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| Q1.3. Benthic ecology, Intertidal, Subtidal and Coastal effects | |
| Q1.3.1 Effects on Marine Life and Benthic Habitats including through Cable Installation Methods | |
| Q1.3.1.1 | Intertidal and Subtidal areas The Environment Agency did not identify any concerns regarding the adverse effects identified by the Applicant and we have no additional comments in response to this question. |
| Q1.3.4 Effects on the Marine Conservation Zone | |
| Q1.3.4.3 | EEB and Sandeels The Environment Agency defers to Natural England and the Marine Management Organisation in respect of these matters. |

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| Q1.6. Construction Effects Onshore | |
| Q1.6.2 Approach to Construction, Compounds, Programme, Timing and Methods | |
| Q1.6.2.1 | Landfall The former sewage treatment works are a potential source of contamination as highlighted in 17.1.10 of the Land Quality Desk Study and PRA. As such, groundworks in this area have the potential to mobilise any contamination. A detailed investigation should be undertaken prior to any groundworks to determine the presence of contaminants as identified in Table 17.1-8. Depending on the findings, a controlled waters risk assessment may be required to assess the need for any mitigation measures / remediation. We request to be consulted once the investigations and risk assessment are complete, which we anticipate being undertaken as part of the detailed design should the DCO application be approved by the Secretary of State. |

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| Q1.11. Draft Development Consent Order | |
| Q1.11.3 Schedules | |
| Q1.11.3.3 | Article 6 Environment Agency lawyers are in discussion with the Applicant regarding the disapplication of relevant legislation. Whilst there is discussion regarding detailed wording there have been no concerns raised regarding the principles of what has been requested to be disappplied. |

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| Q1.13. Habitats and Ecology Onshore | |
| Q1.13.1 Effects on European Designated Sites and Sites of Special Scientific Interest | |
| Q1.13.1.1 | Air Quality and Screening of Ecological Sites |

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| | The screening and assessment of European sites lies outside of the Environment Agency's remit. As such we defer to Natural England and do not have any additional comments for this. |
| Q1.13.2 Effects on Protected and Priority Species | |
| Q1.13.2.2 | <p>Construction Sites and Compounds</p> <p>Although the question references the use of a watercourse as foraging and commuting corridors the question is essentially about the effects of lighting on bats. As such, this is a question that is not within the Environment Agency's remit and we defer to Natural England in these matters.</p> |
| Q1.13.4 Effects on Rivers and River-Based Wildlife | |
| Q1.13.4.1 | <p>Watercourse Fish Surveys</p> <p>Paragraph 165 states "No baseline data has been collected to identify the presence/likely absence of fish species in watercourses within the Development Consent Order (DCO) order limits". Paragraph 168 then goes onto mention that "The sensitivity of fish is considered to be medium, reflecting that all fish species have some ability to tolerate an effect but can recover to an acceptable status over the short term to medium term". The Environment Agency does not have any concerns with regards to the data. Environment Agency also have fish monitoring data can also be obtained from the National Fish Population Database).</p> |
| Q1.13.4.2 | <p>Chalk-based Rivers</p> <p>To determine the appropriate drilling depth, the applicant should provide a detailed hydrogeological impact assessment (HIA) for each crossing which should provide a profile of proposed HDD depths and take into consideration:</p> <p>The potential for contaminated sites and unsuspected contamination and how contaminant mobilisation would be prevented.</p> <ul style="list-style-type: none"> • Groundwater levels. • Depending on working depths, they might strike artesian conditions; where there is a chance of this, a HIA needs to be prepared so they know what to expect and how to prevent/mitigate risks, prevent resource loss. • Potential for groundwater flooding – relates back to artesian conditions. • If the route passes through SPZs and SPZs additional mitigation might be required; HIA to demonstrate the risks are fully understood and why other options aren't feasible. • WFD considerations – ensuring there will be no adverse impacts which risk deterioration. • Ensuring a Construction Environment Management Plan is in place and will address pollution prevention of spills and incidents. • Potential for 'blow outs' particularly if drilling into non-consolidated sand. HDD may not be a feasible option in all ground conditions, and if it's proposed in very loose unconsolidated sands then alternatives/mitigation may need to be considered. Appropriate geotechnical assessments should be undertaken to address these and related issues. |
| Q1.13.4.3 | <p>River Crossings</p> <p>All watercourse crossing works have the potential to cause disruption to fish, and fish spawning as a result of vibration at all watercourse crossing locations either through drilling below or works on the</p> |

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| | <p>watercourse itself. We would expect the Applicant to mitigate for these potential risks in the detailed design and through the Code of Construction Practice. Potential disturbance to fish and aquatic fauna can be minimised by avoiding HDD activity under the riverbed and trenching activity during spawning seasons, which is when disturbance through vibration is likely to have the greatest impact. The relevant spawning seasons for all affected watercourses are:</p> <ul style="list-style-type: none"> • Coarse fish close season: 15th March to 15th June (inclusive). • Salmonid spawning season: 1st October to mid-February <p>Therefore, anytime from 16th June to 30th September would be the most appropriate date range to complete either the HDD underwater courses or the trenched crossing of ordinary watercourse as these dates are outside of the coarse fish close season and the salmonid spawning season which are in place to prevent disturbance to fish stocks.</p> <p>Mitigation must also be made by the contractor to prevent excess sediment discharges, drilling fluid releases or bentonite entering the watercourse which should be safeguarded through appropriate detailed method statements.</p> |
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| Q1.16. Land Use | |
| Q1.16.2 Soils and Soil handling, Ground Conditions, Contamination and Minerals | |
| Q1.16.2.5 | <p>Contaminated Land - Approach</p> <p>b) Contaminated areas may be avoided by micro-siting the cables away from them within the cable corridor identified by the Order limits prior to groundworks commencing.</p> <p>c) Targeted ground investigations post consent should be satisfactory. It is unlikely that contamination would be severe enough to prevent the works going ahead. Therefore, as with Conditions on a planning application, we consider that these concerns can be addressed by Requirement, but depending on the findings of the ground investigation, there may be a need to carry out mitigation / remediation measures to ensure that the water environment is protected.</p> |
| Q1.16.2.12 | <p>Nitrate Vulnerable Zones</p> <p>The assessment of risks and vulnerability of SSSI sits outside of the Environment Agency's remit. As such, we would defer to Natural England in this matter.</p> |

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| Q1.24. Water quality and resources | |
| Q1.24.1 Effects on Flood Risk and Drainage, including Adequacy of Sequential and Exception Test | |
| Q1.24.1.3 | <p>Sequential Test</p> <p>Determination the application of the Sequential Test and Exception test lies outside of the Environment Agency's remit, and this usually rests with the decision making authority. The majority of planning applications are determined by the Local Planning Authority who will consider if the Sequential and</p> |

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| | <p>Exception tests have been properly applied and met. As such the Local Planning Authority may be able to better assist you on this matter. We do provide a few thoughts below which may assist you.</p> <p>We note that considering the nature of a roughly 54km long cable route, potentially presents a significant challenge to sequentially siting the whole of the site boundary when considering all the other constraints that the proposed development must address.</p> <p>With regards to the proposed development at landfall:</p> <ul style="list-style-type: none"> - Please note that the North Norfolk Coastline from Hunstanton to just past Weybourne is within Tidal Flood Zones 2 and 3, as such the landfall point of the cable routing is unable to be sequentially sited into Flood Zone 1 in this area. - Between Weybourne and Cromer is a section of coastline that is in Tidal Flood Zone 1, due to the cliffs along this part of the coastline. - The Environment Agency does not know if it is technically possible to bring a cable route onshore under cliff's and we also note that these cliffs are a SSSI. As such these and other potential constraints / viability issues outside of the Environment Agency's flood risk remit, would appear to present significant challenges to sequentially siting the landfall area of the proposed development outside of Tidal Flood Zones 2 and 3. <p>With regards to the proposed development along the cable corridor:</p> <ul style="list-style-type: none"> - If the Applicant were to design the onshore cable routing to avoid Fluvial and Tidal Flood Zones 2 and 3 without considering any other constraints it is possible to sequentially site the proposed development into Flood Zone 1, but the cable routing would be circa 130km long. - It appears likely that choosing an onshore cable route nearly three times the length of the proposed development, could present a significant challenge to other constraints outside of the Environment Agency's flood risk remit. <p>With regards to the proposed development at the substation:</p> <ul style="list-style-type: none"> - The Substation is in Fluvial and Tidal Flood Zone 1. |
| Q1.24.1.7 | <p>Groundwater Flooding</p> <p>Please note that flooding from groundwater is classed as a Local Flood Risk and is not within the Environment Agency's remit. As such is the responsibility of the Lead Local Flood Authority which in Norfolk is Norfolk County Council to whom this question should be directed.</p> |
| Q1.24.1.10 | <p>Surface Water Drainage</p> <p>Please note that flooding from surface water is classed as a Local Flood Risk and is not within the Environment Agency's remit. As such is the responsibility of the Lead Local Flood Authority which in Norfolk is Norfolk County Council to whom this question should be directed.</p> |
| Q1.24.1.17 | <p>Spring Beck Chalk Stream</p> |

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| | <p>The purpose of the scheme was to trail natural flood management measures to research the flood risk benefits that they provide. The scheme comprises of a number of in-channel woody dams to slow the flow of water and a number of water storage features next to the river channel designed to store flood water to reduce the peak flows of a flood event. The Applicant proposes to directionally drill under this ordinary watercourse and so we are content that this will not impact on the elements and features of the scheme.</p> |
| <p>Q1.24.2 Effects on Water Resources and Water Quality, including Measures to Prevent Pollution of Aquifers</p> | |
| Q1.24.2.1 | <p>Magic Maps</p> <p>The required surface water data may be downloaded by the Applicant from Defra Spatial Data Download on the Gov.uk website the hyperlink is printed below.</p> <p>Hyperlink: Defra Spatial Data Download</p> |
| Q1.24.2.12 | <p>Water Framework Directive</p> <p>Relevant specialists at the Environment Agency were consulted about the assessments made by the Applicant in the ES. No concerns were raised regarding the assessments nor conclusions.</p> |
| <p>Q1.24.3 Effects on Rivers, Streams, Canals and Ditches from Proposed Construction Methods and Crossing</p> | |
| Q1.24.3.1 | <p>Watercourse Crossings</p> <p>Section 18.2.8.1.1 of the FRA details the proposed developments Onshore Cable Corridor Design Mitigation with regards to Flood Risk.</p> <ul style="list-style-type: none"> - Point 433 highlights that the onshore routing is primarily located within Flood Zone 1. - Point 434 details that at the landfall location the works are proposed to be undertaken using trenchless techniques to minimise the potential for the works to affect tidal flood risk. - Point 438 confirms that for all main river crossing are proposed to be undertaken using trenchless techniques, so there is no direct impact from the works on fluvial flood risk. - Points 435 and 436 confirm that for ordinary watercourses that it is likely that trenched crossings will be carried out. It also proposes that site-specific investigations will be undertaken at the detailed design stage to enable a site-specific hydrogeological risk assessment to be undertaken assessing the flood risk impacts. <p>The Environment Agency has raised concerns on Points 435 and 436, with regards to the ordinary watercourse crossing referenced PRow003. This ordinary watercourse crossing is proposed as trenched and is within Flood Zone 3 with properties upstream that may be impacted by a trenched crossing. We are in discussions with the Applicant regarding this.</p> |
| Q1.24.3.2 | <p>River Crossings and HDD</p> <p>When assessing this matter, we considered Figure 4.10 Sheets 1 through to 18 in Chapter 4 of the Environmental statement. These maps show the intended trenchless route section and the indicative trenchless crossing compound locations along the onshore cable routing. We have assessed these</p> |

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| | <p>trenchless routes sections and compound locations and we have not raised any concerns based on their intended locations. The indicative trenchless crossing compound locations appear designed to avoid Flood Zone 3a and 2 to avoid impacts on the fluvial floodplain.</p> <p>Flood Risk Activity Exemption FRA 3 (Exempt flood risk activities: environmental permits - GOV.UK (www.gov.uk)) provides conditions on directional drilling under a main river. The conditions of this exemption include the following:</p> <ul style="list-style-type: none"> - <i>the distance from the launch and reception pits to the landward side of each bank of the main river is:</i> <p><i>8m or more in the case of a non-tidal main river</i></p> <p><i>16m or more in the case of a tidal main river</i></p> <ul style="list-style-type: none"> - <i>the service crossing is at least 1.5m below the riverbed along its whole length, and the same height is maintained for at least 5m beyond each bank (measured from the top)</i> <p>Flood Risk Activity Exemptions are considered as low risk activities and as the applicant's proposals fits to the two conditions highlighted above, the Environment Agency has no concerns to raise on the proposed depth of the directional drilling or on the distances from the launch and reception pits to the landward side of each bank of the main river.</p> <p>We expect the details relied upon in Chapter 4 to form part of any DCO granted by the Secretary of State and that variation from this would require a material amendment and consultation with the Environment Agency.</p> |
| Q1.24.3.4 | <p>Ordinary Watercourses</p> <p>Please note that Ordinary watercourses are within the remit of Norfolk County Council, so it would be for them to assess any mitigation measures put forward by the applicant. We have however provided our observations:</p> <p>During the summertime watercourses usually have less water in them, which creates better conditions to undertake this type of works. However, during the summer climate extremes can lead to large amounts of rainfall in short periods of time. Mitigation measures can reduce the risks associated with trenched watercourse crossings.</p> |
| Q1.24.4 Effectiveness of Mitigation Measures | |
| Q1.24.4.8 | <p>Site-Specific Investigations at Crossings</p> <p>These site-specific investigations at crossings are in relation to trenched ordinary watercourses. Ordinary watercourses are within the remit of Norfolk County Council, so this question should mostly be answered by Norfolk County Council.</p> <p>However, there is one ordinary watercourse trenched crossing (PRoW003) that is in fluvial Flood Zone 3a. As such the Environment Agency has assessed the fluvial flood risk at this crossing with the information available, and we have concerns that there has been no consideration of flood risk to third parties. We have raised this concern with the applicant and are in discussions with them.</p> |