	Scoping Opinion (02/08/24)	Impacts to groundwater The ES should identify potential impacts on groundwater quality as a result of saline intrusion (for example, resulting from dewatering activities) and provide an assessment of any Likely Significant Effect (LSE). Cross- reference can be made to the Water Resources and Flood Risk ES assessment to avoid duplication.	Noted. Section 19.7.1.2 and 19.7.2.2 of Volume 1, Chapter 19 Geology and Ground Conditions assess impacts to groundwater quality and groundwater resources making reference to the risk of contributing to saline intrusion in chalk aquifer.
Environment Agency	Scoping Opinion (02/08/24)	Due to the large scale of the proposed scheme, the site is underlain by several geological formations, and includes Secondary (undifferentiated), Secondary A, Secondary B and Principal aquifers. The principal aquifer is associated with the Chalk bedrock (Rowe Chalk, Flamborough Chalk and Burnham Chalk Formations. The scheme also intersects several source protection zones (SPZ), including zone 1. We note that there is no reference to the 'Environment Agency's approach to groundwater protection' (https://assets.publishing.service.gov.uk/government/uploads/system/upl oads/attachment_data/file/692989/Envirnment-Agency-approach-to- groundwater-protection.pdf). This is a useful document that provides an overview of the activities that are acceptable in SPZs.	Noted. Reference to the <i>'Environment Agency's Approach to</i> <i>Groundwater Protection'</i> has been made within Volume 1, Chapter 19 Geology and Ground Conditions . Reference has also been made to the guidance within Commitment ID CO42 which specifies that ground investigations and hydrogeological risk assessments will be undertaken where relevant in accordance with the guidance (see Section 19.4.3 of Volume 1, Chapter 19 Geology and Ground Conditions).

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the Preliminary Environmental Information Report (PEIR)
Environment Agency	Scoping Opinion (02/08/24)	We welcome the proposal to undertake a Preliminary Risk Assessment and we are pleased to note that vulnerable receptors and potential risks from construction, maintenance and decommissioning activities have been identified and will be considered further in the ES. However, the Applicant should note that the chalk groundwater is known to be saline in places. A key watchpoint for the scheme therefore would be to not induce further saline intrusion, for instance from dewatering activities. This would need to be considered in detail at the permitting stage.	Noted. Section 19.7.1.2 and 19.7.2.2 of Volume 1, Chapter 19 Geology and Ground Conditions assesses impacts to groundwater quality and groundwater resources making reference to the risk of contributing to saline intrusion in chalk aquifer. Dewatering activities would be permitted and as such assessed in detail as part of the permitting process.
Environment Agency	Scoping Opinion (02/08/24)	There is also likely to be connectivity of the superficial deposits (and associated aquifers) with local surface waters. Activities that disturb the secondary aquifers (for instance, dewatering, excavation for foundations, construction through areas of contamination or storage of pollutants) will need to consider possible impacts to any connected surface waters receptors as they have a close relationship in some areas. The Applicant should note that we may request that a requirement for investigating unsuspected contamination is included within the draft Development Consent Order (DCO).	Sections 19.7.1 and 19.7.2 of Volume 1, Chapter 19 Geology and Ground Conditions assesses the potential impacts associated with the construction and operational phase of the Project on both groundwater and surface water features. The assessment discusses the potential for contaminated groundwater to be discharged into surface water features and how such impacts may be mitigated against.

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the Preliminary Environmental Information Report (PEIR)
			A commitment has been made (Commitment ID CO48) to develop a Contaminated Land and Groundwater Scheme as part of the Code of Construction Practice (CoCP) (in accordance with the Outline CoCP). The scheme will include protocols for the discovery of unexpected contamination.
Environment Agency	Scoping Opinion (02/08/24)	Waste Observance of the waste hierarchy objectives and principles of the circular economy will depend upon the selection of the most sustainable option at every phase of a development project, from reduction through design and architecture, to the selection of the most efficient recovery process for the treatment and use of waste. The developer must apply the waste hierarchy as a priority order of prevention, re-use, recycling before considering other recovery or disposal options. Government guidance on the waste hierarchy in England can be found on Gov.uk https://assets.publishing.service.gov.uk/government/uploads/system/upl oads/attachment_data/file/69403/pb13530-waste-hierarchy-guidance.pdf Site Waste Management Plans are no longer a legal requirement, however, in terms of meeting the objectives of the waste hierarchy and your duty of care, they are a useful tool and considered to be best practice.	The approach to applying the waste hierarchy is detailed in Section 5 of the Outline Site Waste Management Plan (document reference 8.9.2) that is included as Appendix B of the Outline Code of Construction Practice (document reference 8.9). Sustainable waste management will be applied when managing waste, considering the following options in order of preference, prevention, preparing for reuse, recycling, other recovery, and disposal in landfill.

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the Preliminary Environmental Information Report (PEIR)
Environment Agency	Scoping Opinion (02/08/24)	Waste Where a development involves any significant construction or related activities, we would recommend using a management and reporting system to minimise and track the fate of construction wastes, such as that set out in PAS402: 2013, or an appropriate equivalent assurance methodology. This should ensure that any waste contractors employed are suitably responsible in ensuring waste only goes to legitimate destinations. The Environmental Protection (Duty of Care) Regulations 1991 for dealing with waste materials are applicable to any off-site movements of wastes. Within section 8.2.2, Figure 8-7 highlights authorised and historical landfills. If, after following the waste hierarchy, it is decided that wastes can only be sent to landfill, you must ensure that the landfills are accepting wastes and that the waste types that you are generating can be accepted at the landfills prior to transporting the waste. this falls within your duty of care under the requirements of the Environmental Protection (Duty of Care) Regulations 1991.	The approach to assuring waste contractors and ensuring traceability of the fate of all wastes removed from Project sites to approved permitted sites is detailed in Section 7 of the Outline Site Waste Management Plan (document reference 8.9.2) that is included as Appendix B of the Outline Code of Construction Practice (document reference 8.9).
Environment Agency	Scoping Opinion (02/08/24)	 Information for Applicant Battery storage falls within the scope of the UK's producer responsibility regime for batteries and other waste legislation. This creates additional lifecycle liabilities which must be understood and factored into project costs, but on the positive side, the regime also creates opportunities for battery recyclers and related businesses. Operators of battery storage facilities should be aware of the Producer Responsibility Regulations. Under the Regulations, industrial battery producers are obliged to: take back waste industrial batteries from end users or waste disposal authorities free of charge and provide certain information for end users; 	The Applicant notes that battery storage falls within the Producer Responsibility regime and has reporting requirements as part of the regulations.

Stakeholder	Document / Meeting, Date	Comment	How and Where Addressed in the Preliminary Environmental Information Report (PEIR)
		 ensure all batteries taken back are delivered and accepted by an approved treatment and recycling operator; keep a record of the number of tonnes of batteries placed on the market and taken back; register as a producer with the Secretary of State; report to the Secretary of State on the weight of batteries placed on the market and collected in each compliance period (each 12 months starting from 1 January). Putting aside the take back obligations under the producer responsibility regime, batteries have the potential to cause harm to the environment if the chemical contents escape from the casing. When a battery within a battery storage unit ceases to operate, it will need to be removed from site and dealt with in compliance with waste legislation. The party discarding the battery will have a waste duty of care under the Environmental Protection Act 1990 to ensure that this takes place. The code of practice applies to you if you produce, carry, keep, dispose of, treat, import or have control of waste in England or Wales. The law requires anyone dealing with waste to keep it safe and make sure it's dealt with responsibly and only given to businesses authorised to take it. The code of practice can be found on Gov.uk (https://assets.publishing.service.gov.uk/government/uploads/system/upl oads/attachment_data/file/1073585/Waste_duty_of_care_code_of_practice e.pdf). If you need to register as a carrier of waste, please follow the instructions on Gov.uk. If you require any local advice or guidance, please contact your local Environment Agency office 	Section 19.3.9.2 of Appendix 19.3 Onshore Waste and Resources Technical Report notes that battery storage units will be returned to suppliers at the end of the units' operational life or if upgraded. Details of any reporting requirements will be included in the Project Environmental Management System to meet regulatory reporting of battery returns during the operational phase.

References

Royal HaskoningDHV (2024). Dogger Bank D Scoping Report (Part 1 & 2). Available at: https://nsip-documents.planninginspectorate.gov.uk/publisheddocuments/EN010144-000069-Dogger%20Bank%20D%20Scoping%20Report%20Part%201.pdf & https://nsipdocuments.planninginspectorate.gov.uk/published-documents/EN010144-000070-

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The Planning Inspectorate (2024). Scoping Opinion adopted by the Secretary of State on02August2024.Availableat:https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010144-000071-Dogger%20Bank%20D_Scoping%20Opinion%202017%20EIA%20Regs_draft.pdf[Accessed May 2025].

List of Tables

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List of Acronyms

Acronym	Definition
DBD	Dogger Bank D Offshore Wind Farm Project
DCO	Development Consent Order
ES	Environmental Statement
LSE	Likely Significant Effect
PEIR	Preliminary Environmental Information Report
SPZ	Source Protection Zones