Preliminary Environmental Information Report Volume 2

Appendix 18.2 Proposed Offshore Scheme Water Framework Directive Assessment

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LIONLINK

Contents

1 Introduction

1.1.1 This Appendix sets outs the intended approach to undertaking a Water Framework Directive (WFD) Assessment for the Proposed Offshore Scheme. The WFD assessment for the Proposed Onshore Scheme is provided in **Appendix 12.2 Water Environment Regulations Compliance Assessment** of this PEIR.

1.1.2 A WFD Assessment can have up to three stages, noting that not all three stages may not need to be completed. The three stages are:

a. Screening – excludes any activities that do no need to go through the scoping or impact assessment stage;
b. Scoping – identifies the receptors that are potentially at risk from the Proposed Offshore scheme; and
c. Impact assessment – considers the potential impacts of the activities, identifies ways to avoid or minimise impacts and shows if the activities assessed would cause deterioration or jeopardise the water body achieving good status.

1.1.3 This Appendix presents the conclusions of the exercise completed by the Applicant to address stages two (Scoping) and three, (impact assessment). It has been prepared to accompany the Preliminary Environmental Information Report (PEIR).

1.1.4 The results of the Scoping exercise are presented in Sections 2 and 3 of this report. The scoping exercise follows the scoping template format provided by the Environment Agency '*Water Framework Directive assessment: scoping template for activities in estuarine and coastal waters'.*

1.1.5 Section 4 presents the preliminary impact assessment based on the conclusions of the scoping exercise. It has been shared with a view to gaining agreement with the Environment Agency on the key conclusions ahead of the Development Consent Order application submission. Any feedback received from the Environment Agency and other stakeholders will be incorporated into the assessment to be submitted with the Development Consent Order application.

1.1.6 The Proposed Offshore Scheme crosses the Suffolk waterbody (GB650503520002).

2 Scoping Assessment

2.1 Activity Description

Table 2-1: Activity Description

Your activity	Description, notes or more information
Applicant name	National Grid LionLink Limited (NGLLL)
Application reference number (where applicable)	EN020033
Name of activity	LionLink Interconnector
Brief description of activity	The LionLink Project is being developed by NGLLL and the Dutch transmission operator Tennet. The Project comprises a new interconnector (offshore hybrid asset) with a capacity of up to two gigawatts (GW) between the National Transmission Systems (NTSs) of Great Britain and the Netherlands, including a connection into a wind farm located in Dutch waters. An offshore hybrid asset combines interconnection with the transmission of offshore wind generation outside of GB territorial waters. The Project is located partly in the territory of GB and partly in the territory of the Netherlands. The Proposed Scheme (defined as the part of the Project within the British jurisdiction; the subject of the DCO application) would involve the construction of a converter station and the installation of offshore and onshore underground high voltage direct current cables (HVDC) to the onshore converter station and underground high voltage alternating current cables (HVAC) between the converter station and the Friston substation. The activities relevant to this WFD assessment include the following: • Installation of three ducts by horizontal direction drill and excavation of duct exit pits; • Seabed preparation (including pre-lay grapnel run, boulder clearance, unexploded ordnance identification); • Cable lay and burial; • Deposit and maintenance of cable protection; • Cable repair (including cable burial and deposit of cable protection); and • Cable decommissioning. **Chapter 2 Description of the Proposed Scheme** of this PEIR provides a detailed description of the construction, operation (including maintenance) and decommissioning works to be undertaken.
Location of activity (central point XY coordinates or national grid reference)	The Proposed Offshore Scheme will route from Walberswick, Suffolk across the Southern North Sea to the boundary between the English and Netherland Exclusive Economic Zone (EEZ). TM414613

Your activity	Description, notes or more information
Footprint of activity (ha)	The area of the Draft Order Limits within the Suffolk water body is 140ha (1.4km^2). All works during construction, operation (including maintenance) and decommissioning that disturb the seabed will be within the Draft Order Limits as illustrated in Figure 2.7 of this PEIR. Seabed preparation and cable lay works would be undertaken within a 30m wide area within the Draft Order Limits. 2.77km of the proposed HVDC Cable Corridor crosses the Suffolk waterbody. The area of seabed subject to temporary disturbance would be up to 0.08km^2. Activities that disturb the seabed will generate a sediment plume e.g. HDD exit excavation, seabed preparation, cable trenching. Calculations undertaken to inform the preliminary environmental assessment conclude that fine sediment particles could travel a maximum of 15km from the works prior to settling out of suspension. As a linear infrastructure project this impact footprint will occur on either side of the draft Order Limits. The following footprints within the waterbody have been calculated: Footprint from sediment dispersion (15km to either side of cable route within water body) = 5655.14 ha (56.5km^2). The use of vessels during all construction, operation (including maintenance) and decommissioning will generate underwater noise. A zone of influence of 5km (radial distance) has been used to calculate the footprint of activity. This is based on the Effective Deterrence Range (EDR) for geophysical survey for harbour porpoise,. Despite the main activity being cable burial, geophysical surveys have a much larger zone of influence and therefore this zone of influence has been used as the precautionary worst-case zone of influence for all activities (as established in **Chapter 20 Fish and Shellfish** and **Chapter 22 Marine Mammals** of this PEIR). Footprint from underwater noise (5km buffer on Draft Order Limits) = 2709.9 ha (27.1km^2).
Timings of activity (including start and finish dates)	Construction of the Proposed Offshore Scheme is planned to commence in 2028 and it is expected to take up to 36 months, finishing in 2031.
Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	**Chapter 2 Description of the Proposed Scheme** of this PEIR provides a detailed description of the construction, operation and maintenance and decommissioning works to be undertaken. The activity within the water body would include the construction of ducts from the proposed Landfall to an exit point within the subtidal zone, the preparation of the seabed (pre-lay grapnel run) from the exit point to the edge of the water body (and onwards) and the lay and burial of cables within one trench. During operation, inspection surveys using geophysical techniques would be undertaken. During decommissioning it is assumed that the cables would be removed.
Use or release of chemicals (state which ones)	A trenchless technique such as horizontal directional drill (HDD) would be used at the landfall. The drilling fluids that would to be used for the HDD are likely to be a modified bentonite and wherever feasible, chemicals that are classified by the Centre for Environment, Fisheries and Aquaculture Science (Cefas) as Posing Little Or No Risk (PLONOR) to the marine environment. Bentonite is classified as a PLONOR chemical.

2.2 Waterbody Information

Table 1-2: Waterbody information

Water body	Description, notes or more information
WFD water body name	Suffolk
Water body ID	GB650503520002
River basin district name	Anglian
Water body type (estuarine or coastal)	Coastal
Water body total area (ha)	14738.706
Overall water body status (2015)	Moderate
Ecological status	Moderate
Chemical status	Fail
Target water body status and deadline	Moderate
Hydromorphology status of water body	Not assessed
Heavily modified water body and for what use	Yes (Coastal Protection and Flood Protection)
Higher sensitivity habitats present	Polychaete reef 11.57 ha Saltmarsh 197.49 ha
Lower sensitivity habitats present	Cobble, gravel and shingle, 1929.57 ha Intertidal soft sediment, 816.46 ha Rocky shore, 1.78 ha Subtidal soft sediment 10568.96 ha
Phytoplankton status	Not monitored
History of harmful algae	Not monitored
WFD protected areas within 2km	Yes

2.3 Specific Risk Information

Section 1: Hydromorphology

Table 2-3: Consideration of hydromorphological risks from activity

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	The only activity that has the potential to impact morphology or tidal patterns associated with Proposed Offshore Scheme is the deposit of external cable protection. Preliminary investigations have concluded that cable burial in sediment is possible within the Suffolk water body and no external cable protection deposits are anticipated. Therefore, this has been scoped out of the assessment.
Could significantly impact the hydromorphology of any water body	Requires impact assessment	Impact assessment not required	
Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	No, the project is located in a heavy modified water body designated for coastal protection and flood protection use. The Proposed Offshore Scheme is for the purposes of electricity transmission.

Section 2: Biology

Table 2-4: Consider if habitats are at risk from your activity

Consider if the footprint[4] of your activity is:	**Yes ***	**No**	**Biology habitats risk issue(s)**
0.5km^2 or larger	Yes – requires impact assessment		Footprint of activity is larger than 0.5km
1% or more of the water body's area		No	Activity is not 1% or more of the water body's area (0.9%).
Within 500m of any higher sensitivity habitat		No	No - Activity is not within 500m of higher sensitive habitat
1% or more of any lower sensitivity habitat	Yes – requires impact assessment		Yes - Activity covers 1% or more of lower sensitivity habitat Sand and Gravel (3.8% of habitat)

* Yes to one or more - impact assessment required

4. Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.

Table 2-5: Considers if fish are at risk from the activity

Consider if your activity:	Yes	No	Biology fish risk issue(s)
Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary	Continue with questions	Go to next section	The Proposed Offshore Scheme is not within an estuary. There are several impact pathways during the phases of the Proposed Offshore Scheme that have the potential to influence fish movement these include: • Construction: underwater noise, temporary increase and deposition of suspended sediments • Operation: underwater noise, temporary increase and deposition of suspended sediments and electromagnetic changes. • Decommissioning: underwater noise, temporary increase and deposition of suspended sediments
Could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)	Requires impact assessment	Impact assessment not required	The Proposed Offshore Scheme is not within an estuary. The preliminary environmental assessment presented in **Chapter 20 Fish and Shellfish** of this PEIR concluded the Proposed Offshore Scheme will not act as a barrier to fish movement or prevent fish entering an estuary during construction, operation or decommissioning. Impact pathways considered were underwater noise, temporary increase and deposition of suspended sediments and electromagnetic changes. Please refer to **Section 3.2** of this report for risk assessment.
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	The Proposed Offshore Scheme is not within an estuary and will not act as a physical barrier to fish such that they could be entrained or impinged.

Section 3: Water Quality

Table 2-6: Considers if water quality is at risk from the activity

Consider if your activity:	Yes	No	Water quality risk issue(s)
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for	Requires impact assessment	Impact assessment not required	The Proposed Offshore Scheme will disturb the seabed within the water body which would cause a sediment plume. It is possible that construction would take place at the HDD exit for longer than 14 days given that three HDDs would be required. Given the uncertainty on the construction timescales this requires impact assessment. The preliminary

Consider if your activity:	Yes	No	Water quality risk issue(s)
longer than a spring neap tidal cycle (about 14 days)			environmental assessment presented in **Chapter 18 Marine Physical Environment** of this PEIR concluded that with the implementation of mitigation the Proposed Offshore Scheme would not significantly affect bathing water quality. Please refer to **Section 3.3** of this report for the risk assessment.
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	No – the summary table of the water body indicates that the Suffolk water body has a phytoplankton status of good.
Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	No – the summary table of the water body indicates that the harmful algae are not monitored for the Suffolk water body

Table 2-7: Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals

If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:	Yes	No	Water quality risk issue(s)
The chemicals are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	A trenchless technique such as HDD would be used at the landfall. The drilling fluids that would to be used for the HDD are likely to be a modified bentonite and PLONOR chemicals. All products used would be certified as being environmentally friendly. Bentonite is classified by the Cefas as PLONOR to the marine environment.
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	According to the Catchment Data Explorer Mercury levels are at fail level (Ref 3). However, the environmental baseline survey for the Proposed Offshore Scheme concluded that sediments within the Draft Order Limits within the water body are not contaminated above Cefas CAL 2 levels. A discussion of sediment quality is presented in **Chapter 18 Marine Physical Processes** of this PEIR**.**

Section 4: WFD Protected Areas

2.3.1 Consider if WFD protected areas are at risk from your activity. These include:

a. Special Areas of Conservation (SAC)
b. Special Protection Areas (SPA)
c. Shellfish waters
d. Bathing waters
e. Nutrient sensitive areas

Table 2-8: Protected Areas

Consider if your activity is:	Yes	No	Protected areas risk issue(s)
Within 2km of any WFD protected area	Requires impact assessment	Impact assessment not required	The following protected areas are within 2km of the Proposed Offshore Scheme: • Outer Thames Estuary SPA UK9020309 • Southern North Sea SAC UK0030395 • Southwold The Denes Bathing Water UK10850 • Minsmere-Walberswick SPA UK9009101 • Minsmere-Walberswick Ramsar UK11044 • Minsmere to Walberswick Heaths & Marshes SAC UK0012809

Section 5: Invasive non-native species (INNS)

2.3.2 Consider if there is a risk your activity could introduce or spread INNS.

2.3.3 Risks of introducing or spreading INNS include:

a. materials or equipment that have come from, had use in or travelled through other water bodies
b. activities that help spread existing INNS, either within the immediate water body or other water bodies

Table 2-9: INNS Assessment

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	During construction, operation and decommissioning of the Proposed Offshore Scheme, project vessels with follow all relevant guidelines (GB Non-native Species Secretariat, 2015). This includes checking anti-fouling coating has been applied within the last 12 months (or time recommended by manufacturer), carrying out visual checks to ensure hulls are free of bio-fouling, no discharge of ballast tanks, bilge water, water from anchor lockers etc on site.. Projects vessels and

Consider if your activity could:	Yes	No	INNS risk issue(s)
			contractors will comply with the International Convention for the Control and Management of Ships' Ballast water and Sediments and all seabed deposits will be inert with no biologically active material. Project vessels will complete a biosecurity risk assessment prior to arriving on site which will include factors such as origins of the vessels and ensuring that relevant equipment is cleaned before use. A Project Biosecurity plan will be included within the Offshore Construction Environmental Management Plan. Compliance with Regulations should be sufficient to minimise the risk to the environment..

2.4 Summary

Table 2-10: WFD Assessment Summary table

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	No issues raised
Biology: habitats	Yes	The Proposed Offshore Scheme has the potential to temporarily disturb seabed habitats and species. Refer to **Section 3.1** for impact assessment.
Biology: fish	Yes	The Proposed Offshore Scheme is not within an estuary but has the potential to effect spawning and nursery grounds for fish species and diadromous fish that migrate from the River Blyth. Refer to **Section 3.2** for impact assessment.
Water quality	Yes	The Proposed Offshore Scheme will disturb the seabed within the water body which would cause a sediment plume. Refer to **Section 3.3** for impact assessment.
Protected areas	Yes	The Proposed Offshore Scheme is within 2km of five designated European sites and one designated bathing water. Refer to **Section 3.4** for impact assessment.
Invasive non-native species	No	No issues raised.

3 Impact Assessment

3.1 Biology: habitats

3.1.1 The activity is situated in a sand and gravel lower sensitivity habitat and will have an estimated footprint of 3.8% of the habitat within the waterbody. This broad habitat type is listed as a 'Habitat of Principal Importance' under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 4).

3.1.2 **Chapter 19 Intertidal and Subtidal Benthic Ecology** of this PEIR provides a preliminary environmental assessment of the impacts of temporary habitat loss / seabed disturbance and temporary increase and deposition of suspended sediments on subtidal sands and gravels. It concludes that the effect on subtidal sands and gravels has been assessed to be Neutral and Not Significant.

3.2 Biology: fish

3.2.1 The Proposed Offshore Scheme is not within an estuary. However, **Chapter 20 Fish and Shellfish** of this PEIR has identified that within the Suffolk water body several species are known to have spawning and/or nursery grounds that overlap with the Draft Order Limits. Species include:

a. Herring
b. Lemon sole
c. Mackerel
d. Plaice
e. Sole
f. Sprat
g. Thornback ray
h. Tope shark
i. Whiting

3.2.2 The Proposed Offshore Scheme passes offshore of the river Blyth. This river is used by migratory diadromous fish including Atlantic salmon, brown trout, sea, smelt and river lamprey, which therefore would be present within the water body at certain times of the year.

3.2.3 **Chapter 20 Fish and Shellfish** of this PEIR provides a preliminary environmental assessment of the likely significant effects on fish and shellfish resulting from the construction, operation (including maintenance) and decommissioning of the Proposed Offshore Scheme. It provides assessments for the following impact pathways of relevance to the Suffolk waterbody:

a. Temporary habitat loss/seabed disturbance;
b. Temporary increase and deposition of suspended sediments;
c. Underwater noise;
d. Changes in distribution of species;

e. Electromagnetic changes / barrier to species movement; and
f. Temperature increases due to the presence of operational cables.

3.2.4 The preliminary assessment has concluded that no significant effects on fish and shellfish are expected from the Proposed Offshore Scheme alone during construction, operation and decommissioning, provided design and control measures are implemented. Any cumulative effects with other projects will be addressed in the ES.

3.3 Water Quality

3.3.1 During construction activities that disturb the seabed such as seabed preparation (including sandwave clearance further offshore outside of the waterbody) and cable lay would suspend fine sediments. Sediment dispersion modelling was commissioned by the Applicant to inform the preliminary assessment of impacts on sensitive receptors. Key receptors were noted as designated bathing waters, protected areas (Outer Thames Estuary SPA) and the Sizewell nuclear power station intake pipes. **Appendix 18.1 Sediment Dispersion Modelling Report** of this PEIR presents the findings of the study. The percentage of fines and current flow speeds are highest in the Suffolk water body compared to other areas of the Proposed Offshore Scheme resulting in the largest potential plume spread for sediment disturbed by construction activities.

3.3.2 The modelling concluded that when cable burial is underway, under the worst-case conditions (burial speed of 100m/hr) 100% of the bathing water at Southwold the Denes is predicted to be affected by suspended sediment concentrations (SSCs) of more than 5mg/l. However, the impact time is very short being less than two hours. Approximately 25% of the Southwold Pier bathing water would also be affected by SSCs of more than 5mg/l but for less than one hour.

3.3.3 **Appendix 18.1 Sediment Dispersion Modelling Report** calculated the impact on the Outer Thames Estuary SPA, noting that the assessment considered the entirety of the interaction with the SPA, and not just the area within the waterbody. Approximately 20% of the Outer Thames Estuary SPA (only considering the two polygons of the SPA which intersect with the Draft Order Limits) is predicted to be affected by an increase in SSC of more than 5mg/l at any time during construction. The area predicted to be impacted at any one time is much smaller, being less than 0.1% of the SPA areas which intersect the Draft Order Limits. Based on a constant installation rate of 100m/hour, cable burial along the full 182km length of the Proposed Scheme would take 75 days to complete, while the overall length of cable burial operations would be completed over a period of 36 months (with seabed preparation, downtime from weather and maintenance, infrastructure crossings, jointing and external cable protection placement all contributing to the overall installation programme). Less than 0.5% of the Outer Thames Estuary SPA is predicted to be affected by sedimentation of more than 1mm thick, constrained within the Draft Order Limits.

3.3.4 Higher increases in SSC could occur at the Sizewell C intakes but the Sizewell C power station is not expected to be operational at the time of installation of the Proposed Offshore Scheme. Following construction, there are not expected to be any significant increases in SSC that would affect the power station.

3.3.5 **Chapter 18 Marine Physical Environment** of this PEIR concluded that overall, changes in SSC from cable construction are predicted to be localised and short lived. The predicted increases in SSC and sedimentation are small in comparison to natural processes in the area, and the significance of the effect has been assessed as **Negligible** and **Not Significant**.

3.3.6 **Chapter 18 Marine Physical Environment** of this PEIR concluded that disturbance of the seabed during seabed preparation and submarine cable installation activities has the potential to release contaminants from the sediment where they can disperse. Site specific contaminant data indicates that almost all samples and contaminants were below Cefas CAL 1 levels and OSPAR ERL levels, with the only exceedances being an exceedance of Cefas CAL 1 for arsenic at approximately 60% of the samples, and one exceedance of OSPAR ERL for mercury at a nearshore sample site (LL_11_EBS). The site-specific sample data is in line with sediment samples across the wider study area from a number of other studies and all concentrations, for all contaminants were below Cefas CAL 2 levels. The low concentrations indicate there is minimal risk to marine life and no significant environmental impact. The sediments are therefore considered suitable for seabed disposal and the risk of release of contaminants from the sediment is low.

3.3.7 While no direct measurements of nutrients in the sediments have been obtained, water samples from the Environment Agency's WIMS archive (Ref 11) analysed for DIN and orthophosphates indicate low nutrient levels and levels of TOC in the sediment were in the normal expected range for the North Sea, indicating high nutrient levels within the seabed sediments are unlikely and the risk of release of nutrients from the sediment is low.

3.3.8 With respect to the release of contaminated sediment the significance of effect has been assessed as Negligible and Not Significant.

3.4 Protected Areas

3.4.1 The following protected areas are within 2km of the Proposed Offshore Scheme:

a. Outer Thames Estuary UK9020309 SPA
b. Southern North Sea UK0030395 SAC
c. Southwold The Denes UK10850 Bathing Water
d. Minsmere-Walberswick UK9009101 SPA
e. Minsmere-Walberswick UK11044 Ramsar
f. Minsmere to Walberswick Heaths & Marshes UK0012809 SAC

Outer Thames Estuary SPA

3.4.2 The Proposed Offshore Scheme crosses the Outer Thames Estuary SPA. The HRA process considered the effects of the Proposed Offshore Scheme on the European site. HRA Screening concluded that there is the potential that the Proposed Development would have a likely significant effect (LSE) on the SPA and that Appropriate Assessment should be conducted by the statutory authority. A **Proposed Offshore Scheme Report to Inform Appropriate Assessment** has been provided with the PEIR. It concludes that mitigation can be agreed such that the Proposed Offshore Scheme would not have an adverse effect on the integrity of the European Site alone and in-combination with other projects.

Southern North Sea SAC

3.4.3 The Proposed Offshore Scheme crosses the Southern North Sea SAC. The HRA process considered the effects of the Proposed Offshore Scheme on the European site. HRA Screening concluded that there is the potential that the Proposed Development would have a likely significant effect (LSE) on the SAC and that Appropriate Assessment should be conducted by the statutory authority. An **Offshore Report to Inform Appropriate Assessment** has been provided with the PEIR. It concludes that with the implementation of mitigation the Proposed Offshore Scheme would not have an adverse effect on the integrity of the European Site alone and in-combination with other projects.

Minsmere to Walberswick Heaths & Marshes SAC and Minsmere-Walberswick SPA and Ramsar

3.4.4 The proposed HVDC cable route would cross the SAC, SPA and Ramsar where it transitions from the Proposed Onshore Scheme to the Proposed Offshore Scheme. A trenchless drilling technique such as HDD would be used in this location to avoid sensitive surface features. However, there is a risk of incidental surface impacts and measures to avoid and mitigate these potential impacts will be required to be subject to further assessment. The HRA Screening concluded that there is the potential that the Proposed Development would have a LSE on the SAC, SPA and Ramsar and that Appropriate Assessment should be conducted by the statutory authority. An **Onshore Report to Information Appropriate Assessment** will be provided with the development consent order application.

Southwold The Denes UK10850 Bathing Water

3.4.5 As discussed in Section 3.3 above, **Chapter 18 Marine Physical Environment** of this PEIR concluded that overall, changes in SSC from cable installation are predicted to be localised and short lived within the designated bathing water. The predicted increases in SSC and sedimentation are small in comparison to natural

processes in the area, and the significance of the effect has been assessed as Neutral and Not Significant.

3.5 Cumulative Effects Assessment

3.5.1 **Chapter 28 Cumulative Effects** of this PEIR defines the methodology for the assessment of cumulative effects. The impact assessment of intra- and inter-project cumulative effects will be carried out and reported within the WFD Assessment to be submitted with the application for development consent.

3.6 Assessment for Deterioration

3.6.1 The overall water body status for Suffolk is currently 'Moderate'. At the scale considered for the Proposed Offshore Scheme, associated activities will not affect the status of the water body. Temporary effects may result from short-duration impacts associated with construction, but water clarity will recover within a tidal cycle (for some activities) up to within to one month (for cable burial) without the requirement for any restoration measures.

Topic Glossary

Acronym/ Phrase/ Abbreviation	Definition
CAL	Cefas Action Level
CFE	Controlled Flow Excavator
DCO	Development Consent Order
EDR	Effective Deterrence Range
EEZ	Exclusive Economic Zone
GB	Great Britain
GW	Gigawatts
Ha	Hectare
HDD	Horizontal Directional Drilling
HRA	Habitats Regulation Assessment
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
INNS	Invasive non-native species
Km	Kilometre
LSE	Likely significant effect
NERC	Natural Environment and Rural Communities
NGLLL	National Grid LionLink Limited
NTS	National Transmission Systems
OTE	Outer Thames Estuary
PEIR	Preliminary Environmental Information Report
PLGR	Pre-Lay Grapnel Run
SAC	Special Areas of Conservation
SPA	Special Protection Areas
SSC	Suspended Sediment Concentrations
WFD	Water Framework Directive

References

Ref 1 GOV.UK 2016, Water Framework Directive assessment: estuarine and coastal waters, published 15th December 2016, Last updated 9 October 2023 https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters

Ref 2 GOV.UK 2023, Water body summary table 2023 update submission, Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fmedia%2F6523e902244f8e000d8e7241%2Fwfd_water_body_summary_table_2023_update_submission.xlsx&wdOrigin=BROWSELINK

Ref 3 DEFRA, 2025, Suffolk Water Body, Available at: https://environment.data.gov.uk/catchment-planning/WaterBody/GB650503520002 [Accessed May 2025]

Ref 4 Legislation.gov.uk (2006) Natural Environment and Rural Communities Act 2006. Available at https://www.legislation.gov.uk/ukpga/2006/16/contents (Accessed 18 September 2024)

Ref 5 Irving, R. (2009) The Identification of the Main Characteristics of Stony Reef Habitats under the Habitats Directive: Summary report of inter-agency workshop. Available at https://hub.jncc.gov.uk/assets/21693da5-7f59-47ec-b0c1-a3a5ce5e3139 (Accessed 23 September 2024).

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Ref 7 JNCC 2022, Marine Pressures-Activities Database (PAD) V1.5 Available at: https://hub.jncc.gov.uk/assets/97447f16-9f38-49ff-a3af-56d437fd1951 [Accessed June 2025]

Ref 8 JNCC (2010) JNCC guidelines for minimising the risk of injury and disturbance to marine mammals from seismic surveys, August 2010, available at: JNCC Seismic Guidelines

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Ref 11 Environment Agency Open WIMS water quality data archive, available from: https://environment.data.gov.uk/water-quality/view/download/new (accessed April 2025).

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