

Sea Link

Volume 6: Environmental Statement

Document: 6.2.4.9
Part 4 Marine
Chapter 9
Other Sea Users

Planning Inspectorate Reference: EN020026

Version: B
November 2025

Infrastructure Planning (Applications: Prescribed Forms and
Procedure) Regulations 2009 Regulation 5(2)(a)

Page intentionally blank

Contents

9.	Other Sea Users	1
9.1	Introduction	1
9.2	Regulatory and Planning Context	2
9.3	Scoping Opinion and Consultation	6
9.4	Approach and Methodology	8
9.5	Basis of Assessment	13
9.6	Study Area	14
9.7	Baseline Conditions	15
9.8	Proposed Project Design and Embedded Mitigation	22
9.9	Assessment of Impacts and Likely Significant Effects	23
9.10	Additional Mitigation and Enhancement Measures	46
9.11	Residual Effects and Conclusions	46
9.12	Transboundary Effects	47
9.13	References	54

Table of Tables

Table 9.1 NPS EN-1 requirements relevant to other sea users	2
Table 9.2 NPS EN-3 requirements relevant to other sea users	3
Table 9.3 NPS EN-5 requirements relevant to other sea users	4
Table 9.4 NPPF requirements relevant to other sea users	4
Table 9.5 Marine Planning Policies relevant to other sea users	5
Table 9.6 Comments raised in the Scoping Opinion	6
Table 9.7 Definitions of value/ sensitivity for other sea users	10
Table 9.8 Example definitions of the magnitude levels for other sea users	11
Table 9.9 Significance description	12
Table 9.10 Flexibility assumptions	14
Table 9.11 Mineral and aggregate extraction locations within the Study Area	18
Table 9.12 Potential cable crossings within the Study Area	20
Table 9.13 Summary of impact pathways and maximum design scenario	23
Table 9.14 Summary of other sea user effects	48

Version History

Date	Issue	Status	Description/Changes
March 2025	A	Final	For DCO Submission
November 2025	B	Final	Updated to include Sizewell C following Relevant Representations and discussions for Deadline 1

9. Other Sea Users

9.1 Introduction

- 9.1.1 This chapter of the Environmental Statement (ES) presents information about the environmental assessment of the likely significant other sea user effects that could result from the Proposed Project (as described in **Application Document 6.2.1.4 Part 1 Chapter 4 Description of the Proposed Project**).
- 9.1.2 This chapter describes the methodology used, the datasets that have informed the environmental assessment, baseline conditions, mitigation measures and other sea user residual significant effects that could result from the Proposed Project.
- 9.1.3 The Order Limits, which illustrate the boundary of the Proposed Project, are illustrated on **Application Document 2.2.1 Overall Location Plan**.
- 9.1.4 This chapter should be read in conjunction with:
- **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project;**
 - **Application Document 6.2.1.3 Part 1 Introduction Chapter 3 Main Alternatives Considered;**
 - **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology;**
 - **Application Document 6.2.1.6 Part 1 Introduction Chapter 6 Scoping Opinion and EIA Consultation;**
 - **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation;**
 - **Application Document 6.2.4.7.A ES Appendix 4.7.A Navigational Risk Assessment;**
 - **Application Document 6.2.4.8 Part 4 Marine Chapter 8 Commercial Fisheries;**
 - **Application Document 6.13 Marine Plan Policy Assessment;**
 - **Application Document 7.5.2 Offshore Construction Environmental Management Plan;**
 - **Application Document 7.5.3.1 CEMP Appendix A Outline Code of Construction Practice; and**
 - **Application Document 7.5.3.2 CEMP Appendix B Register of Environmental Actions and Commitments (REAC).**
- 9.1.5 This chapter is supported by the following figures:
- **Application Document 6.4.4.9 ES Figures Marine Other Sea Users.**

9.2 Regulatory and Planning Context

- 9.2.1 This section sets out the legislation and planning policy that is relevant to the other sea user assessment. A full review of compliance with relevant national and local planning policy is provided within the Planning Statement submitted as part of the application for Development Consent.
- 9.2.2 Policy generally seeks to minimise other sea user effects from development and to avoid significant adverse effects. This applies particularly to the construction, operation, maintenance and decommissioning of the Proposed Project.

Legislation

Marine and Coastal Access Act 2009

- 9.2.3 The Marine and Coastal Access Act 2009 (Marine and Coastal Access Act, 2009) provides the legal mechanism to help ensure clean, healthy, safe and productive and biologically diverse oceans and seas and is the primary legislation relevant to marine development plans.

National Policy

National Policy Statements

- 9.2.4 National Policy Statements (NPS) set out the primary policy tests against which the application for a Development Consent Order (DCO) for the Proposed Project would be considered. Table 9.1, Table 9.2 and Table 9.3 below provides details of the elements of NPS for Energy (EN-1) (Department for Energy Security and Net Zero, 2023), NPS for Renewable Energy Infrastructure (EN-3) (Ministry for Levelling Up, Housing and Communities, 2024) and NPS for Electricity Networks Infrastructure (EN-5) (Department for Energy Security and Net Zero, 2023) that are relevant to this chapter.

Table 9.1 NPS EN-1 requirements relevant to other sea users

NPS EN-1 section	Where this is covered in the ES
4.5.7...“Applicants are encouraged to approach the marine licensing regulator (MMO in England and Natural Resources Wales in Wales) in pre-application, to ensure that they are aware of any needs for additional marine licenses alongside their Development Consent Order application”.	Section 9.3 summarises the scoping opinion and consultation received regarding other sea users. Further detail on the Sea Link scoping opinion can also be found in Application Document 6.2.1.6 Part 1 Introduction Chapter 6 Scoping Opinion and EIA Consultation .
4.5.8...“Applicants for a Development Consent Order must take account of any relevant Marine Plans and are expected to complete a Marine Plan assessment as part of their project development, using this information to support an application for development consent”.	Relevant Marine Plans are identified in section 9.2 and considered in section 9.9 Assessment of Impacts and Likely Significant Effects.

NPS EN-1 section	Where this is covered in the ES
4.5.9... <i>“Applicants are encouraged to refer to Marine Plans at an early stage, such as in pre-application, to inform project planning, for example to avoid less favourable locations as a result of other uses or environmental constraints”.</i>	Relevant Marine Plans are identified in Section 9.2 and considered in section 9.9 Assessment of Impacts and Likely Significant Effects. The evolution of the project has considered the Marine Plans throughout, with environmental constraints identified during routing and siting. This is presented in Application Document 6.2.1.3 Part 1 Introduction Chapter 3 Main Alternatives Considered.
5.4.35... <i>“Applicants should include appropriate avoidance, mitigation, compensation and enhancement measures as an integral part of the proposed development”.</i>	The mitigation hierarchy has been applied to the Proposed Project during its design. Mitigation for other sea users is listed in section 9.8.

Table 9.2 NPS EN-3 requirements relevant to other sea users

NPS EN-3 section	Where this is covered in the ES
2.5.2... <i>“Proposals for renewable energy infrastructure should demonstrate good design, particularly in respect of landscape and visual amenity, opportunities for co-existence/co-location with other marine and terrestrial uses, and in the design of the project to mitigate impacts such as noise and effects on ecology and heritage”.</i>	The baseline for other sea users is described in section 9.7 with the Assessment of Impacts and Likely Significant Effects presented in section 9.9. The evolution of the Proposed Project is described in further detail in Application Document 6.2.1.3 Part 1 Introduction Chapter 3 Main Alternatives Considered.
2.8.199... <i>“Applicants should use marine plans (paragraph 2.8.17-19 of this NPS and Section 4.5 of EN-1) in considering which activities may be most affected by their proposal and thus where to target their assessment.”</i>	Relevant Marine Plans are identified in Section 9.2 and considered in section 9.9 Assessment of Impacts and Likely Significant Effects.
2.8.200... <i>“Applicants should engage with interested parties in the potentially affected offshore sectors early in the pre-application phase.”</i>	Section 9.3 summarises the scoping opinion and consultation received regarding other sea users. Further detail on the Sea Link scoping opinion can also be found in Application Document 6.2.1.6 Part 1 Introduction Chapter 6 Scoping Opinion and EIA Consultation.

Table 9.3 NPS EN-5 requirements relevant to other sea users

NPS EN-5 section	Where this is covered in the ES
2.13.21 “...The sensitivities of many coastal locations and of the marine environment as well as the potential environmental, community and other impacts in neighbouring onshore areas must be considered in the identification onshore connection points.”	<p>The sensitivities of coastal communities have been identified in section 9.7 Marine Tourism and Recreation.</p> <p>Mitigation has been identified in section 9.8.</p> <p>Effects to marine tourism and recreation including recreational boating and fishing have been assessed in section 9.9.</p>

National Planning Policy Framework

- 9.2.5 The National Planning Policy Framework (NPPF) as revised in December 2024 (Ministry for Levelling Up, Housing and Communities, 2024) sets out national planning policies that reflect priorities of the Government for operation of the planning system and the economic, social, and environmental aspects of the development and use of land. The NPPF has a strong emphasis on sustainable development, with a presumption in favour of such development. The NPPF has the potential to be considered important and relevant to the Secretary of States (SoS) consideration of the Proposed Project.
- 9.2.6 Table 9.4 below provides details of the elements of the NPPF that are relevant to this chapter, and how and where they are covered in the ES.

Table 9.4 NPPF requirements relevant to other sea users

NPPF section	Where this is covered in the ES
Paragraph 183 “In coastal areas, planning policies and decisions should take account of the UK Marine Policy Statement and marine plans. Integrated Coastal Zone Management should be pursued across local authority and land/sea boundaries, to ensure effective alignment of the terrestrial and marine planning regimes”.	<p>Relevant Marine Plans are identified in Section 9.2 and considered in section 9.9 Assessment of Impacts and Likely Significant Effects.</p>

Marine Planning Policy

- 9.2.7 The following marine plans are relevant to other sea users and have informed the assessment of effects in this chapter:
- The UK Marine Policy Statement (MPS), which was adopted in 2011 and provides the policy framework for the preparation of marine plans and establishes how

decisions affecting the marine area should be made (Department for Environment, Food & Rural Affairs, 2011);

- East Inshore and East Offshore Marine Plan (Marine Management Organisation, 2014); and
- South East Inshore Marine Plan (Marine Management Organisation, 2014).

Table 9.5 Marine Planning Policies relevant to other sea users

Marine Plan	Where this is covered in the ES
The UK MPS ensures that marine resources are used in a sustainable way by ensuring biodiversity is protected and conserved by using the precautionary principle and relying on sound evidence.	<p>Section 9.7 describes the following activities present in the Study Area outlined in the UK MPS:</p> <ul style="list-style-type: none"> • Defence and National Security; • Energy production and infrastructure development; • Marine aggregates; • Marine dredging and disposal; • Subsea cables; • Aquaculture; and • Tourism and recreation. <p>The Assessment of Impacts and Likely Significant Effects on the above other sea user activities are presented in section 9.9.</p>
East Inshore and East Offshore Marine Plan ensures biodiversity is protected and conserved between Flamborough Head and Felixstowe.	<p>Other sea user activities located within the East Inshore, East Offshore Marine Plan and South East Inshore Marine Plan areas are presented in section 9.7.</p> <p>The Assessment of Impacts and Likely Significant Effects on the above other sea user activities are presented in section 9.9.</p>
South East Inshore Marine Plan ensures biodiversity is protected and conserved between Felixstowe and Dover.	<p>The Assessment of Impacts and Likely Significant Effects on the above other sea user activities are presented in section 9.9.</p>

Local Planning Policy

- 9.2.8 The intertidal area of the Offshore Scheme lies within the jurisdiction of Suffolk County Council, East Suffolk Council and Kent County Council. The local plans relevant to the Proposed Project are Suffolk Coastal Local Plan, Thanet District Council Local Plan and Dover District Local Plan.
- 9.2.9 There are no additional Local Plan policies that are considered to be relevant to other sea users for the Offshore Scheme.

9.3 Scoping Opinion and Consultation

Scoping

- 9.3.1 A Scoping Report (National Grid, 2022) for the Proposed Project was issued to the Planning Inspectorate (PINS) on 24 October 2022 and a Scoping Opinion was received from the SoS on 1 December 2022 (**Application Document 6.2.1.6 Part 1 Introduction Chapter 6 Scoping Opinion and EIA Consultation**). Table 9.6 sets out the comments raised in the Scoping Opinion and how these have been addressed in this ES. The Scoping Opinion takes account of responses from prescribed consultees as appropriate. **Application Document 6.2.1.6 Part 1 Introduction Chapter 6 Scoping Opinion and EIA Consultation** and **Application Document 5.1 Consultation Report** provides responses to the comments made by the prescribed consultees at scoping stage and how each comment has been considered.

Table 9.6 Comments raised in the Scoping Opinion

ID	Inspectorate's comments	Response
5.7.3	<p>While the Scoping Report identifies potential impacts from the Proposed Development in broad terms, the advice from the Maritime and Coastguard Agency (MCA) identifies additional specific impacts which should be covered in assessments:</p> <ul style="list-style-type: none">• impacts on navigational safety;• visual intrusion and noise;• impacts on risk management and emergency responses including search and rescue;• risk to drifting recreational craft in poor weather or tidal conditions; and• displacement of small craft into the routes of larger commercial vessels. <p>These impacts should be assessed in the ES unless otherwise agreed with the MCA, in which case evidence of such agreement must be provided in the ES.</p>	<p>Impacts from visual intrusion and noise on recreational boating and fishing have been included in section 9.9.</p> <p>All remaining impacts are discussed further in Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation.</p>
5.9.1	No matters have been proposed to be scoped out of the assessment.	Noted.
5.9.2	The Scoping Report states that the study area will consist of a 10km buffer around the offshore scoping boundary. The study area is stated to be defined by the extent of the potentially affected other sea users but does not explain how this relates to the zone of influence (Zol) of the Proposed Development. The ES should clearly justify	As stated in section 9.6, this 10 km Study Area is considered a worst-case scenario and is inclusive of the maximum Zol of the Proposed Project and is based on similar Study Areas utilised by other subsea cable projects.

ID	Inspectorate's comments	Response
	why the extent of the study area reflects the Zol of the Proposed Development.	
5.9.3	The Scoping Report states that the baseline data will refer to the MMO recreation activity maps if these are published before the completion of the ES. Desk studies would be used in the event that the MMO maps are not published. The ES should explain the source of the relevant information (if the MMO maps have not been published) and if possible, demonstrate agreement with relevant stakeholders on the adequacy of the data.	<p>This ES chapter follows the same approach presented at non-statutory and statutory consultation.</p> <p>The MMO recreation activity maps are now available and are referenced within the baseline as required.</p> <p>A detailed list of data sources used in this chapter is presented in section 9.4.</p>
5.9.4	The Scoping Report identifies the data sources that would be used to inform the baseline and describes the criteria that may be used to determine the sensitivity of receptors and the magnitude of impacts. However, it is not clear from the Scoping Report what methods would be used to carry out the assessment and whether the assessments would be qualitative or quantitative. The methodologies used must be described and their use justified with reference to appropriate guidance and/or agreement with relevant stakeholders.	<p>This ES chapter follows the same approach presented at non-statutory and statutory consultation.</p> <p>Section 9.4 outlines our approach and methodology to this chapter in addition to that detailed in Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology.</p>
5.9.5	The Scoping Report identifies various users of the area potentially affected by the Proposed Development but does not include any reference to any defence interests such as Practice and Exercise Areas. The ES should either include an assessment of impacts on these interests or a justification as to why such an assessment is not required. The Applicant's attention is drawn to the comments from the Ministry of Defence in Appendix 2 of this Opinion.	<p>Section 9.7 presents the baseline conditions of military practice and exercise areas in the Study Area.</p> <p>Section 9.9 presents the assessment of effects for military practice and exercise areas in the Study Area.</p>

Statutory Consultation

- 9.3.2 Statutory consultation for the Proposed Project took place between 24 October and 18 December 2023. A further targeted consultation exercise on the main changes to the Proposed Project introduced after the 2023 statutory consultation, was undertaken between 8 July and 11 August 2024. A summary of relevant feedback received during statutory consultation relating to other sea users is provided below. Further details on how consultation responses have informed the assessment can be found in **Application Document 5.1 Consultation Report**.

- 9.3.3 No further consultation with stakeholders was required following statutory consultation for other sea users. Engagement with known developments in proximity of the Offshore Scheme, including those requiring crossing agreements or proximity agreements, is being undertaken by the project team during the design stage and will continue as required.

Summary of Scope of Assessment

- 9.3.4 Where consideration has been given to offshore infrastructure, this chapter includes both existing and planned offshore infrastructure where there is a reasonable volume of information about such infrastructure to enable assessment.
- 9.3.5 The Offshore Scheme falls within the UK marine areas covered by the East and South East Inshore Marine Plans. One of the aims of marine planning is to help ensure coexistence between a wide range of sea users whilst supporting sustainable development.
- 9.3.6 This chapter assesses the following other sea user activities within the study area: recreational activities; marine tourism; renewable energy developments (i.e., offshore wind, tidal and wave deployment); marine mineral and aggregate extraction; dredging and disposal sites/activities; military practice areas; pipelines; marine cables; and aquaculture.
- 9.3.7 The following activities have been scoped out of this assessment
- Oil and gas operations
 - There are no oil and gas operations located within the Study Area. There have also been no oil and gas licence blocks identified within the Study Area. Effects on oil and gas operations are therefore not considered further in this assessment.
 - Carbon capture and storage
 - There are no carbon capture and storage infrastructure located within the Study Area and no plans for future facilities were found. Based on current information it is not expected that the Offshore Scheme boundary will cross future carbon capture and storage infrastructure. Effects to carbon capture and storage are therefore not considered further in this assessment.
- 9.3.8 Impacts from the Proposed Project on shipping and navigation, and commercial fisheries are considered in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**, and **Application Document 6.2.4.8 Part 4 Marine Chapter 8 Commercial Fisheries**.
- 9.3.9 Onshore tourism and recreation, socio-economic conditions, and employment opportunities are considered within the Onshore Scheme chapters **Application Document 6.2.2.10 Part 2 Suffolk Chapter 10 Socio-Economics, Recreation, and Tourism** and **Application Document 6.2.3.10 Part 3 Kent Chapter 10 Socio-Economics, Recreation, and Tourism**.

9.4 Approach and Methodology

- 9.4.1 **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Method** sets out the overarching approach which has been used in developing the environmental assessment. This section describes the technical methods used to

determine the baseline conditions, sensitivity of the receptors and magnitude of effects and sets out the significance criteria that have been used for the other sea users assessment.

Guidance Specific to the Other Sea Users Assessment

9.4.2 Additional guidance documents relevant to other sea user matters are as follows:

- International Cable Protection Committee (ICPC) Recommendation No.2. Cable Routing and Reporting Criteria (International Cable Protection Committee (ICPC), 2015);
- International Cable Protection Committee (ICPC) Recommendation No.3. Cable and Oil Pipeline/ Power Cables Crossing Criteria (International Cable Protection Committee (ICPC), 2014);
- International Cable Protection Committee (ICPC) Recommendation No.13. The Proximity of Offshore Renewable Wind Energy Installations and Submarine Cable Infrastructure in National Waters (International Cable Protection Committee (ICPC), 2013);
- Energy Installations and Submarine Cable Infrastructure in National Waters (International Cable Protection Committee (ICPC), 2013);
- The European Subsea Cable Association (ESCA) guideline No.6. 'The Proximity of Offshore Renewable Energy Installations & Submarine Cable Infrastructure in UK Waters' (ESCA, 2016);
- The European Subsea Cable Association (ESCA) guideline No.19. Marine aggregate Extraction Proximity Guidelines (ESCA, 2016); and
- Guidance on assessing the socio-economic impacts of offshore windfarms (OWFs), produced by Oxford Brooks and Vattenfall (Glasson, Durning, Olorundami, & Welch, 2020).

Baseline Data Gathering and Forecasting Methods

9.4.3 To determine the baseline conditions within the study area the following key data sources have been reviewed:

- The Crown Estate Asset Maps: including offshore windfarms, wind export cable agreements, carbon capture and storage sites, and marine aggregate digital data;
- North Sea Transmission Authority (NSTA): Digital data for oil and gas infrastructure and blocks;
- Marine Management Organisation (MMO) Public Register for marine licences and MMO Evidence Projects;
- MMO 'Explore Marine Plans' data portal, including spatial data for marine aggregates, aquaculture, dredging and disposal sites, and recreational areas;
- MMO Mapping recreational sea anglers in English waters;
- UK Hydrographic Office: Military Practice and Exercise Areas;
- Environment Agency: bathing waters in England;

- The Kingfisher Information Service – Offshore Renewable Cable (KIS-ORCA): Marine cables digital data;
- Marine sports websites (Professional Association of Diving Instructors (PADI), Surfline; Finstrokes);
- Automatic Identification System (AIS) vessel traffic data; and
- Royal Yachting Association (RYA) UK Coastal Atlas of Recreational Boating.

Assessment Criteria

- 9.4.4 **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Method** sets out the overarching approach that has been used in developing the environmental information. The assessments carried out for this chapter are qualitative and considers the best practice guidance outlined above.

Sensitivity of other sea user receptors

- 9.4.5 The sensitivity of a receptor for other sea users is characterised by its vulnerability to change and its ability to recover. The value of a receptor or feature reflects its overall importance and the value placed on it by society; this may be guided by its level of statutory or policy protection or else a value may be attributed through consultation and the application of professional judgement.
- 9.4.6 Examples of definitions for differing levels of sensitivity of other sea user receptors are provided below in Table 9.7.

Table 9.7 Definitions of value/ sensitivity for other sea users

Very High	Very high value activity or an activity that is key to the operation of an asset of international or national economic importance. No redundancy available in event of impact. Asset very sensitive to the impact. For example, gas pipeline, electrical infrastructure or telecommunication cable supporting UK or European activity or a nationally important aggregates area where the extraction company has no access to areas of equal quality aggregates.
High	High value activity or an activity that is key to the operator of an asset of international or national economic importance. Very little redundancy available in event of impact. Asset sensitive to the impact. For example, an activity that is key to the operation of a gas pipeline, electrical infrastructure or telecommunication cable supporting UK or European activity or nationally important aggregates area where extraction company has very limited access to areas of equal quality aggregates.
Medium	Medium value activity. Impact to asset would significantly reduce operators' activities but not result in complete failure to continue operations. Limited redundancy available. Asset regionally important. Asset has limited tolerance of impact. For example, gas pipeline, electrical infrastructure or telecommunication cable supporting a specific region, where asset owners have some potential for

	redundancy planning. Aggregate areas where extraction company has some access to equal quality aggregate.
Low	Low value activity. Impact to asset would have limited implications on operator/public either due to the availability of redundancy or limited pathway for impact. Asset has some tolerance of impact. For example, electrical or telecommunication cable with ability to undertake redundancy planning to limit impact. Aggregate area where extraction company has access to large area of equal quality aggregate.
Negligible	Low value activity where there would be a barely perceptible impact on the operator's activities as a result of the impact. Asset tolerant of impact. Limited impact to asset owners or local community in case of damage or failure.

Magnitude of other sea user effects

- 9.4.7 The magnitude of impact will be considered in terms of the spatial extent, duration and timing of the impact in question. The magnitude levels and definitions for other sea users are provided in Table 9.8.

Table 9.8 Example definitions of the magnitude levels for other sea users

Large	Fundamental, permanent/irreversible changes, over the whole receptor, and/or fundamental alteration to continuation of activity. For example, accidental damage to asset resulting in permanent or long-term inoperability or complete loss of access to economically important asset.
Medium	Considerable, permanent / irreversible changes, over the majority of the receptor, and / or discernible alteration to activity. For example, damage to an asset that results in either short term, complete inoperability or long term reduced functionality. Partial loss of access to economically important asset, or short-term complete loss of access
Small	Discernible, temporary change, to the receptor, and/or limited but discernible alteration activity. Accidental damage to asset resulting in short term reduction of functionality but not complete loss of function. Short term disruption to access of asset.
Negligible	A change that, whilst discernible, will only endure for part of the project's duration, or a barely discernible change lasting for any

length of time, or a change affecting only a small area of the receptor and/or only a slight alteration to the activity.

Significance of other sea user effects

- 9.4.8 Having established the magnitude of change and sensitivity of the receptor, the significance of an effect can be assessed. To aid transparency in the assessment process, the matrix shown in **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology** will be used as the basis for assigning significance to an effect; however, the identification of significance typically requires the application of professional judgement.
- 9.4.9 Typical definitions for the classification of effects are shown in Table 9.9.

Table 9.9 Significance description

Significance	General criteria	Significant effect
Major	<p>A large and detrimental change to a valuable/sensitive receptor; likely exceeding an accepted (often legal) threshold.</p> <p>A large and beneficial change, resulting in improvements to the baseline result in previously poor conditions being replaced by new legal compliance or a major contribution being made to national targets.</p> <p>These effects may represent key factors in the decision-making process. Potentially associated with sites and features of national importance or likely to be important considerations at a regional or district scale. Major effects may relate to resources or features that are unique and which, if lost, cannot be replaced or relocated.</p>	Yes
Moderate	<p>A medium scale change that, although not beyond an accepted threshold, is still considered to be generally unacceptable, unless balanced out by other significant positive benefits of a project. Likely to be in breach of planning policy, rather than legal statute.</p> <p>These effects, if adverse, are likely to be important at a regional or local scale and on their own could have a material influence on decision making. A positive moderate effect is a medium scale change that is significant in that the baseline conditions are improved to the extent that guideline targets (e.g. UK Biodiversity Action Plan (BAP) targets) are contributed to.</p>	Yes (typically)

Significance	General criteria	Significant effect
Minor	<p>A small change that, whilst adverse, does not exceed legal or planning policy thresholds.</p> <p>A small positive change, but not one that is likely to be a key factor in the overall balance of issues.</p> <p>These effects may be raised as local issues and may be of relevance in the detailed design of a project but are unlikely to be critical in the decision making process.</p>	No
Negligible	<p>A very small change that is so small and unimportant that it is considered acceptable to disregard.</p> <p>Effects which are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error, these effects are unlikely to influence decision making, irrespective of other effects.</p>	No

Assumptions and Limitations

- 9.4.10 Baseline conditions have primarily been established through a desktop review of a range of official governmental data portals, except for baseline information on recreational boating activities, which relies on traffic data for recreational boats, a limited number of studies and surveys, and information available on non-governmental websites.
- 9.4.11 It is noted that recreational activities are highly seasonal and dependent on certain weather conditions. Furthermore, due to the COVID-19 pandemic, contemporaneous data on recreation may under-predict the extent of activity in 'normal' periods (i.e., false-lows); the ES is cognisant of this risk and has endeavoured to mitigate it through longer-term reviews of historical trends.
- 9.4.12 The RYA UK Coastal Atlas of Recreational Boating provides a Geographical Information System (GIS) dataset of recreational boating activity around the UK. The dataset provides spatial data that indicate the location of RYA clubhouses, training centres and marinas, general boating areas, and Automatic Identification System (AIS) recreational intensity (RYA, 2019). It has been recognised that recreational fishing and pleasure boats under 15 m in length are likely to be underestimated in the data because they may not be fitted with AIS. This is further discussed in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.4.13 Baseline conditions described in this chapter rely on the data sources used, and inconsistencies or inaccuracies may exist. No site-specific surveys for other sea users have been undertaken to inform this assessment.

9.5 Basis of Assessment

- 9.5.1 This section sets out the assumptions that have been made in respect of design flexibility maintained within the Proposed Project and the consideration that has been

given to alternative scenarios and the sensitivity of the assessment to changes in the construction commencement year.

- 9.5.2 Details of the available flexibility and assessment scenarios are presented in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project** and **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 Approach and Methodology**.

Flexibility Assumptions

- 9.5.3 The environmental assessments have been undertaken based on the description of the Proposed Project provided in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**. To take account of the flexibility allowed in the Proposed Project, consideration has been given to the potential for effects to be of greater or different significance should any of the permanent or temporary infrastructure elements be moved within the Limits of Deviation (LoD) or Order Limits.
- 9.5.4 The assumptions made regarding the use of flexibility for the main assessment, and any alternatives assumptions are set out in Table 9.10 below.

Table 9.10 Flexibility assumptions

Element of flexibility	Proposed Project assumption for assessment	Flexibility assumption considered
Lateral LoD marine HVDC cable	The extent of the Order Limits for the Proposed Project (Offshore Scheme Boundary).	<p>The worst-case scenario assessed for the Offshore Scheme is one bundled HVDC (x2) and one fibre optic cable in one trench.</p> <p>This bundled scenario maybe placed anywhere within the Offshore Scheme Boundary.</p>

Sensitivity Test

- 9.5.5 It is likely that under the terms of the draft DCO, construction could commence in any year up to five years from the granting of the DCO which is assumed to be 2026. Consideration has been given to whether the effects reported would be any different if the works were to commence in any year up to year five. Where there is a difference, this is reported in section 9.11.

9.6 Study Area

- 9.6.1 For the purpose of baseline characterisation, an area of 10 km width either side of the Offshore Scheme boundary defines the Study Area (**Figure 6.4.4.9.1 Other Sea Users Study Area**). As the exact cable route is yet to be determined within the Order Limits, the study area is defined by the worst-case extent of potentially affected other sea users

who may be directly or indirectly impacted by the Offshore Scheme and is inclusive of the maximum Zol for the Offshore Scheme of the Proposed Project. This study area of 10 km also follows the same standard as other subsea HVDC cable projects in the North Sea.

9.7 Baseline Conditions

Marine Tourism and Recreation

- 9.7.1 The coastal-marine environment supports numerous tourism and recreation activities. Tourism is a general term that encompasses any time spent away from home to pursue leisure or relaxation activities, while recreation refers to leisure activities undertaken for enjoyment by local residents in their free time, near where they live. For the purpose of this ES, 'marine recreation' encompasses receptors and activities that are primarily associated with the marine environment below Mean High Water Springs (MHWS), including recreational boating, recreational fishing, and recreational users of the sea (e.g., surfers, scuba diving).
- 9.7.2 The MMO data portal compiles several data sources that provide an overview of leisure and recreational activities around the English coast (MMO, 2024) including sea and shoreline angling, recreational boating clubs and areas, windsurfing, and scuba diving.
- 9.7.3 The RYA UK Coastal Atlas of Recreational Boating provides a Geographical Information System (GIS) dataset of recreational boating activity around the UK. The dataset provides spatial data which indicates location of RYA clubhouses, training centres and marinas, general boating areas, and Automatic Identification System (AIS) recreational intensity (RYA, 2019).
- 9.7.4 The East Inshore Marine Plan and South East Inshore Marine Plan recognise and emphasise the estimated economic contribution of recreational boating to the national and local economy as well as the indirect benefits for coastal towns.
- 9.7.5 The Three-year Report on the East Inshore and South East Inshore Marine Plans 2017 - 2020 reports that the number of coastal tourism and marine recreation businesses in these regions have increased. However, the number of people these sectors employ varies. For example, for the period between 2015 and 2018 the number of employees peaked at 54,180 in 2016 but by 2018 was 12% lower. The reason for this, however, is not given.
- 9.7.6 **Figure 6.4.4.9.2 Marine Recreational Users in the Study Area (Landfalls)** presents the marine recreational users in the Study Area.

Recreational boating

- 9.7.7 Many RYA clubs and training centres have been identified along the south east coast of England. Within the Study Area, several RYA clubs are located in coastal areas around Margate and Ramsgate, and Orford Ness. The Royal Harbour Marina is also located in Ramsgate, with Highway Marine and Sandwich Marina located further inland of the Kent landfall.
- 9.7.8 AIS data of recreational boating traffic displays high density of recreational craft through the Study Area. High density recreational traffic is particularly focused in nearshore coastal waters around Margate and Ramsgate, and waters along the coast of Aldeburgh. Recreational density is also concentrated in navigation channels passing

through the Study Area towards the major estuaries located nearby, including the Thames Estuary and Harwich Harbour into the rivers Orwell and Stour (RYA, 2019).

- 9.7.9 The Offshore Scheme boundary also crosses through two General Boating Areas, which mainly relate to club training and racing areas, on the approach to both the Suffolk and Kent landfalls.

Recreational fishing

- 9.7.10 Sea fishing is a popular recreational activity, which occurs from many different platforms including from shore, kayak, personal boat, and charter vessels. In the UK, recreational sea fishing is usually synonymous with angling. Angling pertains to fishing with lines, and within the UK, angling is almost entirely by line with rod and reel (MMO, 2024). Recreational sea fishing from the shoreline and by charter vessel occurs year-round; typically, fishing intensity changes throughout the seasons based on weather and sea conditions, local behaviour of target species, and tourism patterns. The MMO found that in terms of overall number of trips, there was a maximum in summer and a minimum in winter (summer, 61%; winter, 39%) (MMO, 2020). Based on the MMO data portal, the majority of the Offshore Scheme is covered by low to medium intensity recreational fishing (MMO, 2024).
- 9.7.11 Recreational fishing boat operators such as Ramsgate Fishing Charters and Kent Sea Fishing Trips are known to operate out of Ramsgate and are thought to run all year round and offer seabass *Dicentrarchus labrax*, Atlantic cod *Gadus morhu*, skate Rajidae sp. and European plaice *Pleuronectes platessa* fishing.

Other recreational activities

- 9.7.12 Other recreational activities in the marine environment may take place sporadically along the south east coast of England.
- 9.7.13 Due to the sporadic and largely unregulated nature of recreational activities, it is difficult to predict the exact nature and extent of each receptor. On this basis, a selection of notable examples is included below – this is intended to provide a high-level characterisation and is not intended to be an exhaustive list:
- **Scuba diving:** There is no ‘limit’ to the seaward extent of scuba diving however generally, dive sites are typically no more than 10 km to 15 km from the shore (i.e., day-trip diving). The conditions of the North Sea mean that there is generally a tendency for inshore diving or diving within and around sheltered inshore features. This is also driven by the fact that these are typically the locations where more reef, flora, fauna and wreck features can be found. There were no PADI scuba diving sites located within the study area (PADI, 2024). The BSAC (British Sub-Aqua Club) Canterbury Sub Aqua Club which dives off Goodwin Sands, is located just inside the Study Area (PADI, 2024; BSAC, 2024). Other dive clubs include Medway Sub Aqua Club, North West Kent BSAC, Southend on Sea Sub Aqua Club, Swale Divers, and Thanet Sub Aqua Club running diver trips around the Kent coast. Walpole tidal pool located on the Margate coast is often used for diving and snorkelling. The BSAC Lowestoft Sub Aqua Club also dive along the east coast (BSAC, 2024) but is located outside the Study Area.
 - **Surfing and paddleboarding:** There are six surfing and potential paddle boarding beaches located close to the Kent landfall: these are Herne Bay, Main Sands (Margate and Ramsgate), Joss Bay, Broadstairs – Viking Bay, Ramsgate Main

Beach, Westcliff Promenade and Sandwich Bay (Surflife, 2024). No surfing or paddleboarding beaches are located within proximity to the Suffolk Landfall.

- **Bathing waters:** There have been 17 bathing waters identified in the study area: Herne Bay Central, Herne Bay, Minnis Bay (Birchington), West Bay (Westgate), St Mildred's Bay (Westgate), Westbrook Bay (Margate), Margate The Bay, Margate Fulsam Rock, Walpole Bay (Margate), Botany Bay (Broadstairs), Joss Bay (Broadstairs), Broadstairs (Stone Bay), Broadstairs (Viking Bay), Ramsgate Bay, Ramsgate Western Undercliffe, Sandwich Bay, and Deal Castle (Environment Agency, 2021). Bathing waters at Pegwell Bay are generally classified as good (Environment Agency, 2024). No bathing waters are located within proximity to the Suffolk Landfall.

Offshore Infrastructure

- 9.7.14 In addition to marine tourism and recreation sea users, the following potential other users of the sea have been reviewed within the Study Area. (**Figure 6.4.4.9.3 Offshore Infrastructure in the Study Area presents the offshore infrastructure**).

Offshore wind and tidal projects

- 9.7.15 There are several offshore windfarms, with export cables, located in the Study Area. Those that are active and in operation include:
- London Array offshore windfarm, covers an area of 122.5 km², lying 1.2 km to the west of the Offshore Scheme boundary. This also includes the Blue Transmission London Array export cable, approximately 8.3 km from the Offshore Scheme boundary. This windfarm export cable does not cross the Offshore Scheme boundary.
 - Thanet offshore windfarm, covers an area of 35 km² and sits approximately 0.6 km from the Offshore Scheme boundary. This also includes the Thanet Offshore Transmission Owner (OFTO) export cable which intersects the Offshore Scheme Scheme on approach to the Kent Landfall.
 - Greater Gabbard offshore windfarm located 6.4 km east from Offshore Scheme, which consists of two sites covering a total area of 146 km². This windfarm export cable does not cross the Offshore Scheme.
 - East Anglia One Transmission Asset export cable agreement, which intersects the Offshore Scheme. This project is constructed. The East Anglia One northern export cable corridor crosses the Offshore Scheme at KP 13.373 and southern corridor at KP 13.769.
- 9.7.16 There are also several offshore windfarms located in and/or intersecting the study area which are either in the pre-planning application stage, consented or under construction. These include:
- East Anglia Two Offshore Windfarm which is consented, covering an area of 255.6 km². The East Anglia Two Transmission Asset export cable agreement is also consented and is located approximately 0.36 km to the north east of Offshore Scheme boundary. This export cable agreement also forms part of the EA1N Transmission Asset export cable agreement to a site that falls outside of the study area.

- East Anglia Three Transmission Asset export cable agreement, which intersects the Offshore Scheme. This project is consented and currently under construction. The East Anglia THREE northern export cable corridor crosses the Offshore Scheme at KP 11.354 and southern corridor at KP 14.482.
- North Falls Offshore wind site extension agreement which borders the Greater Gabbard wind site agreement to the west of the Offshore Scheme. This is in the pre-planning application stage and is expected to cover 150.06 km². The proposed export cable route intersects with the Offshore Scheme boundary. The northern subsea export cable corridor crosses the Offshore Scheme approximately KP 52.012 and the southern corridor at KP 53.032.
- Five Estuaries wind site extension agreement which borders the Galloper wind site to the east. This is currently in the examination stage and is expected to cover an area of 148.7 km². The proposed export cable route intersects with the Offshore Scheme boundary. The Five Estuaries northern export cable crosses the Offshore Scheme at KP 50.181 and southern corridor at KP 52.719.

Mineral and aggregate extraction

- 9.7.17 The Crown Estate classifies aggregate areas as either, option areas, application areas, or production agreement areas. Option areas are those areas where the aggregate company has the right to apply for a licence and take exploratory samples to see if they want to apply for a licence. Application areas are those areas where the aggregate company has applied for or is in the process of applying for a licence. Production agreement areas are those areas where the aggregate company has a licence to extract aggregates. Within the licenced area an active dredge zone may be defined which is the area available to be dredged at any one time. While under normal circumstances this is defined by the limits of the licence, zoning schemes (introduced either as licence conditions or as voluntary initiatives by licensees) can significantly reduce this area. This means that while an area may have been approved for extraction as a licence area, some or all of the area may never be actively dredged.
- 9.7.18 There are a number of mineral and aggregate extraction areas located within the Study Area. Although these areas do not overlap with the Offshore Scheme, three are located within 1 km (see Table 9.11).

Table 9.11 Mineral and aggregate extraction locations within the Study Area

Company	Name	Type	Distance
Hanson Aggregates Marine Ltd	Outer OTE (528/2)	Aggregate exploration and option area	<1 km
Britania Aggregates Ltd	Longsand (508)	Aggregate production agreement area	1.2 km
CEMEX UK Marine Ltd	Longsand (510/1-2)	Aggregate production agreement area	<1 km
Dover Harbour Board	Goodwin sands	Aggregate production agreement area	9 km

Company	Name	Type	Distance
CEMEX UK Marine Ltd	Shipwash (507/1-6)	Aggregate production agreement area	<1 km

Dredging and disposal sites

- 9.7.19 Dredging represents an essential activity in ensuring efficient functioning of ports, harbours, and marinas. Maintenance dredging ensures continued navigational access to ports and harbours, while capital dredging enables new activities to proceed by creating new, deeper, and wider channels, and berths. Dredged material comprising marine sediment (mainly sand, silt, and clays) dredged from dock sites and navigation channels may be disposed at sea.
- 9.7.20 Several navigational dredging sites have been identified in the Study Area, including Harwich Haven navigation channel, Pegwell Bay, North West Shipwash dredging site, the London Gateway Port navigation channel, the Inner Gabbard dredging area, Greater Gabbard dredging area and Project 8 Windserver dredging area (MMO, 2024).
- 9.7.21 Several licensed disposal sites have also been identified in the study area, including the Inner Gabbard (1.2 km from the Offshore Scheme), Inner Gabbard East disposal site (5.1 km from the Offshore Scheme), EA One Route EC-3 disposal area (0.6 km from the Offshore Scheme) and Harwich Haven disposal site (<0.1 km from the Offshore Scheme). A number of closed and disused disposal sites have also been identified within the Study Area (Marine Management Organisation, 2014).

Military practice and exercise areas

- 9.7.22 Five military practice areas, specifically Navy Practice and Exercise Areas (PEXAs) for surface fleet, have been identified in the Study Area; Outer Gabbard, Gunfleet, Kentish Knock, X5122 and X5123. Only one of these zones (Kentish Knock) intersects the Offshore Scheme, covering an area of approximately 0.4 km².
- 9.7.23 A historical munitions disposal site (East Swin) has also been identified as present in the Study Area. This site is a disused designated explosives dumping ground located in the eastern part of the Gunfleet (X5118) PEXA and over 5 km from the Offshore Scheme boundary.
- 9.7.24 As outlined in **Application Document 6.2.1.4 Part 1 Introduction Chapter 4 Description of the Proposed Project**, the unexploded ordnance (UXO) risk was assessed as High and Medium risk throughout the Offshore Scheme.

Pipeline and subsea cables

- 9.7.25 The Offshore Scheme will cross a number of active, planned and out of service cables. Active cables include Nemo link and BritNed submarine power cables, Thanet Offshore Windfarm export cable, East Anglia One export cable and a number of subsea telecommunications cables. Another cable that crosses the Offshore Scheme and is currently under construction is the Neuconnect interconnector. In addition, a number of proposed projects will likely involve a crossing with the Offshore Scheme including Gridlink power cable and the export cables of the proposed East Anglia Three Offshore windfarms and North Falls and Five Estuaries offshore windfarms, as well as a number of proposed, in-service and out of service subsea telecommunications cables.

- 9.7.26 A list of current in-service and planned cables for the Proposed Project is presented in Table 9.12, along with approximate crossing locations where available.
- 9.7.27 No existing or known planned pipelines are present across the Offshore Scheme.

Table 9.12 Potential cable crossings within the Study Area

In-service crossings				
KP	Name	Owner	Type	Status
8.365	Farland (North)	BT	FO Cable	In service
13.373	EA1_N	Scottish Power Renewables	Power	In service
13.769	EA1_S	Scottish Power Renewables	Power	In service
87.306	Britned	BritNed	Power	In service
90.74	Mercator	BT	FO Cable	In service
104.591	PEC	Lumen	FO Cable	In service
106.747	Tangerine	Lumen	FO Cable	In service
107.594	Thanet_N	Balfour Beatty	Power	In service - offshore (northern cable)
107.647	Thanet_S	Balfour Beatty	Power	In service- offshore (southern cable)
113.106	Nemo_Off	Nemo Link	Power	In service – offshore
120.86	Nemo_Onshore_1	Nemo Link	Power	In service – onshore cable #1
120.861	Nemo_Onshore_2	Nemo Link	Power	In service – onshore cable#2
120.885	Thanet Onshore	Balfour Beatty	Power	In service - onshore
Future developments				
KP	Name	Owner	Type	Status
11.354	EA3_N_Corr	Scottish Power Renewables	Power	Planned Corridor (northern limit)
14.482	EA3_S_Corr	Scottish Power Renewables	Power	Planned Corridor (southern limit)
50.181	FiveEstuaries_N_Corr	RWE	Power	Planned Corridor (northern limit)
50.672	NeuConnectRPLRev6	Neuconnect	Power	Planned Route
52.012	NorthFalls_N_Corr	SSE/RWE	Power	Planned Corridor (northern limit)
52.719	FiveEstuaries_S_Corr	RWE	Power	Planned Corridor (southern limit)
53.032	NorthFalls_S_Corr	SSE/RWE	Power	Planned Corridor (southern limit)
88.646*	Nautilus_Opt1	NGV	Power	Planned

In-service crossings

KP	Name	Owner	Type	Status
100.151	Q&E North	Consortium	FO Cable	To be installed 2024/2025
101.27	Grid Link	Icon	Power	Planned
Unknown	Cronos Interconnector	Cronos Energy Ltd	Power	Early phase
Unknown	Tarchon Interconnector	Tarchon Energy Ltd	Power	Early phase

* Based on current knowledge

Aquaculture

- 9.7.28 The Study Area is intersected by the Outer Thames shellfish waters (CEFAS, 2016), however, the Offshore Scheme boundary does not intersect this shellfish water boundary and is located over 5 km from the water boundary. The East Inshore Marine Plan and South East Inshore Marine Plan recognise aquaculture as a key area for development through its potential to contribute to the sustainability and security of the UK food supply which, in turn, may encourage growth in small and medium enterprises supporting the industry.
- 9.7.29 A study published in 2019 (MMO, 2019) identified areas of aquaculture potential in English waters and defined strategic areas of sustainable aquaculture production, many of which are crossed by the Study Area, and which may provide a future potential source of employment in deprived or peripheral areas, or those with a limited numbers of alternative employment options. It is seen as an industry where development could occur particularly at local levels (DEFRA, 2021). In this context, the plan defines strategic areas of sustainable aquaculture production, many of which will be intersected by the Study Area.

Other Energy Infrastructure

- 9.7.30 Sizewell C Ltd (SZC) is a new nuclear power station that is currently under construction following the grant of a Development Consent Order (DCO) in July 2022. Sizewell C is located approximately 5 km north of the Suffolk landfall location and is therefore within the 10 km OSU Study Area (**Figure 6.4.4.9.1 Other Sea Users Study Area**).
- 9.7.31 Construction of SZC will likely overlap temporally with the Proposed Project. Offshore works consented under the SZC DCO include:
- Permanent Beach Landing Facility
 - Temporary Marine Bulk Import Facility
 - Cooling Water Tunnels
 - Desalination Intake and Outfall Pipes
 - Fish Recovery and Return Systems
 - Combined Drainage Outfall
 - Dredge and Disposal Activities
- 9.7.32 All of Sizewell C's offshore works fall within the jurisdictional boundary of the Sizewell C Harbour Authority Area (**Figure 6.4.4.9.1 Other Sea Users Study Area**), the boundary

of which lies approximately 3.5 km north of the Offshore Scheme Boundary at its closest point at KP1 which was consented to facilitate the safe delivery of construction materials to site and ensure safe construction of the offshore element.

Future Baseline

- 9.7.33 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires that “*an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*” is included.
- 9.7.34 All sectors of the UK economy will be affected by the UK’s 2050 Net Zero target. North Sea industries have traditionally emitted high amounts of greenhouse gases, including from oil and gas production and from the industrial clusters along the North Sea coastline. As UK carbon emissions continue to fall, these industries must also decarbonise. New North Sea industries are expected to flourish under Net Zero, including offshore wind, carbon capture, utilisation, and Storage (CCUS), hydrogen, electricity interconnectors and low-carbon manufacturing (Nicolle, McAleenan, & Birkett, 2020).
- 9.7.35 UK offshore wind is expected to double in capacity by 2025 and to quadruple by 2030, in line with the government’s 2019 Manifesto commitment to 40 GW (recently updated to 50GW as per 2022 British energy security strategy) of offshore wind installed by 2030. The majority of this growth is expected to be in the North Sea. By 2050, the North Sea could be home to up to 100 GW of offshore wind, a fifteenfold increase compared to today’s capacity, and offshore wind could generate half of the UK’s electricity (Nicolle, McAleenan, & Birkett, 2020).
- 9.7.36 Bioenergy with Carbon Capture and Storage (BECCS) is expected to play a growing role in the UK’s Net Zero economy, providing ‘negative emissions’ to offset remaining greenhouse gas emissions in harder to decarbonise sectors such as aviation and industry (Nicolle, McAleenan, & Birkett, 2020).
- 9.7.37 The North Sea will be critical in the production of low-carbon hydrogen, due to the availability of low-carbon electricity to produce green hydrogen and the availability of natural gas and CCS required to produce blue hydrogen.
- 9.7.38 The North Sea oil and gas industry will be smaller in 2050 than it is today, with production possibly only one-third of current levels (Nicolle, McAleenan, & Birkett, 2020).

9.8 Proposed Project Design and Embedded Mitigation

- 9.8.1 The Proposed Project has been designed, as far as possible, following the mitigation hierarchy in order to, in the first instance, avoid or minimise other sea user impacts and effects through the process of design development, and by embedding measures into the design of the Proposed Project.
- 9.8.2 As set out in **Application Document 6.2.1.5 Part 1 Introduction Chapter 5 EIA Approach and Methodology**, mitigation measures typically fall into one of the three categories: embedded measures; control and management measures; and mitigation measures.

Embedded Measures

- 9.8.3 Embedded measures have been integral in reducing the other sea user effects of the Proposed Project. Measures that have been incorporated are:
- Sensitive routing and siting of infrastructure and temporary works; and
 - Commitments made within **Application Document 7.5.3.2 Appendix B Register of Environmental Actions and Commitments**.

Control and Management Measures

- 9.8.4 The following measures have been included within **Application Document 7.5.3.1 Appendix A Outline Code of Construction Practice** relevant to the control and management of impacts that could affect other sea user receptors:
- OSU01 - crossing and/or proximity agreements will be agreed with aggregate extraction, cable and pipeline owners. The crossing agreement describes the rights and responsibilities of the parties and also the design of the crossing. Crossing design will be in line with industry standards, using procedures and techniques agreed with the cable and pipeline owners.
 - OSU02 - timely and efficient communication will be given to sea users in the area via Notices to Mariners (NtM), Kingfisher Bulletins, Navigational Telex (NAVTEX), and Navigational Areas (NAVAREA) warnings.

9.9 Assessment of Impacts and Likely Significant Effects

- 9.9.1 The assessment of the effects of the Offshore Scheme on other sea user receptors described in this section considers the embedded, control and management measures described in section 10.8.

Table 9.13 Summary of impact pathways and maximum design scenario

Potential Impact	Maximum Design Scenario
Construction	
Installation of infrastructure	Length of Offshore Scheme – Up to 122 km.
Physical presence of vessels	Number of cables – Two HVDC, One Fibre Optic (bundled).
Visual intrusion and noise	Number of trenches – One.
Pre-clearance and pre-sweeping of seabed	Offshore and landfall working hours will be continuous (24 / 7). Vessel transit speeds – 4 knots to 12 knots. Vessel operational speeds – 0 km to 7 km per day. Number of crossings - 10 marine in-service power and fibre optic with 9 known

Potential Impact	Maximum Design Scenario
	developments also likely to cross the Offshore Scheme. Construction works would be expected to start in 2026 and be functionally completed by the end of 2031.
Operation & Maintenance	
Physical presence of vessels	The Offshore Scheme is designed for a lifespan of approximately 40-60 years. The cable system installation is designed such that a regular maintenance regime is not required to maintain the integrity of the link.
Occupancy of the seabed	
Visual intrusion and noise	
Decommissioning	
Removal of infrastructure	Offshore and landfall working hours will be continuous (24/7). An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation. Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in its entirety, or in parts), or left in-situ.
Physical presence of vessels	
Visual intrusion and noise	
Pre-clearance and pre-sweeping of seabed	

Construction Phase

Installation of infrastructure

Marine tourism and recreation

- 9.9.2 The installation of infrastructure could interfere and/or displace other sea users from marine tourism and recreation. During construction, the preference is for the HVDC cable to be buried as far as possible. The minimum depth of lowering to the top of the cable is 0.5 m, with the target depth of lowering for the Proposed Project being 1 m to 2.5 m depending on seabed conditions. Where burial cannot be achieved, rock backfill (placement of rock in the cable trench up to or below seabed level) or external protection (e.g. rock berms) may be required where the soil or rock conditions are too hard to achieve effective burial, or third-party assets cross the route. Expected areas of rock backfill are located between KP 38 to KP 58, and KP 81.5 to KP 96.5. Indicative contingency for remedial rock protection is 15% of non-high-risk length. Where cable crossings are required in these areas, these will be designed in consultation with key shipping and navigation stakeholders to avoid, where possible, any potential reductions in current and future navigable water depths. An assessment of potential impacts of cable protection and cable crossings on shipping and navigation receptors is provided in **Application Document 6.2.4.7 (B) Part 4 Marine Chapter 7 Shipping and**

Navigation and Application Document 6.3.4.7.A (B) ES Appendix 4.7.A

Navigational Risk Assessment submitted at Deadline 1. Although works during construction may temporarily disrupt activities at both landfalls and nearshore for the short term, sailors will be able to use other areas in close proximity until the construction programme is finished. Communications with other vessels in the area will be maintained throughout construction, maintenance and decommissioning, and the works will be notified under Notice(s) to Mariners.

- 9.9.3 The impact of infrastructure installation on marine tourism and recreation, which is of negligible to low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Offshore wind and tidal

- 9.9.4 The installation of infrastructure could interfere/displace windfarm operations. The Proposed Project does not intersect any windfarm arrays with the closest being approximately 0.6 km from the Offshore Scheme boundary. Crossing infrastructure will be required where the Offshore Scheme crossed existing offshore windfarm infrastructure or those which are planned where construction coincides with the Offshore Scheme.
- 9.9.5 Crossing agreements will be agreed with asset owners prior to construction. Crossing designs will be in line with industry standards, using procedures and techniques agreed with the cable owners.
- 9.9.6 Proximity agreements will be required in order to manage risks including a necessary mitigation and controls including the application of exclusion zones.
- 9.9.7 Any unplanned interaction causing damage to windfarm infrastructure would potentially compromise the intended purpose of the cable, resulting in major financial consequences for the company.
- 9.9.8 The impact of infrastructure installation on offshore wind and tidal, which is of high sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.
- 9.9.9 The risk of damage to windfarm asset occurring from the installation of infrastructure is considered unlikely with the appropriate embedded mitigation and control and management measures in place to reduce risk to windfarm assets as much as reasonably practical.

Mineral and aggregate extraction

- 9.9.10 Three mineral and aggregate extraction areas are located within 1 km of the Offshore Scheme. All sites are located a minimum distance of 100 m from the Offshore Scheme. Once installed, a working zone may be required either side of the submarine cables to enable access for cable maintenance and repair operations. According to subsea cable guidance, the working zone is 500m either side of the existing subsea cable, although this may vary depending on the site (International Cable Protection Committee (ICPC), 2013).
- 9.9.11 Construction activities will be short term. Crossing and proximity agreements will be agreed with asset owners as required. Proximity agreements are required in order to manage risks including necessary mitigation and controls including the application of exclusion zones.

- 9.9.12 The impact of infrastructure installation on mineral and aggregate extraction, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.13 Several licensed and navigational disposal sites have also been identified in the study area. If operations of the Offshore Scheme were to coincide with dredging and disposal activities, impacts could include temporary restrictions to dredging and disposal vessels as they manoeuvre to and from the disposal site. Dredging and disposal site users are however considered to have high tolerance for change and are likely to adapt to short term disturbance. Any construction, activities from the Proposed Project will be temporary, with any restrictions to commercial operations short term.
- 9.9.14 The impact of infrastructure installation on dredge and disposal sites, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Military practice and exercise areas

- 9.9.15 The installation of infrastructure is unlikely to displace military operations. During construction, the preference is for the HVDC cable to be buried as far as possible. The minimum depth of lowering to the top of the cable is 0.5 m, with the target depth of lowering for the Proposed Project being 1 m to 2.5 m depending on seabed conditions. Where burial cannot be achieved, rock backfill or external protection may be required where the soil or rock conditions are too hard to achieve effective burial, or third-party assets cross the route. Expected areas of rock backfill are located between KP 38 to KP 58, and KP 81.5 to KP 96.5. Indicative contingency for remedial rock protection is 15% of non-high-risk length.
- 9.9.16 Once installed, a working zone may be required either side of the submarine cables to enable access for cable maintenance and repair operations. According to subsea cable guidance, the working zone is 500m on either side of the existing subsea cable, although this may vary depending on the site (International Cable Protection Committee (ICPC), 2013).
- 9.9.17 The MOD will be notified prior to any activities taking place in military practice and exercise areas. Given any safety zones around vessels will move at the rate of the associated vessels, any disruption will be localised and short term. The installation of infrastructure may disrupt activities temporarily, but the tolerance for change is high.
- 9.9.18 The impact of infrastructure installation on military practice and exercise areas, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Subsea cables

- 9.9.19 Crossing infrastructure will be required where the Offshore Scheme crossed existing subsea cable infrastructure or those which are planned where construction coincides with the Offshore Scheme.
- 9.9.20 Crossing agreements will be agreed with asset owners prior to construction. Crossing designs will be in line with industry standards, using procedures and techniques agreed with the cable owners.

- 9.9.21 Proximity agreements will be required in order to manage risks including a necessary mitigation and controls including the application of exclusion zones.
- 9.9.22 Any unplanned interaction causing damage to cable infrastructure would potentially compromise the intended purpose of the cable, resulting in major financial consequences for the company.
- 9.9.23 The impact of infrastructure installation on subsea cables, which is of high sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.
- 9.9.24 The risk of damage to subsea cables occurring from the installation/removal of infrastructure is considered unlikely with the appropriate embedded mitigation and control and management measures in place to reduce risk to subsea cables as much as reasonably practical.

Aquaculture

- 9.9.25 The Study Area is intersected by the Outer Thames shellfish waters; however, the Offshore Scheme boundary does not intersect this shellfish water boundary and is located over 5 km from the water boundary.
- 9.9.26 The impact of infrastructure installation on aquaculture, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor / negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.27 There is limited potential for any interactions between the Proposed Project and Sizewell C during the installation of infrastructure due to the distance between the Offshore Scheme Boundary and the Sizewell C Harbour Authority Area (approx. 3.5 km north at the closest point).
- 9.9.28 The recommended working area during cable installation is 500 m either side of the cable, although this may vary depending on the site (International Cable Protection Committee (ICPC), 2013). However, taking this into account and that the distance between the Offshore Scheme Boundary and Sizewell C increases with distance from KP1, there will still be a minimum separation distance of 3 km between the Offshore Scheme Boundary and the Sizewell C Harbour Authority Area at all times.
- 9.9.29 There is potential for cable installation activities (creation of berms and other seabed disturbance) and the installation of cable protection and cable crossings to reduce under keel clearance along the Offshore Scheme for vessels transiting to and from Sizewell C. However, as set out in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation** and **Application Document 6.3.4.7.A (B) ES Appendix 4.7.A Navigational Risk Assessment**, submitted at Deadline 1, the Proposed Project is committed to minimising any reductions in under-keel clearance along the Offshore Scheme where possible by achieving a minimum Depth of Lowering (DOL) of 0.5 m (e.g. in areas of bedrock) and a target DOL of approximately 1 m to 2.5 m.
- 9.9.30 In line with MCA guidance, where cable protection and cable crossings are required it is not planned to reduce the existing navigable water depth by more than 5% along any section of the cable (with respect to Chart Datum). It is therefore expected that under-keel clearance will only be reduced at a very small number of locations, which are anticipated to be located close into shore. Other mitigations such as post-lay survey and

provision of the as-built locations of cable and external protection to UKHO and KIS-ORCA increase awareness of the locations for all vessels and minimise the risk substantially.

- 9.9.31 It can therefore be concluded that, although Sizewell C is of medium sensitivity, any impact would be small therefore overall effect significance would be minor, which is considered to be not significant.

Physical presence of vessels

Marine tourism and recreation

- 9.9.32 Additional presence of project vessels could interfere with and provide obstacles in an area which is already characterised with high density vessel traffic. Although works during construction may temporarily disrupt activities at both landfalls and nearshore for the short term, sailors will be able to use other areas in close proximity. Communications with other vessels in the area will be maintained throughout construction, maintenance and decommissioning, and the works will be notified under Notices to Mariners. Recreational boaters will also be advised of the timing and location of works in the nearshore / inter-tidal area.
- 9.9.33 There is a potential for boaters to temporarily lose access to certain fishing areas they would normally travel through for recreational purposes during construction, maintenance, and decommissioning. However, they would be able to use other areas in close proximity. Angling clubs and sea fishing boat operators will be sent Notice(s) to Mariners via the local harbours. Shore based recreational anglers will also be advised to the timing and location of works.
- 9.9.34 There is risk of project vessels colliding with recreational vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.35 The impact of vessel presence on marine tourism and recreation, which is of negligible to low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Offshore wind and tidal

- 9.9.36 Should vessels associated with the Offshore Scheme be working in the same areas as other vessels working on existing assets, or those under installation, or assets associated with offshore wind farms, a proximity agreement would be agreed with the asset owner to ensure that simultaneous operations (SIMOPS) could be undertaken to manage risks between vessels and activities.
- 9.9.37 Proximity agreements will be required in order to manage risks including a necessary mitigation and controls including the application of exclusion zones. Any direct impacts will be spatially limited and of short-term duration and ongoing collaboration would be informed by appropriate industry guidance. Any impacts will be of local extent, short-term duration, and are reversible, representing only a very slight change from baseline conditions.
- 9.9.38 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.

- 9.9.39 The impact of vessel presence on offshore wind and tidal, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor / negligible** effect, which is considered to be not significant.

Mineral and aggregate extraction

- 9.9.40 Three mineral and aggregate extraction areas are located within 1 km of the Offshore Scheme. Should these sites be operational at the time of construction there is the potential for increased vessel presence in these areas. Minor vessel routing changes may be required due to increased vessel movements and the presence of any safety zones.
- 9.9.41 Any disturbance from the physical presence of vessels will be temporary, with any restrictions to commercial operations short term and representing only a very slight change from baseline conditions. This will also be minimized through the advanced warning of construction works through timely communications.
- 9.9.42 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.43 The impact of vessel presence on mineral and aggregate extraction, which is of medium sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.44 If operations of the Offshore Scheme were to coincide with dredging and disposal activities, impacts could include temporary restrictions to dredging and disposal vessels as they manoeuvre to and from the disposal site. Dredging and disposal site users are however considered to have high tolerance for change and are likely to adapt to short term disturbance.
- 9.9.45 Minor vessel routing changes may be required due to increase vessel movements and the presence of any safety zones. Any disturbance from the physical presence of vessels will be temporary, with any restrictions to commercial operations short term and representing only a very slight change from baseline conditions. This will also be minimized through the advanced warning of construction works through timely communications.
- 9.9.46 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.47 The impact of vessel presence on dredge and disposal sites, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in a **negligible** effect, which is considered to be not significant.

Military practice and exercise areas

- 9.9.48 Any safety zones around installation vessels have the potential to disrupt planned MOD activities within military practice and exercise areas. Only one military practice and exercise area (Kentish Knock) intersects the Offshore Scheme boundary for 0.4 km².

- 9.9.49 The MOD will be notified prior to any activities taking place in military practice and exercise areas. Given any safety zones around vessels move at the rate of the associated vessels, any disruption will be localised and short term, representing only a slight increase from baseline conditions. Vessels may disrupt activities temporarily, but the tolerance for change is high.
- 9.9.50 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.51 The impact of vessel presence on military practice and exercise areas, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Aquaculture

- 9.9.52 The Study Area is intersected by the Outer Thames shellfish waters; however, the Offshore Scheme boundary does not intersect this shellfish water boundary and is located over 5 km from the water boundary.
- 9.9.53 The impact of vessel presence on aquaculture, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.54 There is potential for vessels transiting to Sizewell C to interact with vessels working on the Offshore Scheme. Consequently, there may be a requirement for SZC vessels to temporarily re-route to avoid Sea Link construction vessels. This could cause disruption to Sizewell C construction activities. However, installation activities associated with the Offshore Scheme will be transient and short-term within any given location, meaning there will be no extended disruption and no requirement for permanent changes to Sizewell C vessel routes.
- 9.9.55 Risks of collisions between vessels working on the Offshore Scheme and other third party vessels including vessels involved in the construction of Sizewell C, are assessed in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation** and **Application Document 6.3.4.7.A (B) ES Appendix 4.7.A Navigational Risk Assessment**, submitted at Deadline 1. These documents also set out a series of mitigation measures that will be implemented to minimise potential disruption and interactions with other third party vessels. These measures include continuous engagement with all vessel operations, ports and harbours in the study area including Sizewell C, implementation of a 500 m Recommended Restricted Zone (RRZ) around construction vessels including Restricted Ability to Manoeuvre (RAM) vessels, Kingfisher bulletins, Notices to Mariners (NtMs) and Radio Navigation Warnings (NAVTEX), vessel markings, temporary Aids to Navigation around installation areas and use of guard vessels. The Proposed Project will also prepare a Navigational Installation Plan (NIP) which will set out all communications protocols with developments (including Sizewell C) and other navigation stakeholders.
- 9.9.56 Although Sizewell C is of medium sensitivity given its status as Nationally Significant Infrastructure, taking into account the transient and short-term nature of cable installation activities, and the range of mitigation measures that will be implemented to minimise potential interactions with and disruptions to other third party vessels including

Sizewell C construction vessels, the magnitude of any impacts resulting from the physical presence of vessels will be small. The likely significance of this effect would be minor which is considered to be not significant.

Visual intrusion and noise

Marine tourism and recreation

- 9.9.57 It is not considered likely that visual intrusion and noise will deter recreational boating and fishing during construction. Any visual intrusion and noise from the Proposed Project from vessels will be temporary and short term. Sailors will be able to use other areas in close proximity. Furthermore, trenchless installation techniques are committed to at both landfall locations in order to reduce this disturbance.
- 9.9.58 Communications with other vessels in the area will be maintained throughout construction, maintenance and decommissioning, and the works will be notified under Notices to Mariners. Recreational boaters will also be advised to the timing and location of works.
- 9.9.59 The impact of visual intrusion and noise and on marine tourism and recreation, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in a **negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.60 Given the distance between the Offshore Scheme and Sizewell C (approximately 5 km at closest point) there is no potential for any visual intrusion or noise interaction between the two projects during construction. Although Sizewell C is of medium sensitivity, due to the lack of any potential impact pathway it can be concluded that there will be no impact on Sizewell C.

Pre-clearance and pre-sweeping of seabed

Marine tourism and recreation

- 9.9.61 The clearance and sweeping of the seabed in preparation for cable laying/removal will require the presence of specialist equipment, which may interfere with the operation of other sea users.
- 9.9.62 The maximum swathe for pre-sweeping activities is 10 m–20 m for a distance of 17.563 between KP96.32 to KP113.883. The maximum swathe for pre-lay grapnel runs is 1-3 m per cable trench for a distance of 120 m.
- 9.9.63 Although works during construction and decommissioning may temporarily disrupt offshore activities for the short term, sailors will be able to use other areas in close proximity. Communications with other vessels in the area will be maintained throughout construction, maintenance and decommissioning, and the works will be notified under Notices to Mariners.
- 9.9.64 There is a potential for boaters to temporarily lose access to certain fishing areas they would normally travel through for recreational purposes during construction, maintenance, and decommissioning. However, anglers would be able to use other

areas in close proximity. Angling clubs and sea fishing boat operators will be sent Notice(s) to Mariners

- 9.9.65 The impact of pre-clearance and pre-sweeping on marine tourism and recreation, which is of negligible to low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Offshore wind and tidal

- 9.9.66 The clearance and sweeping of the seabed in preparation for cable laying/removal will require the presence of specialist equipment, which may interfere with the operation of windfarms. The maximum swathe for pre-clearance and pre-sweeping activities is 10 m–20 m.
- 9.9.67 Temporary increases to suspended sediment concentration could potentially result in increased sediment deposition on assets. This could lead to cable over-burial, which can compromise the power carrying capacity of the cable and potentially lead to damage due to overheating.
- 9.9.68 Should the potential for works associated with the Offshore Scheme coincide with other vessels working on existing assets, or those under installation, for assets associated with offshore wind farms be identified, a proximity agreement would be agreed with the asset owner to ensure that simultaneous operations (SIMOPS) could be undertaken to manage risks between vessels and activities.
- 9.9.69 Proximity agreements will be required in order to manage risks including a necessary mitigation and controls including the application of exclusion zones.
- 9.9.70 Any impacts from suspended sediment will be spatially limited, of short-term duration, intermittent, and reversible. Only a slight change from baseline conditions is expected.
- 9.9.71 A detailed UXO survey; including use of multiple gradiometers, remote underwater vehicle inspections combined with high resolution multi-beam echosounder, is planned to be carried out to better detect and define potential UXOs and to enable rerouting away from targets throughout the route. Micro-routeing around isolated targets will be undertaken, with a closest point of approach to the target identified, based on the eventual installation methodology.
- 9.9.72 Whilst avoidance will be the preferred approach, if UXO clearance is necessary, the activity will be undertaken in accordance with approved industry practices for removal and disposal / waste management of ordnance. This may include detonating UXO in place or lifting and relocating to a designated storage or demolition area, for safe disposal.
- 9.9.73 Ongoing collaboration would be informed by appropriate industry guidance.
- 9.9.74 The impact of pre-clearance and pre-sweeping on offshore wind and tidal, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor / negligible** effect, which is considered to be not significant.

Mineral and aggregate extraction

- 9.9.75 The clearance and sweeping of the seabed in preparation for cable laying/removal will require the presence of specialist equipment, which may interfere with the mineral and aggregate extraction operations. The maximum swathe for pre-clearance and pre-sweeping activities is 10 m–20 m.

- 9.9.76 Although three mineral and aggregate extraction areas are located within 1 km of the Offshore Scheme boundary, they do not overlap. All sites are located a minimum distance of 100 m from the Offshore Scheme boundary.
- 9.9.77 Any changes to the seabed composition and bathymetry from construction activities resulting from suspended sediment and associated deposition will be spatially limited and short-term. Only a slight change from baseline conditions is expected.
- 9.9.78 The impact of pre-clearance and pre-sweeping activities on mineral and aggregate extraction, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.79 The clearance and sweeping of the seabed in preparation for cable laying/removal will require the presence of specialist equipment, which may interfere with the mineral and aggregate extraction operations. The maximum swathe for pre-clearance and pre-sweeping activities is 10 m–20 m.
- 9.9.80 If operations of the Offshore Scheme were to coincide with dredging and disposal activities, impacts could include temporary restrictions to dredging and disposal vessels as they manoeuvre to and from the disposal site.
- 9.9.81 Any changes to the seabed composition and bathymetry from construction and decommissioning activities resulting from suspended sediment and associated deposition will be spatially limited and short-term. There is sufficient distance between the Offshore Scheme and disposal sites that any increases in bed levels will be immeasurable in practice.
- 9.9.82 The impact of pre-clearance and pre-sweeping on dredge and disposal sites, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in a **negligible** effect, which is considered to be not significant.

Military practice and exercise areas

- 9.9.83 Any safety zones around installation vessels have the potential to disrupt planned MOD activities within military practice and exercise areas. The maximum swathe for pre-clearance and pre-sweeping activities is 10 m–20 m.
- 9.9.84 Only one military practice and exercise area intersects the Offshore Scheme boundary for 0.4 km².
- 9.9.85 A detailed UXO survey; including use of multiple gradiometers, remote underwater vehicle inspections combined with high resolution multi-beam echosounder, is planned to be carried out to better detect and define potential UXOs and to enable rerouting away from targets throughout the route. Micro-routing around isolated targets will be undertaken, with a closest point of approach to the target identified, based on the eventual installation methodology.
- 9.9.86 Whilst avoidance will be the preferred approach, if UXO clearance is necessary, the activity will be undertaken in accordance with approved industry practices for removal and disposal / waste management of ordnance. This may include detonating UXO in place or lifting and relocating to a designated storage or demolition area, for safe disposal.

- 9.9.87 The MOD will be notified prior to any activities taking place in military practice and exercise areas. Given any safety zones around vessels will move at the rate of the associated vessels, any disruption will be localised and short term. Activities may disrupt activities temporarily, but the tolerance for change is high.
- 9.9.88 The impact of pre-clearance and pre-sweeping on military practice and exercise areas, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Aquaculture

- 9.9.89 The Study Area is intersected by the Outer Thames shellfish waters; however, the Offshore Scheme boundary does not intersect this shellfish water boundary and is located over 5 km from the water boundary.
- 9.9.90 The maximum swathe for pre-clearance and pre-sweeping activities is 10 m–20 m. Any changes to the seabed composition and bathymetry from construction and decommissioning activities resulting from suspended sediment and associated deposition will be spatially limited and short-term. There is sufficient distance between the Offshore Scheme and shellfish waters that any increases in bed levels will be immeasurable in practice.
- 9.9.91 The impact of pre-clearance and pre-sweeping on aquaculture, which is of medium sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.92 Sandwave clearance and pre-sweeping (seabed levelling) activities are unlikely to directly affect Sizewell C other than the potential for temporary and short term re-routing of Sizewell C construction vessels to avoid vessels involved in sandwave clearance and pre-sweeping activities. As discussed in the previous section in relation to vessel presence, sandwave clearance and pre-sweeping activities, and vessels involved in these activities, will be transient and short-term within any given location, meaning there will be no extended disruption and no requirement for permanent changes to Sizewell C vessel routes.
- 9.9.93 With the implementation of mitigation measures set out in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation** and **Application Document 6.3.4.7.A (B) ES Appendix 4.7.A Navigational Risk Assessment**, submitted at Deadline 1 and listed in Paragraph 9.9.95, potential effects on Sizewell C construction activities will be small. Although Sizewell C is of medium sensitivity (due to being Nationally Significant Infrastructure), overall effect significance is assessed as minor which is considered to be not significant.

Operation and Maintenance Phase

Physical presence of vessels

Marine tourism and recreation

- 9.9.94 The Offshore Scheme is designed for a lifespan of approximately 40-60 years. The cable system installation is designed such that a regular maintenance regime is not

required to maintain the integrity of the link. The number of vessels associated with the operation and maintenance of the cable is expected to be considerably lower than that for construction.

- 9.9.95 The main operation requirement is for regular monitoring surveys along the installed cable route, which use visual (GVI), where visibility and sensors allow, bathymetric and depth of lowering (cable tracker) data to compare against the baseline survey data. As the use of autonomous vehicles for non-intrusive surveys is adopted by the industry, the surveys may be carried out using a range of autonomous surface vehicles (ASVs) and / or autonomous underwater vehicles (AUVs) which reduce the size of any support vessel and allow frequent surveys to be undertaken over the continuous route, or sections of interest.
- 9.9.96 There is risk of project vessels colliding with recreational vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.97 The impact of vessel presence on marine tourism and recreation, which is of negligible to low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Offshore wind and tidal

- 9.9.98 The Offshore Scheme is designed for a lifespan of approximately 40-60 years. The cable system installation is designed such that a regular maintenance regime is not required to maintain the integrity of the link. The number of vessels associated with the operation and maintenance of the cable is expected to be considerably lower than that for construction.
- 9.9.99 The main operation requirement is for regular monitoring surveys along the installed cable route, which use visual (GVI), where visibility and sensors allow, bathymetric and depth of lowering (cable tracker) data to compare against the baseline survey data. As the use of autonomous vehicles for non-intrusive surveys is adopted by the industry, the surveys may be carried out using a range of ASVs and / or AUVs which reduce the size of any support vessel and allow frequent surveys to be undertaken over the continuous route, or sections of interest.
- 9.9.100 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.101 The impact of vessel presence on offshore wind and tidal, which is low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Mineral and aggregate extraction

- 9.9.102 The Offshore Scheme is designed for a lifespan of approximately 40-60 years. The cable system installation is designed such that a regular maintenance regime is not required to maintain the integrity of the link. The number of vessels associated with the operation and maintenance of the cable is expected to be considerably lower than that for construction.
- 9.9.103 The main operation requirement is for regular monitoring surveys along the installed cable route, which use visual (GVI), where visibility and sensors allow, bathymetric and

depth of lowering (cable tracker) data to compare against the baseline survey data. As the use of autonomous vehicles for non-intrusive surveys is adopted by the industry, the surveys may be carried out using a range of ASVs and / or AUVs which reduce the size of any support vessel and allow frequent surveys to be undertaken over the continuous route, or sections of interest.

- 9.9.104 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.105 The impact of vessel presence on mineral and aggregate extraction, which is of medium sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.106 The Offshore Scheme is designed for a lifespan of approximately 40-60 years. The cable system installation is designed such that a regular maintenance regime is not required to maintain the integrity of the link. The number of vessels associated with the operation and maintenance of the cable is expected to be considerably lower than that for construction.
- 9.9.107 The main operation requirement is for regular monitoring surveys along the installed cable route, which use visual (GVI), where visibility and sensors allow, bathymetric and depth of lowering (cable tracker) data to compare against the baseline survey data. As the use of autonomous vehicles for non-intrusive surveys is adopted by the industry, the surveys may be carried out using a range of ASVs and / or AUVs which reduce the size of any support vessel and allow frequent surveys to be undertaken over the continuous route, or sections of interest.
- 9.9.108 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.109 The impact of vessel presence on dredge and disposal, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in a **negligible** effect, which is considered to be not significant.

Military practice and exercise areas

- 9.9.110 The Offshore Scheme is designed for a lifespan of approximately 40-60 years. The cable system installation is designed such that a regular maintenance regime is not required to maintain the integrity of the link. The number of vessels associated with the operation and maintenance of the cable is expected to be considerably lower than that for construction.
- 9.9.111 The main operation requirement is for regular monitoring surveys along the installed cable route, which use visual (GVI), where visibility and sensors allow, bathymetric and depth of lowering (cable tracker) data to compare against the baseline survey data. As the use of autonomous vehicles for non-intrusive surveys is adopted by the industry, the surveys may be carried out using a range of ASVs and / or AUVs which reduce the size of any support vessel and allow frequent surveys to be undertaken over the continuous route, or sections of interest.

- 9.9.112 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.113 The impact of vessel presence on military practice and exercise areas, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Aquaculture

- 9.9.114 The Offshore Scheme is designed for a lifespan of approximately 40-60 years. The cable system installation is designed such that a regular maintenance regime is not required to maintain the integrity of the link. The number of vessels associated with the operation and maintenance of the cable is expected to be considerably lower than that for construction.
- 9.9.115 The main operation requirement is for regular monitoring surveys along the installed cable route, which use visual (GVI), where visibility and sensors allow, bathymetric and depth of lowering (cable tracker) data to compare against the baseline survey data. As the use of autonomous vehicles for non-intrusive surveys is adopted by the industry, the surveys may be carried out using a range of ASVs and / or AUVs which reduce the size of any support vessel and allow frequent surveys to be undertaken over the continuous route, or sections of interest.
- 9.9.116 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation**.
- 9.9.117 The impact of vessel presence on aquaculture, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.118 The Offshore Scheme is designed for a lifespan of approximately 40-60 years and is expected to commence operation before the construction of Sizewell C is complete. As a result, Sizewell C vessels may need to temporarily re-route to avoid Sea Link operational and maintenance vessels.
- 9.9.119 The cable system installation is designed such that a regular maintenance regime is not required to maintain the integrity of the link. The number of vessels associated with the operation and maintenance of the cable is expected to be considerably lower than that for construction.
- 9.9.120 The main operation requirement is for regular monitoring surveys along the installed cable route, which use visual (GVI), where visibility and sensors allow, bathymetric and depth of lowering (cable tracker) data to compare against the baseline survey data. As the use of autonomous vehicles for non-intrusive surveys is adopted by the industry, the surveys may be carried out using a range of ASVs and / or AUVs which reduce the size of any support vessel and allow frequent surveys to be undertaken over the continuous route, or sections of interest.
- 9.9.121 There is risk of project vessels colliding with third-party vessels. This is considered further in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation** and **Application Document 6.3.4.7.A (B) ES Appendix 4.7.A**

Navigational Risk Assessment, submitted at Deadline 1. These documents also set out a series of mitigation measures that will be implemented to minimise potential disruption and interactions with other third party vessels. These measures include continuous engagement with all vessel operations, ports and harbours in the study area including Sizewell C, implementation of a 500 m Recommended Restricted Zone (RRZ) around construction vessels including Restricted Ability to Manoeuvre (RAM) vessels, Kingfisher bulletins, Notices to Mariners (NtMs) and Radio Navigation Warnings (NAVTEX), vessel markings, temporary Aids to Navigation around installation areas and use of guard vessels. The Proposed Project will also prepare a Navigational Installation Plan (NIP) which will set out all communications protocols with developments (including Sizewell C) and other navigation stakeholders.

- 9.9.122 Although Sizewell C is of medium sensitivity given its status as Nationally Significant Infrastructure, cable inspections will be of short duration, involving a limited number of vessels (cable inspection vessel and guard vessel(s)). Maintenance activities are also expected to occur infrequently, if at all. Taking into account the range of mitigation measures that will be implemented to minimise potential interactions with, and disruptions to, other third party vessels including Sizewell C construction vessels, the magnitude of any impact resulting from the physical presence of vessels during operation will be negligible. The significance of the effect is assessed as negligible which is considered to be not significant.

Occupancy of the seabed

Offshore wind and tidal

- 9.9.123 The cable will occupy an area of the seabed, which may disrupt the placement of future offshore windfarm infrastructure and activities. The preference is for the HVDC cable to be buried as far as possible. The minimum depth of lowering to the top of the cable is 0.5 m, with the target depth of lowering for the Proposed Project being 1.0 m to 2.5 m.
- 9.9.124 Where burial cannot be achieved, rock backfill (rock placement in cable trench up to or below seabed level) or external protection (rock berms) may be required where the soil or rock conditions are too hard to achieve effective burial, or third-party assets cross the route. Expected areas of rock backfill are located between KP 38 to KP 58 (in vicinity of the Sunk), and KP 81.5 to KP 96.5 (in the vicinity of the North East Spit) which coincide with anchorages and pilot boarding stations as well as areas with a high vessel track density (**Application Document 6.4.4.7.A ES Figures Marine Navigational Risk Assessment Part 1 of 2**). Indicative contingency for remedial rock protection is 15% of non-high-risk length. Cable protection measures will occupy an area of the seabed, which may disrupt the placement of future offshore wind farm infrastructure and activities.
- 9.9.125 Crossing agreements will be agreed with asset owners. Crossing design will be in line with industry standards, using procedures and techniques agreed with the cable owners. Once installed, a working zone may be required either side of the submarine cables to enable access for cable maintenance and repair operations. According to subsea cable guidance, the working zone is 500 m either side of the existing subsea cable, although this may vary depending on the site.
- 9.9.126 The Offshore Scheme boundary intersect or pass within close proximity a number of existing, pre-planning application stage, consented or under construction offshore

windfarm export cables. However, the Proposed Project will only restrict development in a relatively narrow corridor of seabed.

- 9.9.127 The impact of seabed occupancy on offshore wind and tidal, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Mineral and aggregate extraction

- 9.9.128 Although three mineral and aggregate extraction areas are located within 1 km of the Offshore Scheme boundary, they do not overlap. Furthermore, no future site agreements have been identified along the cable route during this assessment.
- 9.9.129 The impact of seabed occupancy on mineral and aggregate extraction, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.130 The Offshore Scheme has included the sensitive routeing and siting of infrastructure and temporary works to avoid such effects on dredge and disposal sites.
- 9.9.131 The impact of seabed occupancy on dredge and disposal, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Aquaculture

- 9.9.132 The preference is for the HVDC cable to be buried as far as possible. The minimum depth of lowering to the top of the cable is 0.5 m, with the target depth of lowering for the Proposed Project being 1 m to 2.5 m depending on seabed conditions. The Proposed Project will only restrict development in a relatively narrow corridor of seabed.
- 9.9.133 Once installed, a working zone may be required either side of the submarine cables to enable access for cable maintenance and repair operations. According to subsea cable guidance, the working zone is 500 m either side of the existing subsea cable, although this may vary depending on the site.
- 9.9.134 The Study Area is intersected by the Outer Thames shellfish waters; however, the Offshore Scheme boundary does not intersect this shellfish water boundary and is located over 5 km from the water boundary.
- 9.9.135 The impact of seabed occupancy on aquaculture, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.136 There is potential for reductions in under-keel clearance along the Offshore Scheme due to the presence of rock protection and cable crossings (rock berms) to impact vessels routeing to and from Sizewell C. However, as set out in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation** and **Application Document 6.3.4.7.A (B) ES Appendix 4.7.A Navigational Risk Assessment**, submitted at Deadline 1, the Proposed Project is committed to minimising any

reductions in under-keel clearance along the Offshore Scheme where possible by achieving a minimum Depth of Lowering (DOL) of 0.5 m (e.g. in areas of bedrock) and a target DOL of approximately 1 m to 2.5 m.

- 9.9.137 In line with MCA guidance, where cable protection and cable crossings are required, it is not planned to reduce the existing navigable water depth by more than 5% along any section of the cable (with respect to Chart Datum). It is therefore expected that under-keel clearance will only be reduced at a very small number of locations, which are anticipated to be located close into shore. Other mitigations such as post-lay survey and provision of the as-built locations of cable and external protection to UKHO and KIS-ORCA increase awareness of the locations for all vessels and minimise the risk substantially.
- 9.9.138 It can therefore be concluded that, although Sizewell C is of medium sensitivity, any impact would be negligible therefore overall effect significance would be negligible, which is considered to be not significant.

Visual intrusion and noise

Marine tourism and recreation

- 9.9.139 It is not considered likely that visual intrusion and noise will deter recreational boating and fishing during operation and maintenance. Any visual intrusion and noise from the Proposed Project from vessels will be temporary and short term. Sailors will be able to use other areas in close proximity. Furthermore, trenchless installation techniques are committed to at both landfall locations in order to reduce this disturbance.
- 9.9.140 Communications with other vessels in the area will be maintained throughout construction, maintenance and decommissioning, and the works will be notified under Notices to Mariners. Recreational boaters will also be advised to the timing and location of works.
- 9.9.141 The impact of visual intrusion and noise and on marine tourism and recreation, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in a **negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.142 Once installed and operational, there will be no potential for any visual intrusion or noise interaction between the two projects. It is therefore concluded that there is no impact on Sizewell C from visual intrusion or noise from the Offshore Scheme.

Decommissioning Phase

Removal of infrastructure

Marine tourism and recreation

- 9.9.143 An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation.
- 9.9.144 Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in its entirety, or in parts), or left in-situ, if that has less environmental impact.
- 9.9.145 Removal of the trenchless solutions from the transition joint bay passing under the beach landfalls to the bellmouth exits should be reviewed at the time of decommissioning as it may be less damaging to leave in-situ with stabilisation, than to excavate and remove, especially given the sensitivity of both landfall trajectories.
- 9.9.146 The impact of infrastructure removal on marine tourism and recreation, which is of negligible to low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Offshore wind and tidal

- 9.9.147 An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation.
- 9.9.148 Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in its entirety, or in parts), or left in-situ, if that has less environmental impact.
- 9.9.149 Any active crossings, at the time of decommissioning, will normally be left in place, with a section of decommissioned cable left in-situ for a safe distance from the in-service asset. Similarly, where the cables are in close proximity to other in-service assets, removal of the decommissioned Sea Link cables may not be possible until the other assets are decommissioned.
- 9.9.150 The impact of infrastructure removal on offshore wind and tidal, which is of high sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.
- 9.9.151 The risk of damage to windfarm asset occurring from the removal of infrastructure is considered unlikely with the appropriate embedded mitigation and control and management measures in place to reduce risk to windfarm assets as much as reasonably practical.

Mineral and aggregate extraction

- 9.9.152 An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation.

- 9.9.153 Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in its entirety, or in parts), or left in-situ, if that has less environmental impact.
- 9.9.154 The impact of infrastructure removal on mineral and aggregate extraction, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.155 An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation.
- 9.9.156 Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in its entirety, or in parts), or left in-situ, if that has less environmental impact.
- 9.9.157 The impact of infrastructure removal on dredge and disposal sites, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Military practice and exercise areas

- 9.9.158 An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation.
- 9.9.159 Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in its entirety, or in parts), or left in-situ, if that has less environmental impact.
- 9.9.160 The impact of infrastructure removal on military practice and exercise areas, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible effect**, which is considered to be not significant.

Aquaculture

- 9.9.161 An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation.
- 9.9.162 Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in its entirety, or in parts), or left in-situ, if that has less environmental impact.
- 9.9.163 The impact of infrastructure removal on aquaculture, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.164 An initial decommissioning plan will be written once the final route and installation methodology is engineered by the Contractor. This will be in accordance with all applicable legislation and best practice guidance at the time of compilation.

- 9.9.165 Dependent on requirements at end of asset life, the redundant cables could either be recovered for recycling (in their entirety, or in parts), or left in-situ, if that has less environmental impact.
- 9.9.166 There is limited potential for any interactions between the Proposed Project and Sizewell C during decommissioning due to the distance between the Offshore Scheme Boundary and the Sizewell C (approx. 5 km north at the closest point).
- 9.9.167 As noted above, at this stage the strategy for decommissioning cables is not known. There is potential for interactions with vessels involved in decommissioning which is discussed further in the following section. Where cables are left in-situ, there would be no change to the impacts predicted during operation from a reduction in under-keel clearance (minor and not significant). Where cables are removed, there could be temporary increased reductions in under-keel clearance while cables are removed. However, long term removal of the cables would have a beneficial effect on under-keel clearance for vessels involved in ongoing operations or decommissioning at Sizewell C.

Physical presence of vessels

Marine tourism and recreation

- 9.9.168 Similar to construction, additional presence of project vessels could interfere with and provide obstacles in an area which is already characterised with high density vessel traffic. The same mitigation measure for construction apply to decommissioning.
- 9.9.169 The impact of vessel presence on marine tourism and recreation, which is of negligible to low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Offshore wind and tidal

- 9.9.170 Similar to construction, additional presence of project vessels could interfere with and provide obstacles in an area which is already characterised with high density vessel traffic. The same mitigation measure for construction apply to decommissioning.
- 9.9.171 The impact of vessel presence on offshore wind and tidal, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Mineral and aggregate extraction

- 9.9.172 Similar to construction, additional presence of project vessels could interfere with and provide obstacles in an area which is already characterised with high density vessel traffic. The same mitigation measure for construction apply to decommissioning.
- 9.9.173 The impact of vessel presence on mineral and aggregate extraction, which is of medium sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.174 Similar to construction, additional presence of project vessels could interfere with and provide obstacles in an area which is already characterised with high density vessel traffic. The same mitigation measure for construction apply to decommissioning.
- 9.9.175 The impact of vessel presence on dredge and disposal sites, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in **negligible** effect, which is considered to be not significant.

Military practice and exercise areas

- 9.9.176 Similar to construction, additional presence of project vessels could interfere with and provide obstacles in an area which is already characterised with high density vessel traffic. The same mitigation measure for construction apply to decommissioning.
- 9.9.177 The impact of vessel presence on military practice and exercise areas, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Aquaculture

- 9.9.178 Similar to construction, additional presence of project vessels could interfere with and provide obstacles in an area which is already characterised with high density vessel traffic. The same mitigation measure for construction apply to decommissioning.
- 9.9.179 The impact of vessel presence on aquaculture, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.180 The Offshore Scheme is designed for a lifespan of approximately 40-60 years. Sizewell C also has an operational expectancy of 60 years. Based on these timescales there is potential that both projects could commence decommissioning around the same time.
- 9.9.181 In the event that there is an overlap in the timing of the decommissioning for both projects, there is potential for disruption to Sizewell C vessel movements where these overlap with vessel presence along the Offshore Scheme. However, it is expected that the level of disruption would be the same as or less than the level of disruption due to vessel presence during construction.
- 9.9.182 Based on this it can be concluded that although Sizewell C is of medium sensitivity the magnitude of any impacts resulting from the physical presence of vessels will be small, taking into account mitigation measures set out in **Application Document 6.2.4.7 Part 4 Marine Chapter 7 Shipping and Navigation** and **Application Document 6.3.4.7.A (B) ES Appendix 4.7.A Navigational Risk Assessment**, submitted at Deadline 1. The likely significance of this effect would be **minor** which is considered to be not significant.

Visual intrusion and noise

Marine tourism and recreation

- 9.9.183 It is not considered likely that visual intrusion and noise will deter recreational boating and fishing during decommissioning. Any visual intrusion and noise from the Proposed Project from vessels will be temporary and short term. Sailors will be able to use other areas in close proximity. Furthermore, trenchless installation techniques are committed to at both landfall locations in order to reduce this disturbance.
- 9.9.184 Communications with other vessels in the area will be maintained throughout construction, maintenance and decommissioning, and the works will be notified under Notices to Mariners. Recreational boaters will also be advised to the timing and location of works.
- 9.9.185 The impact of visual intrusion and noise and on marine tourism and recreation, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in a **negligible** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.186 Given the distance between the Offshore Scheme and Sizewell C (approximately 5 km at closest point) there is no potential for any visual intrusion or noise interaction between the two projects during decommissioning. Although Sizewell C is of medium sensitivity, due to the lack of any potential impact pathway it can be concluded that there will be no impact on Sizewell C.

Pre-clearance and pre-sweeping of seabed

Marine tourism and recreation

- 9.9.187 Any seabed clearance activities associated with decommissioning will be similar to that undertaken for construction.
- 9.9.188 The impact of pre-clearance and pre-sweeping on marine tourism and recreation, which is of negligible to low sensitivity, has been assessed as having a magnitude of small which results in a **minor / negligible** effect, which is considered to be not significant.

Offshore wind and tidal

- 9.9.189 Any seabed clearance activities associated with decommissioning will be similar to that undertaken for construction.
- 9.9.190 The impact of pre-clearance and pre-sweeping on offshore wind and tidal, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Mineral and aggregate extraction

- 9.9.191 Any seabed clearance activities associated with decommissioning will be similar to that undertaken for construction.

- 9.9.192 The impact of pre-clearance and pre-sweeping activities on mineral and aggregate extraction, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Dredge and disposal sites

- 9.9.193 Any seabed clearance activities associated with decommissioning will be similar to that undertaken for construction.
- 9.9.194 The impact of pre-clearance and pre-sweeping on dredge and disposal sites, which is of negligible sensitivity, has been assessed as having a magnitude of small which results in a **negligible** effect, which is considered to be not significant.

Military practice and exercise areas

- 9.9.195 Any seabed clearance activities associated with decommissioning will be similar to that undertaken for construction.
- 9.9.196 The impact of pre-clearance and pre-sweeping on military practice and exercise areas, which is of low sensitivity, has been assessed as having a magnitude of small which results in a **minor/negligible** effect, which is considered to be not significant.

Aquaculture

- 9.9.197 Any seabed clearance activities associated with decommissioning will be similar to that undertaken for construction.
- 9.9.198 The impact of pre-clearance and pre-sweeping on aquaculture, which is of medium sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.

Other Energy Infrastructure

- 9.9.199 Any seabed clearance activities associated with decommissioning will be similar to that undertaken for construction.
- 9.9.200 The impact of pre-clearance and pre-sweeping on Sizewell C, which is of medium sensitivity, has been assessed as having a magnitude of small which results in a **minor** effect, which is considered to be not significant.

9.10 Additional Mitigation and Enhancement Measures

- 9.10.1 Mitigation measures are additional topic and site-specific measures that have been applied to mitigate or offset any likely significant effects. No additional mitigation measures are required for other sea users for the Proposed Project.

9.11 Residual Effects and Conclusions

- 9.11.1 Given that no significant impacts have been identified for other sea users, no significant residual impacts have been identified as a result of the Offshore Scheme.

- 9.11.1 The construction of the Offshore Scheme could commence in any year up to five years from the granting of the DCO which is assumed to be 2026. The effects reported within this chapter would not be any different if the works were to commence in any year up to year five.

9.12 Transboundary Effects

- 9.12.1 A transboundary effect is any significant adverse effect on the environment resulting from human activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of another State.
- 9.12.2 All works associated with the Proposed Project fall within the UK jurisdiction (12 NM). Given the distance of the Proposed Project from French waters (approximately 25 km), no significant transboundary effects have been identified. Predicted disturbance from the Proposed Project is short term and local and are therefore not anticipated to be sufficient to influence other sea user receptors outside UK waters, and subsequently cause transboundary effects.

Table 9.14 Summary of other sea user effects

Phase	Receptor	Sensitivity	Impact	Effect		Additional Mitigation Measures	Residual Effect	
				Magnitude	Significance		Magnitude	Significance
Construction	Marine tourism and recreation	Negligible to Low	Installation of Infrastructure	Small	Minor / Negligible	-	Small	Minor / Negligible
	Offshore wind and tidal	High		Small	Minor	-	Small	Minor
	Mineral and aggregates	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Dredge and disposal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Military activities	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Aquaculture	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Other Energy Infrastructure	Medium		Small	Minor	-	Small	Minor
	Marine tourism and recreation	Negligible to Low	Physical presence of vessels	Small	Minor / Negligible	-	Small	Minor / Negligible
	Offshore wind and tidal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Mineral and aggregates	Medium		Small	Minor	-	Small	Minor

Phase	Receptor	Sensitivity	Impact	Effect		Additional Mitigation Measures	Residual Effect	
				Magnitude	Significance		Magnitude	Significance
	Dredge and disposal	Negligible		Small	Negligible	-	Small	Negligible
	Military activities	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Aquaculture	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Other Energy Infrastructure	Medium		Small	Minor		Small	Minor
	Marine tourism and recreation	Negligible	Visual intrusion and noise	Small	Negligible	-	Small	Negligible
	Other Energy Infrastructure	Medium		No impact	No impact	-	No impact	No impact
	Marine tourism and recreation	Negligible to Low	Pre-clearance and pre-sweeping	Small	Minor / Negligible	-	Small	Minor / Negligible
	Offshore wind and tidal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Mineral and aggregates	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Dredge and disposal	Negligible		Small	Negligible	-	Small	Negligible
	Military activities	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Aquaculture	Medium		Small	Minor	-	Small	Minor

Phase	Receptor	Sensitivity	Impact	Effect		Additional Mitigation Measures	Residual Effect	
				Magnitude	Significance		Magnitude	Significance
	Other Energy Infrastructure	Medium		Small	Minor		Small	Minor
Operation and Maintenance	Marine tourism and recreation	Negligible to Low	Physical presence of vessels	Small	Minor / Negligible	-	Small	Minor / Negligible
	Offshore wind and tidal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Mineral and aggregates	Medium		Small	Minor	-	Small	Minor
	Dredge and disposal	Negligible		Small	Negligible	-	Small	Negligible
	Military activities	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Aquaculture	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Other Energy Infrastructure	Medium		Negligible	Negligible		Negligible	Negligible
	Offshore wind and tidal	Low	Occupancy of the seabed	Small	Minor / Negligible	-	Small	Minor / Negligible
	Mineral and aggregates	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Dredge and disposal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Aquaculture	Low		Small	Minor / Negligible	-	Small	Minor / Negligible

Phase	Receptor	Sensitivity	Impact	Effect		Additional Mitigation Measures	Residual Effect	
				Magnitude	Significance		Magnitude	Significance
	Other Energy Infrastructure	Medium	Visual intrusion and noise	Negligible	Negligible		Negligible	Negligible
	Marine tourism and recreation	Negligible		Small	Negligible	-	Small	Negligible
	Other Energy Infrastructure	Medium		No impact	No impact		No impact	No impact
Decommissioning	Marine tourism and recreation	Negligible to Low	Removal of Infrastructure	Small	Minor / Negligible	-	Small	Minor / Negligible
	Offshore wind and tidal	High		Small	Minor	-	Small	Minor
	Mineral and aggregates	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Dredge and disposal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Military activities	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Aquaculture	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Other Energy Infrastructure	Medium		Small	Minor		Small	Minor
	Marine tourism and recreation	Negligible to Low	Physical presence of vessels	Small	Minor / Negligible	-	Small	Minor / Negligible
	Offshore wind and tidal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible

Phase	Receptor	Sensitivity	Impact	Effect		Additional Mitigation Measures	Residual Effect	
				Magnitude	Significance		Magnitude	Significance
	Mineral and aggregates	Medium		Small	Minor	-	Small	Minor
	Dredge and disposal	Negligible		Small	Negligible	-	Small	Negligible
	Military activities	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Aquaculture	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Other Energy Infrastructure	Negligible		Small	Minor		Small	Minor
	Marine tourism and recreation	Negligible	Visual intrusion and noise	Small	Negligible	-	Small	Negligible
	Other Energy Infrastructure	Medium		No impact	No impact		No impact	No impact
	Marine tourism and recreation	Negligible to Low	Pre-clearance and pre-sweeping	Small	Minor / Negligible	-	Small	Minor / Negligible
	Offshore wind and tidal	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Mineral and aggregates	Low		Small	Minor / Negligible	-	Small	Minor / Negligible
	Dredge and disposal	Negligible		Small	Negligible	-	Small	Negligible
	Military activities	Low		Small	Minor / Negligible	-	Small	Minor / Negligible

Phase	Receptor	Sensitivity	Impact	Effect		Additional Mitigation Measures	Residual Effect	
				Magnitude	Significance		Magnitude	Significance
	Aquaculture	Medium		Small	Minor	-	Small	Minor
	Other Energy Infrastructure	Medium		Small	Minor		Small	Minor

9.13 References

- BSAC. (2024). *British Sub-Aqua Club*. Retrieved from <https://www.bsac.com/club-life/find-a-bsac-club/>
- CEFAS. (2016). *Classified Bivalve Mollusc Harvesting Areas (England and Wales)*. Retrieved July 30, 2024, from <https://magic.defra.gov.uk/MagicMap.aspx>.
- DEFRA. (2021). *South East Inshore Marine Plan*. . Department for Environment, Food & Rural Affairs.
- Department for Energy Security and Net Zero. (2023, November). *National Policy Statement for electricity networks infrastructure (EN-5)*. Retrieved July 26, 2024, from <https://www.gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5>
- Department for Energy Security and Net Zero. (2023, November). *Overarching National Policy Statement for Energy (EN-1)*. Retrieved July 26, 2024, from <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1>
- Department for Environment, Food & Rural Affairs. (2011). *UK marine policy statement*. Retrieved July 26, 2024, from <https://www.gov.uk/government/publications/uk-marine-policy-statement>
- Environment Agency. (2021). *Bathing Waters*. Retrieved from <https://environment.data.gov.uk/bwq/profiles/>
- Environment Agency. (2024). *Swimfo: Find a Bathing Water*. Retrieved from <https://environment.data.gov.uk/bwq/profiles/>
- ESCA. (2016). *The European Subsea Cable Association (ESCA guideline No.19. Marine aggregate Extraction Proximity Guidelines*. Retrieved July 26, 2024, from <https://www.escae.org/guidelines/>
- ESCA. (2016). *The European Subsea Cable Association Guidelines No.6. The Proximity of Offshore Renewable Energy Installations & Submarine Cable Infrastructure in the UK*. Retrieved July 26, 2024, from <https://www.escae.org/guidelines/>
- Glasson, J., Durning, B., Olorundami, T., & Welch, K. (2020). *Guidance of Assessing the Socio-Economic Impacts of Offshore Windfarms*. Vattenfall: Impact Assessment Unit (IAU) Oxford Brookes University.
- International Cable Protection Committee (ICPC). (2013). *Recommendation No. 13 The Proximity of Offshore Renewable Wind Energy Installations and Submarine Cable Infrastructure in National Waters*. Retrieved from <https://www.iscpc.org/publications/recommendations/>
- International Cable Protection Committee (ICPC). (2014). *Recommendation No. 3. Cable and Oil Pipeline/ Power Cables Crossing Criteria*. Retrieved from <https://www.iscpc.org/publications/recommendations/>
- International Cable Protection Committee (ICPC). (2015). *Recommendation No. 2. Cable Routing and Reporting Criteria*. Retrieved from <https://www.iscpc.org/publications/recommendations/>
- Marine and Coastal Access Act. (2009). *Legislation*. Retrieved July 26, 2014, from <https://www.legislation.gov.uk/ukpga/2009/23/contents>
- Marine Management Organisation. (2014). *East Marine Plans*. Retrieved July 26, 2024, from <https://www.gov.uk/government/publications/east-inshore-and-east-offshore-marine-plans>
- Ministry for Levelling Up, Housing and Communities. (2024). *National Planning Policy Framework*. Retrieved July 09, 2024, from <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- MMO. (2019). *Identification of areas of aquaculture potential in English waters*. (MMO1184).
- MMO. (2020). *Mapping recreational sea anglers in English waters (MMO1163): Non-technical Summary*.
- MMO. (2024). *Explore Marine Plans*. . Retrieved from <https://explore-marine-plans.marineservices.org.uk/>
- National Grid. (2022). *Sealink Environmental Impact Assessment Scoping Report*. National Grid.
- Nicolle, W., McAleenan, B., & Birkett, E. (2020). The Future of the North Sea. Maximising the contribution of the North Sea to Net Zero and Levelling Up. . *Policy Exchange*(ISBN 978-1-913459-44-4.).
- PADI. (2024). *Top Diver Sites Around England*. Retrieved from <https://www.padi.com/dive-sites/england/>
- RYA. (2019). *UK Coastal Atlas of Recreational Boating*. Retrieved from *Royal Yacht Association*. Retrieved from <https://www.rya.org.uk/knowledge/planning-licensing/uk-coastal-atlas-of-recreational-boating#:~:text=The%20Royal%20Yachting%20Association>
- Surflife. (2024). *United Kingdom Surf Report and Forecasts*. Retrieved from <https://www.surflife.com/surf-reports-forecasts-cams/united-kingdom/2635167>

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

Registered in England and Wales
No. 4031152
nationalgrid.com